Whitehorse Cross-Country Ski Club

Health and Safety Manual

REVISED JUNE 25, 2021

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Introduction

This Manual applies to all managers, staff and volunteers that are doing work for the Whitehorse Cross-Country Ski Club ("WCCSC"). It should be read together with applicable health and safety legislation and other applicable WCCSC policies, such as the Health and Safety Policy (OP-01), Staff and Members Safety (EL-6), and Legislative Compliance (EL- 11).

1.1 General Safety Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	General Safety Policy	Number:	1.1
Policy Type:	Safety	Amended:	June 25, 2021

The Whitehorse Cross Country Ski Club (WCCSC) is committed to preventing the accidental loss or damage of any its resources, including employees, members, and physical assets.

In fulfilling this commitment to protect both people and property, management will provide and maintain a safe and healthy work environment in accordance with industry standards and in compliance with legislative requirements. WCCSC will strive to eliminate any foreseeable hazards which may result in property damage, accidents or personal injury/illness.

All employees will be responsible for minimizing accidents within the facilities and operations. Safe work practices and procedures will be clearly defined in this Safety Manual for all employees to follow.

Accidental loss can be controlled through good management in combination with active employee involvement. Safety is the direct responsibility of management, supervisors and workers.

All activities will comply with WCCSC's safety requirements as they relate to the planning, operation and maintenance of facilities and equipment. All employees will perform their jobs properly in accordance with established safe job procedures and safe work practices, and in compliance with the Yukon Occupational Health and Safety legislation.

Workers have the following rights:

- The right to KNOW what are the hazards in their workplace and how to work safely.
- The right to PARTICIPATE in the health and safety program.
- The right to REFUSE work which does not feel safe.

WCCSC recognizes that the responsibilities for safety and health are shared:

- The employer accepts the responsibility for leadership of the safety and health program, for its effectiveness and improvement, and for providing the safeguards required to ensure safe conditions.
- Supervisors are responsible for developing the proper attitudes toward safety and health in themselves and in those they supervise, and for ensuring that all operations are performed with the utmost regard for the safety and health of all personnel involved.
- Workers are responsible for wholehearted, genuine cooperation with all aspects of the safety and health program, including compliance with all rules and regulations, and for continually practicing safety while performing their duties.

WCCSC asks that all workers commit to making safety and health a part of daily life.

1.2 Roles and Responsibilities

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	Roles and Responsibilities	Number:	1.2
Policy Type:	Safety	Amended:	June 25, 2021

Management shall:

1. Establish and maintain a safety program
2. Provide a safe workplace
3. Ensure proper training of workers
4. Ensure that personal protective equipment is used
5. Ensure that regular inspections are conducted
6. Correct unsafe conditions
7. Provide first aid
8. Investigate all incidents
9. Report injuries to the Workers' Compensation Board
10. Ensure compliance with legislation
11. Set a good example

Supervisors shall:

1. Promote safety awareness
2. Establish safe work procedures
3. Instruct workers about safety
4. Correct unsafe practices
5. Detect troubled employees
6. Correct unsafe conditions
7. Enforce safety rules
8. Investigate work sites for hazards
9. Investigate all incidents
10. Ensure proper maintenance of equipment
11. Comply with legislation
12. Set a good example

Workers shall:

1. Follow safe work procedures
2. Report unsafe conditions
3. Correct unsafe conditions
4. Report unsafe acts
5. Report any injury
6. Comply with rules and legislation
7. Make safety suggestions
8. Set a good example

2.1 Hazard Assessment Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	Hazard Assessment Policy	Number:	2.1
Policy Type:	Safety	Amended:	June 25, 2021

Purpose

To outline the WCCSC's policy for hazard assessment.

Scope

This policy applies to all managers, supervisors, and workers, including volunteers and contracted personnel performing work for the organization. Compliance with the policy is mandatory.

Policy

WCCSC is committed to ensuring hazards are assessed and eliminated or controlled. This will be achieved through the use of formal hazard assessments and field level risk assessments. Workers will be involved in the hazard assessment process and the results will be shared or communicated to all workers.

Formal Job Hazard Assessments (JHAs)

- Will be used to assess all positions in the organization
- Will be conducted by trained personnel (including managers, supervisors and a selection of workers who perform the tasks)
- Will be documented
- Will be conducted
    - In the event of process or operational change
    - As need is identified in an inspection or incident investigation
    - As need is identified in a field level risk assessment

Field Level Risk Assessments (FLRAs)

- Will be used to assess all tasks performed in the field or shop
- Will be conducted by affected, trained workers with involvement from the Supervisor
- Will be conducted
    - At the beginning of shift (i.e., daily basis) and re-assessed if conditions change (including the addition of new workers)
    - Before non-routine tasks are performed

Responsibilities

- Managers must ensure workers are trained on the hazard assessment process and policy
- Supervisors must ensure workers are adhering to the hazard assessment process and policy
- Workers (including volunteers and contracted personnel) must adhere to the hazard assessment process and policy

2.2 Hazard Assessment Information

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	Hazard Assessment Information	Number:	2.2
Policy Type:	Safety	Amended:	June 25, 2021

Conducting a Hazard Assessment

1. Assemble the people that will be involved.
2. Discuss possible hazards with employees.
3. Tour the entire operation.
4. Look for possible hazards originating from environment, material, equipment, and people.
5. Mark on the checklist all items that need attention.
6. Review the findings with supervisors/workers and solicit their input for control measures.
7. The hazards identified should now be ranked according to probability and severity.

   A risk matrix like the one below will help determine the priority that your hazard should be dealt with:

H	2	3	3
M	2	2	3
L	1	1	2
	L	**M**	**H**

Probability

3= High Risk: unacceptable level, immediate action is required.
2= Medium Risk: Risk controls are required.
1= Low Risk: Acceptable risk (controls may still be required)

8. Take corrective action and make recommendations for the control of hazards (i.e. Safe Work Practices and Safe Job Procedures, Rules, Administrative and Engineering Controls, and Personal Protective Equipment, etc.)

Strategies for Controlling Hazards

Now that you have conducted a Hazard Assessment, found hazards, and decided to correct them, you must eliminate the hazards **or** install hazard control measures.

Recognizing and evaluating the risks associated with hazards in the workplace are the first steps in Hazard Control. Actions or methods for controlling these potential hazards must be developed and implemented to eliminate the risks. This is **the** critical step in Hazard Control.

There are a number of options available to personnel in order to control risk. These options include the following **"Hierarchy of Controls".**

Hierarchy of Controls

1. Elimination: Eliminating the hazard is the preferred method of control. It is the process of eliminating the task, condition, equipment, chemical, or act causing the hazard.
2. Substitution: This method of control involved substituting a work method, person, substance, tool, or piece of equipment to reduce the risk.
3. Engineering Controls: Engineering controls are methods built into the design of a worksite, equipment, or process to minimize, eliminate, or contain the hazard and thus reduce the risk to the worker. Examples include:
    - Isolation: Keep the hazard away from workers using control rooms, machine guards, protective barriers and shields, security fences, guardrails, and clearance distances.
    - Process: Use machinery to perform a job activity or process to reduce risk to workers, such as automating a process to minimize the number of workers handling toxic materials.
    - Ventilation: Provide ventilation to improve the air quality to an acceptable and safe level by removing or diluting air contaminants.
4. Administrative Controls: This method of control involves policies, procedures, and rules to reduce the risk to the worker.
5. Personal Protective Equipment: PPE controls require the worker to wear or use appropriate personal protective equipment to reduce the risk to the worker when they are exposed to a hazard (e.g. noise). PPE is the last line of defense and a critical part of a health and safety program. Workers must receive training before using PPE.

2.3 Formal Job Hazard Assessment Forms

see the next three pages for these forms:

2.3.a Formal Job Hazard Analysis (J.H.A.)
2.3.b Glide Waxing Skis
2.3.c Working Alone in Ski Base - Closing

2.3.a Formal Job Hazard Analysis (J.H.A.)

Task:

Tools/Equipment Required	**Material Required**	**Personal Protective Equipment**
_____	_____	_____
_____	_____	_____

Steps	**Sequence of Steps**	**Potential Accidents or Hazards**	**Recommended Safe Job Procedure**

Developed By: 1. _____ **2.** _____ **3.** _____

Reviewed By: 1. _____ **Approved By:** _____

(Name) (Position) **(Name) (Position)**

Revised By: _____ **Date:** _____

2.3.b Formal Job Hazard Analysis (J.H.A.)

Task: Glide-waxing skis

Tools/Equipment Required	**Material Required**	**Personal Protective Equipment**
Skis, ski iron, ski vices, exhaust fan, scrapers, wax remover, ptex repair sticks	**Glide wax**	**Vinyl gloves, respirator mask**

Steps	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	Secure skis in vice	Pinching fingers	Visual monitoring while tightening vice
2	Remove any old wax with scraper or wax remover	Cut with scraper Exposure on skin with wax remover & possible fire hazard	Stroke away from body and hands with scraper Wear vinyl gloves if using wax remover and dispose of rag properly
3	Melt Ptex repair sticks (if needed) and glide wax onto skis	Burn hazard with hot wax and with iron Vapour hazard with wax fumes	Wear gloves and apron when melting wax; set iron in stable place when not in use; turn off iron and disconnect when done Put on N95 mask and turn exhaust fan on before melting wax and leave on until skis are finished
4	Once wax has cooled, scrape skis with plastic scrapers and buff with finishing brush	Nothing significant	None

Developed By: 1. Mike Kramer **2.** _____ **3.** _____

Reviewed By: 1. Ben Poudou General Manager
(Name) (Position)

Approved By: _____
(Name) (Position)

Revised By: _____

Date: _____

2.3.c Formal Job Hazard Analysis (J.H.A.)

Task: Working Alone in Ski Base - Closing

Tools/Equipment Required	**Material Required**	**Personal Protective Equipment**
Keys, cell phone, phone list		

Steps	**Sequence of Steps**	**Potential Accidents or Hazards**	**Recommended Safe Job Procedure**
1	Closing up till and financials at end of day	Violence or harassment	Only to be completed with office and shop doors locked and curtains closed to outer wax room; financials are left in safe in office
2	Checking of washrooms and changerooms	Violence or harassment; surprising a member using facility	Announce loudly from outside door to specific room that the facility is closing Enter when no response; confirm area is clear, turn off lights and close door Have cell phone with you in case there is a problem at the location
3	Secure doors, enter security code and exit to parking lot	Violence or harassment	Be aware of surroundings, ensure outside lighting is still in place, have a personal contact or manager who you call/text to tell them you are leaving the building; call or text them when you are safely in your vehicle

Developed By: 1. Mike Kramer **2.** _____ **3.** _____

Reviewed By: 1. Ben Poudou General Manager
(Name) (Position)

Approved By: _____
(Name) (Position)

Revised By: _____

Date: _____

2.4 Field Level Risk Assessment (FLRA) Form

Date & Time	Task Location	Emergency Muster Area

What hazards are present at the actual site at the actual time? Have you reviewed the appropriate safe work practices or safe job procedures? Identify conditions, job changes, or distractions that would cause you to you to use stop work authority.	Are you properly trained to complete the task? Is a Job Hazard Analysis required? Housekeeping is part of the task. Have there been any incidents doing this before?	What do you need to ensure this task is completed incident free? Do you have first aid resources with you? Are there any hazards remaining? When conditions change, reassess & revise the FLRA

Sequence	Tasks	Present & Potential Hazards	Control (to reduce or eliminate risks)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

Examine each task to identify hazards and risks that could lead to injury or damage.

Chemical Hazard
- Inhalation
- Skin Contact
- Absorption
- Injection
- Ingestion
- Corrosive
- Unknown substances

Biological
- Bacteria
- Fungus
- Mould
- Viruses

Physical
- Electrical
- Noise
- Fire or explosion
- Cuts
- Tripping
- Struck by
- Housekeeping

Psychological
- Length of shift
- Threat of violence
- Communication challenges

Ergonomic
- Repetition
- Vibration
- Awkward posture
- Weight

PPE Required				
	□ Hearing protection	□ Wet-condition footwear	□ Face shield	□ Chemical goggles
	□ Cut-resistant gloves	□ Respiratory protection	□ Fall protection	□ Ice cleats
	□ Hard hat	□ Safety-toed footwear	□ Safety glasses	□ Leather gloves

Assessment completed by: _____ Date: _____

Management Review by: _____ Date: _____

2.5 Contractor Management Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	Roles and Responsibilities	Number:	2.5
Policy Type:	Safety	Amended:	June 25, 2021

Whitehorse Cross Country Ski Club is committed to providing a safe and healthy workplace for all of its employees and visitors. To fulfill this commitment, WCCSC ensures that all contractors and sub-contractors are meeting/exceeding the requirements and standards of health & safety legislation upon hire and throughout the duration of any project.

The level of monitoring and measuring depends on the level of risk associated with Scope of Work that the contractor is performing. Monitoring and measurement processes may include one or more of the following:

- providing direct supervision of contractor.
- attending pre-job start-up meetings, orientations as well as tailboard and other safety meetings.
- performing work observations, audits and inspections.
- reviewing incident reports and investigations.
- reviewing contractor safety performance statistics.

Monitoring and measurement processes MUST include the following:

- requiring the contractor to report all incidents to the contract administrator or designate.
- requiring the contractor to submit investigation and corrective action reports to the contract administrator upon request.

2.6 Critical Task List

Frequency (how often are workers exposed to this): 1 = few times/year, 2 = few times per month, 3 = few times per week, 4 = daily

Probability (historically, how often has this happened) 1 = rare, 2 = few times per yr, 3 = few times month, 4 = regularly occurs

Severity (how bad would the loss be): 1 = first aid no lost time, 2 = first aid + lost time, 3 = need Dr + lost time., 4 = need EMS serious injury/fatality

					Control Method			
Task	**Frequency**	**Probability**	**Severity**	**Priority**	**Job Hazard Analysis**	**Safe Job Procedure**	**Safe Work Practice**	**Comments**
Shoveling deck and possible fall	4	1	2	**8**			✓	Combined with training & supervision
Burn with hot water, hot chocolate, or waxing iron	4	1	1	**4**				Training & supervision
Breathing smoke from waxing	4	1	3	**12**	✓	✓		A outside-exhausting ventilation fan is the current engineered control method for this hazard + N95 mask + SJP
Driving to work on a cold or snowy day	1	1	2	**2**			✓	Cold weather policy will restrict requirements to drive to workplace; large snowfall - flexible management
Emergencies related to the building & other tenants (fire, ammonia leak)	1	1	4	**4**	✓			General information is provided in the Emergency Response section of the Manual; training + City procedures;

Electrical short with equipment	4	1	3	**12**			✓	CSA devices and approved electrical work, plus training
Operating snowmobiles and PB	4	1	4	**16**			✓	Grooming policies also speak to this issue plus training
Operating heavy equipment (e.g. tractor, skid steer, excavator) ,	2	1	4	**8**			✓	Training & supervision
Maintenance work on grooming equipment	2	1	4	**8**			✓	
Working in the cold and on ice and challenging terrain	3	1	4	**12**			✓	
Loading & unloading trailer	2	1	4	**8**			✓	
Retrieving broken equipment from the trails (emergency as opposed to scheduled work)	1	1	3	**3**				Generally experienced staff often with an second person
Lifting heavy objects	2	2	2	**8**			✓	
Working with power tools and hand tools (drills, grinders, chainsaw, brushing saw)	3	1	4	**12**			✓	PPE, experienced trained operators; plus SWP chainsaws & brushing saws
Driving with loaded trailer	2	1	4	**8**			✓	
Outdoor-related risks (working on a cabin roof, in challenging terrain)	2	1	4	**8**			✓	PPE, experienced & trained operators
Working Alone outside	2	1	4	**8**			✓	Procedure and SWP address this topic
Working Alone in Ski Base	4	1	4	**16**	✓	✓	✓	Policy and SWP address this topic

3.1 Safe Work Practice Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	Safe Work Practice Policy	Number:	3.1
Policy Type:	Safety	Amended:	June 25, 2021

Safe Work Practices are a set of positive guidelines or "Do's and Don'ts" – on how to perform a specific task that may not always be done in a certain way.

The purpose of Safe Work Practices is to control hazards and to complete jobs/projects with a minimum risk to people and property. WCCSC will ensure that Safe Work Practices are:

- In writing;
- Communicated to all workers;
- Relevant to the scope of WCCSC's work;
- Understood by workers as being applicable to them;
- To be followed by all WCCSC personnel.

WCCSC will amend/create new Safe Work Practices on an "as-needed" basis. In addition, all safe work practices will be reviewed on an annual basis and documented on the annual review sheet.

New and revised Safe Work Practices will be circulated and communicated to all levels of employees, in the following ways:

- Seasonal training
- Safety Meetings

SWP 001 Snowmobile Operation

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Snowmobile Operation	Number:	SWP-001
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Purpose

To ensure workers or volunteers using snowmobiles understand how to prevent injuries.

General

Prior to operating a snowmobile for the first time, the operator must participate in a training course and will receive instruction and a demonstration in safe operating procedures. A CSA approved helmet is required to be worn whenever operating a snowmobile (including moving it in & out of parking area). It is essential that the equipment is operated and maintained in accordance with the manufacturers' manuals and guidelines, and in accordance with instructions provided by the Operations Manager.

Pre-Trip Planning

- All staff and volunteers planning to use the snowmobiles must have had the necessary training, and competency checks, including training on loading, unloading and slope operations.
- Inspect personal survival gear and communication equipment. Survival gear should include emergency rations, fire starters, signaling tools, heat, snowshoes, retention covers, etc.
- Pack and test communication device (e.g., cell phone or satellite phone, etc.).
- Based on location and risk, determine frequency of check in process and notify appropriate personnel. Establish who will be receiving the check-in calls as per protocols.
- Check weather conditions and reports well in advance of the trip including avalanche bulletins.
- Complete a Hazard Assessment, and consider the key hazards. These include poor weather conditions (visibility, icing, etc.), mechanical failure/operator, competency, improper cargo storage or overloading, improper refueling techniques, and lack of emergency preparedness.
- Required Personal Protective Equipment (PPE), including: first aid kit, helmet, warm gloves, eye protection, extreme weather clothing, tools, survival gear, and shovel. WCCSC provides helmets in a variety of sizes.
- PPE must be worn when loading, off loading and operating the machines including CSA approved helmets, goggles or safety glasses, ankle high (minimum) winter boots, appropriate clothing and gloves.
- Examine all unusual road or trail conditions before crossing (washouts, slides, old bridges)

Loading and Transportation of a Snowmobile

- If applicable, check towing vehicles, trailers and off-road machines have been inspected and have the necessary load ratings. Ensure you have adequate number and size of tie-down straps.
- Store or tie down equipment and supplies so that they will not affect the performance or hinder the operation of the Snowmobile or the operator's ability to jump off the machine in an emergency.

- Secure any equipment or tools to the snowmobile rack, or toboggan/skimmer. All sharp or pointed tools must have their protective guards installed (axes and chainsaws).
- All skimmers or toboggans must be attached to the snowmobile with a fixed arm/support
- Secure back of machine at one centralized point on the frame
- Hold onto rack or handlebars of Snowmobile when manoeuvring around deck
- Make sure all straps are in good condition
- Drive machines off transport vehicles where feasible and safe.

Driving

- One rider per machine, unless designed for more than one person.
- Never leave a Snowmobile idling and unattended.
- Operate a Snowmobile in accordance with the manufacturer's recommendations and maintain control at all times; no horseplay or joyriding.
- Plan your route and never travel alone.
- Remain in control of the Snowmobile at all times. Avoid one-handed operation.
- Operate at safe and reasonable speeds for the terrain and environmental conditions, driving within your capability.
- Perform ongoing hazard assessment, changing terrain may present new hazards.
- Watch for potential hazards such as hidden obstacles below the snow.
- Stay off ice during fall freeze-up and spring thaw. Use extreme caution when riding on frozen lakes, rivers and ponds. Check with local authorities to make sure the ice is thick enough to ride on.
    - Avoid parking on ice
    - Always check thickness of ice
- Never wear a scarf or other clothing accessory in such manner that it may be caught by the mechanism of the snowmobile, by tree branches, or by other obstructions.
- Always wear appropriate PPE that is properly fitted and inspected prior to use.
    - Helmet face shield, goggles or safety glasses must be clean and free of damage or parts that could impair visibility
    - Immediately stop travel if your face protection fogs up or your visibility becomes otherwise compromised
- Reduce your speed during low light conditions, when visibility is poor, or when your sight distance is reduced by terrain features
- Triple check when crossing roadways or trail intersections
- Leave a minimum following distance of 20 meters between you and another operator. Increase the distance as ground conditions or visibility worsen or the speed of travel increases

Inspection/Maintenance

- Conduct a daily pre-use inspection of the snowmobile.

- Inspect and maintain fuel line, look for signs of leakage.
- Immediately report any unsatisfactory conditions of your Snowmobile to the Operations Manager.
- Have machines maintained according to manufacturer specifications and have the records available.
- Only replace component parts of a snowmobile with structural elements or accessories of the manufacturer.
- Have the tool kit available and spare belts and parts for minor repairs
- Immediately adjust/ replace a track that is worn or ill-fitting as per the manufacturer's specifications.

Fire Prevention/Environment Protection

- Maintain a minimum of 3 m distance between machine and all ignition sources when fueling
- Only use CSA approved fuel storage containers with spout.
- Do not refill the tank 'to the rim', allow room for expansion due to temperature changes
- Never assess the level of fuel in the fuel tank or jerry can with a lighter or matches.
- Make sure the fuel cap is secured and the fuel valve (if equipped) is in the off position while transporting the snowmobile
- Inspect and remove any collection of organic material on the exhaust system or around the engine area prior to starting or loading the snowmobile
- Try to refill while at a safe location (e.g. gas station) and not near sensitive environments (e.g. water bodies). Have a spill clean up resources available.

SWP-002 Animal Encounters

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Animal Encounters	Number:	SWP-002
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Purpose

Canada is homes to many wild animals including bears and cougars. These practices are intended to minimize the risk of an encounter or attack.

General

- Avoid animals that are behaving unnaturally, appear unafraid of humans or appear sick.
- Avoid bee and wasp nests as some people have severe allergic reactions to their stings. Ground nesting wasps are often unseen until after disruption and are prevalent in some regions. If there is a known allergy to bees or wasps, carry antihistamines or if prescribed, an epinephrine auto-injector.
- When working in bear country or potentially other dangerous animals:
  - Select a route that is open and well cleared if possible
  - Be aware of the wind direction and try to walk in a direction that blows human scent toward the destination. This will alert wildlife of human presence and give them an opportunity to move and avoid an encounter.
  - Do not investigate bad odours as bears are attracted to them.
  - Make noise to warn animals. Have loud conversations or carry a portable radio.
  - Be trained on and carry a deterrent (e.g. bear spray).

Bear Encounters

Bears normally avoid encounters with humans. However, there is always a possibility of surprising a bear at close range or meeting a bear which is not afraid of people. The following guidelines can help minimize risk:

- Stay calm but assess options fast.
- Keep the bear in sight at all times.
- If travelling in a group, stay close together.
- Do not run. Running may invite the bear to chase. Bears run faster than humans.
- Continue to slowly back away, talking to the bear in a calm and assertive voice. Try to act as non-threatening as possible, particularly if it is an adult bear or female with young.
- Do not make direct eye contact.
- Give the bear an opportunity to leave and make sure it has an escape route.
- Have your deterrent (bear spray) out and ready to use if the animal comes within 3 metres.

Bear Spray

- Pepper spray is the product recommended by Parks Canada for its effectiveness.

- Bear spray must be safely stowed/contained when stored or transported in an enclosed space.
- Only use bear spray if defending yourself from an aggressive confrontation. It is only effective if applied directly to a bear's face.
- Strong winds, rain and very cold temperatures may interfere with the effective delivery of the pepper spray and reduce the range of the spray pattern.
- Stay upwind from direction of spray.
- The chemical residue after discharge can be attractive to some bears.

Cougar Encounters

Cougars attacks are extremely rare. However, it pays to be prepared:

- Never approach a cougar. All cougars are unpredictable. Cougars feeding on kill may be dangerous.
- Stay calm and talk to the cougar in a confident voice.
- Give the cougar an opportunity to leave and make sure it has an escape route.
- Do not run. Sudden movement or flight may trigger an instinctive attack. Try to back away slowly.
- Do not turn your back on a cougar. Face it and remain upright.
- Do all that you can to enlarge your image. Don't crouch down or try to hide. Pick up sticks and branches and wave them about.
- If the cougar behaves aggressively, arm yourself with a large stick, throw rocks and speak loudly. Convince the cougar you are a threat and not prey.
- Have your deterrent (bear spray) out and ready to use if the animal comes within 3 metres.
- If the cougar attacks, fight back. Many people have survived cougar attacks by fighting back.

Other Animal encounters

Moose, elk, caribou, wolves, coyotes, lynx and bison are just a few of other but dangerous creature that may be encountered in North America. Moose in particular are considered to be just as dangerous as bears. Avoid encounters by following the safe practices above.

SWP-003 Cold Stress

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Cold Stress	Number:	SWP-003
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Purpose

To ensure workers or volunteers exposed to cold environments understand how to prevent injuries and what to do if someone develops a medical condition because of cold stress.

General

- Notify WCCSC staff of medical conditions where cold temperatures present an increased risk.
- Know the weather forecast prior to work, come prepared for forecasted conditions.
- Monitor weather apps on cell phones during the day to receive updated temperature and wind chill warnings and alerts.
- Avoid working alone and monitor your and your co-worker's physical condition frequently.
- Never ignore anyone's symptoms, regardless of the temperature.

Personal Protective Equipment (PPE) for working in the cold

Clothing

Protective clothing is needed for work at or below 4°C. Clothing should be selected to suit the temperature, weather conditions (e.g. wind, rain), the level and duration of activity, and job design. If the work pace is too fast or if the type and amount of clothing are not properly selected, excessive sweating may occur and the insulation value of the clothing will decrease dramatically. This increases the risk for cold injuries.

- Wear layered, dry and insulated clothing with a windproof and waterproof outer shell.
- Bring change of clothes to replace any layers that may get wet. Wet clothing should be removed as soon as possible.
- Clothing should allow for the evaporation of sweat, particularly your base layer. Choose wool or other wicking type material.
- Head must be covered to minimize heat loss. Wear a wool or non-cotton knit hat.
- Wear insulated safety boots. Felt-lined, rubber bottomed, leather-topped boots with removable felt insoles are best suited for heavy work in cold since leather is porous, allowing the boots to breathe and let perspiration evaporate. Leather boots can be 'waterproofed' with some products that do not block the pores in the leather. However, if work involves walking and standing in water, fully waterproof boots must be worn.
- Wear good quality insulated gloves or mittens. Consider using heat packs (e.g. hotshots) to place in gloves and/or boots. Choose winter gloves or mittens that allow for maximum dexterity if you are using hand tools.

- Socks: Workers may prefer to wear one pair of thick, bulky socks or two pairs – one inner sock of silk, nylon, polyester, or thin wool and a lightly larger, thick outer sock. Liner socks made from polypropylene will help keep feet dry and warmer by wicking sweat away from the skin. However, as the outer sock becomes damper, its insulating ability decreases. If work conditions permit, have extra socks available so one can dry their feet and change socks during the day. If two pairs of socks are worn, the outer sock should be a larger size so that the inner sock is not compressed.
- Wear UV protective eyewear and sunscreen (> SPF 30) when working outdoors, even in the winter.
- Clothing should be kept clean since dirt fills air cells in fibres of clothing and negates its insulating ability.
- Avoid Cotton; it tends to get damp or wet quickly and loses its insulating properties. Wool and synthetic fibers retain heat even when wet.

Physical Demands

- To prevent excessive sweating while working, consider removing clothing as follows:
  - mittens or gloves (unless you need protection from snow or ice);
  - headgear
  - open the jacket at the waist and wrists; and
  - remove layers of clothing.
  - as one cools down, follow the reverse order of the above steps.
- Prevent contact of bare skin with cold surfaces (especially metal) below -7°C as well as avoiding skin contact when handling evaporative liquids (gasoline, alcohol, cleaning fluids) below 4°C.
- Avoid sitting or standing still for prolonged periods.
- Drink fluids often especially when doing strenuous work. For warming purposes, hot non-alcoholic beverages or soup are suggested. Caffeinated drinks such as coffee and soft drinks should be limited because it increases urine production and contributes to dehydration. Caffeine also increases the blood flow at the skin surface which can increase the loss of body heat. High sugar drinks (such as “energy drinks) should be minimized as well.
- Take breaks in nearby shelters as required.

Cold Injuries and Illnesses

Injury/Illness	Symptoms	Treatment
Trench Foot Prolonged exposure to damp, unsanitary, and cold conditions.	Tingling, itching or burning sensation Painful weight bearing Blisters Swelling Bleeding under the skin Decaying odor, gangrene	Soak feet in lukewarm water Wrap feet with dry cloth bandages Drink a warm, sugary drink Seek medical treatment
Frost bite Occurs when the fluids and tissues of the skin freeze. Usually affects the extremities (hands, feet).	Cold, tingling, stinging or aching followed by numbness Skin color turns red, then purple, then white, and is cold to the touch	Do not rub the area to warm it Wrap the area in a soft cloth Move the worker to a warm area, and contact medical personnel If help is delayed, immerse in lukewarm water (not hot) Do not pour water on affected part Seek medical treatment if there is no return of skin sensitivity or circulation
Hypothermia A medical emergency Occurs when the body core temperature reaches dangerous level (<35°C). Must be treated immediately.	**Initial symptoms:** Shivering and pale, cold skin Pulse is fast and weak Fast, shallow breathing Headache, dizziness, confusion Slurred speech, poor coordination **Advanced symptoms:** Shivering stops Worker may become unconscious Death	Keep the victim awaken and limit energy expenditure at a minimum. Do not let the victim walk, use a stretcher. Move to warm area and stay active. Loosen clothing and /or remove wet clothes and replace with dry clothes or blankets, cover the head. Do not warm up the extremities at the same time than the body. (A sudden return of cold blood from the extremities to the heart could trigger a drop in the body temperature and cause shock). Provide warm (not hot) sugary drink with no alcohol. Avoid drinks with caffeine. Avoid tobacco due to its vasoconstrictive effect. In more severe cases, Place the victim in a sleeping bag with another person to allow for the exchange of heat or use a hypothermia wrap. Handle the person very gently.

SWP-004 Hand and Power Tools

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Hand and Power Tools	Number:	SWP-004
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Purpose

To ensure workers or volunteers using hand and power tools are trained and know how to use power tools and avoid injuries.

General

- Do not use tools with split, broken, or loose handles.
- Keep cutting tools sharp and carry them in an appropriate container or pouch, not in your pocket.
- Maintain tools properly. Keep tools sharp and clean. Protect them from dirt and dampness. Make sure all parts are tight. Lubricate and change accessories as per operating manual.
- Be sure guards are securely in place and operational before using any tools or equipment. Do not remove, disable, or bypass any guard provided for your protection.
- Know the correct use of hand and power tools before using them. Use the right tool for the right job. If you are not sure, ask.
- Operate machinery and equipment only within its rated capacity and at safe speeds.
- Always ensure that the area is clear before swinging tools such as sledgehammers and axes.
- Ensure that gasoline operated equipment is situated in a well-ventilated area and away from combustibles.
- Do not ride on, or operate vehicles or mobile equipment unless authorized.
- Do not ride in vehicles that do not have seat belts.
- Keep all tools and equipment in good working conditions. DO NOT USE A DEFECTIVE TOOL, TAG IT AND REMOVE FROM SERVICE. Report all defects to the Operations Manager.
- Get hands-on training before using any new equipment.
- Read the user's manual and follow manufacturer specifications for tool and tool use
- Tools and machinery may only be operated by competent and authorized persons.
- Do not start machinery until you have ensured you and those around you will not be endangered
- Store the tools in their designated areas after use.
- Use the required personal protective equipment PPE. Gloves must be well-fitted and appropriate for the hazards.
- Tie long hair behind your head.
- Do not wear loose clothing like ties, open cuffs, or loose or open shirts.

- Do not wear loose jewellery like neck chains, bracelets, rings and watches.
- Familiarize yourself with emergency procedures.

Hand-Held Power Tools

- Avoid dangerous environments. Avoid using power tools in the rain or in any damp or wet conditions.
- Do not use in the area of combustible liquids or gases.
- Wear proper clothing and PPE. Loose clothing or jewelry could get caught in moving parts. Where harmful vapors or dusts are created, approved breathing protection is to be used.
- Check the electrical connections. Make sure the tool is properly connected and the circuit is properly grounded. Only three wire extension cords are to be used on electrical power tools.
- Do not abuse the cord. Check to see that the cord does not get tangled with the machine. Do not carry tools by the cord or yank the cord from the receptacle. Keep the cord clear of heat, oil and sharp edges.
- Disconnect all tools when not in use, before servicing and when changing accessories such as blades, bits or cutters.
- Work in areas clear of other employees as much as possible.

Chainsaws for Brush and Trail Cutting

- Required personal protective equipment includes the following:
- Hand protection in the form of gloves.
- Ear plugs or noise cancelling headphones for hearing protection.
- Steel-toed boots or other footwear determined to be appropriate for the job.
- Goggles or other forms of eye protection.
- Suitable clothing for the job, such as chainsaw chaps and long sleeves.
- Sunscreen and a hat should also be worn when outside and exposed to UVA and UVB rays.

<u>Operational Safety Checks</u>

- Ensure the handles or harness have been adjusted to a position that is comfortable for operation and good balance.
- Continuously watch for ejected materials to ensure no person or animal becomes endangered while the equipment is operating.
- Always utilize both hands while operating the brush or line cutter.
- Maintain good footing and balance at all times and move slowly while working to avoid unforeseen uneven ground or obstacles.
- Refrain from raising the brush or line cutter above knee level.
- After shutting down the engine of the brush or line cutter, ensure to keep fingers and feet away from the cutting line or blade until all rotation has ceased.

Chain Saw Operations

- Work within the sight of another member of the slashing crew.
- Avoid contact with hazardous power transmission parts.
- Two tree height safe distance must be observed between faller and rest of crew.
- All operators must be trained in first aid and chain saw safety.
- Operators must know the worksite Emergency Response Plan.
- Do not cut above shoulder height.
- Ensure chain saw is shut off during fueling.
- A maintenance log must be maintained for all saws.

SWP-005 Wildland Fire Prevention

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Wildland Fire Prevention	Number:	SWP-005
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Purpose

To ensure workers or volunteers prevent a fire or know what to do in case of an uncontrolled wildland fire.

General

- Review territorial requirements to determine if an additional/specific measure may apply when working during fire season.
- If **required,** implement territorial requirements, including the development of project specific fire prevention and preparedness plans, prior to mobilization.
- Review the daily conditions for your project site prior to deployment:
  - Current fire activity (fire maps)
  - Fire danger ratings
  - Air quality
- Fire and air quality conditions change quickly; monitor these throughout the day.
- When fire danger is high or extreme, additional controls must be implemented (e.g. modifying scheduled work hours, additional fire suppression equipment)
- Know how to report a wildland fire.

Smoking

- Smoking is prohibited while walking or working in a forest area during fire season when local fire ratings are high or extreme.
- When smoking is allowed, smoking materials (matches, butts etc.) must be extinguished and disposed of at least 300 m away from the forested area in proper receptacles.

Power Tools

- When in use, keep power tools at least 3 m away from the place where they are fueled.
- Do not set power tools down on flammable material while the engine is operating or hot enough to cause combustion

Flammable and combustible materials

- Remove all brush/cuttings from the worksite the same day it is cleared.
- Plan to eliminate or reduce the need to perform fueling operations in the field during high or extreme fire conditions.
- If absolutely necessary, refuel on stump or bare ground. Use anti spill spout and absorbent pad to catch any spillage.
- Use approved fuel storage containers

Emergencies

- Know your emergency plan
- Take a fire extinguisher.
- Always have an escape route planned. Each time you change locations or tasks, determine if your route is still suitable.
- Try to extinguish a fire you accidently set but only if it is safe for you to do so.
- Never attempt to put out a fire with your hands and feet.

SWP-006 Heavy Lifting

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Heavy Lifting	Number:	SWP-006
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Purpose

To ensure workers or volunteers use proper lifting techniques to avoid bodily injury.

General

One of the more common workplace injuries is a back injury due to improper lifting.

- Ensure a clear pathway.
- Use a dolly or other mechanical device if possible.
- Ask for help when required.
- Prepare for the lift; stretch and warm up before moving anything manually.
- Do not exceed personal lifting capability.
- Only light objects should be lifted above shoulder height.
- Lift only to the level required.
- Split load when possible.
- Do not attempt to catch falling objects.
- When possible, push rather than pull.
- Stand close to object being lifted.
- Get a good grip on the object.
- Bend knees; do not stoop.
- Lift using thigh, leg and abdominal muscles, but keep the back straight.
- When turning, follow the feet – do not twist the body.

SWP-007 Heat Stress

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Heat Stress	Number:	SWP-007
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Purpose

To ensure workers or volunteers understand heat related injuries and how to control them.

General

- Adjust the work schedule as needed based on the reported temperatures and humidex levels. Allow for rest breaks as needed.
- Consider moving physical tasks to the cooler parts of the day.
- Ensure workers and volunteers have access to water.
- Know the weather forecast prior to work, come prepared for forecasted conditions.
- Monitor weather apps on cell phones to receive updated heat warnings and alerts.
- Notify the Operations Manager of medical conditions where excessive heat presents a risk.
- Learn to recognize the signs and symptoms of heat stress.
- Avoid working alone and monitor you & your co-worker's physical condition frequently.

Clothing and Sunscreen

- Wear light-colored clothing made of breathable, wicking fabric.
- Cover your head if working outside.
- Wear insulated or cooled clothing (e.g. cooling vests or headbands) as appropriate.
- Wear long clothing, UV protective eyewear and sunscreen (> SPF 30) when working outdoors.
- If the work being done does not require full skin coverage, to avoid sunburn on exposed skin, use a sun block with a SPF of 15 or greater.
- Wear UVA and UVB protective tinted glasses to protect eyes from the sun. Note: safety glasses come in tinted shades.

Physical demands

- Reduce the physical demands of the work (e.g. use assistive mechanical equipment).
- Use additional workers or volunteers for the job so heavy workloads can be shared.
- Avoid heavy physical activity during the hottest part of the day.
- Take frequent breaks in cool-ventilated or shaded areas. Allow your body to cool down before beginning work again.
- Work in the shade whenever possible.
- Adjust the pace of work considering the type of work, type and amount of personal protective

equipment (PPE) worn.

Hydration

- Keep hydrated - drink a cup (250 ml) of water every 20 - 30 minutes, even if not thirsty.
- Avoid caffeine, including energy drinks.
- Eat regular meals/snacks throughout the day to replace electrolytes lost through sweating.
- Avoid eating large meals before working in hot environments.

Heat Related Injuries and Illnesses

Injury/Illness	Symptoms	Treatment
Dehydration Harmful reduction in the amount of water in the body.	• Thirsty • Light headiness or headache • Dark coloured urine	• Drink water regularly • Monitor inputs and outputs
Sun Burn Irritation of the skin from excessive sweating	• Redness • Burn feeling	• Apply appropriate skin cream to relieve burn
Heat Exhaustion a **serious condition** that occurs when the body starts to overheat.	• Tired, weak, dizzy, headache, nausea, dilated pupils • Heavy sweating with cool or clammy (moist skin) • Breathing is usually normal • Weak pulse with higher than normal heart rate (160-180 bpm)	• Stop work and move to a cool location • Offer cool drinks • Remove excess clothing or equipment • Actively cool the person • Inform a first aider who will perform first aid treatment as required and monitor the affected employee for possible evacuation
Heat Stroke a **medical emergency** that occurs when the body core temperature reaches dangerous level.	• Skin is hot and dry, person has stopped sweating • Pulse is fast and weak • Fast, shallow breathing • Headache, dizziness, confusion • May lose consciousness or have seizures.	• Contact emergency services immediately • Aggressively cool the person

SWP-008 Fire Prevention and Fire Extinguishers

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Fire Prevention and Fire Extinguishers	Number:	SWP-008
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Purpose

The purpose of this safe job practice is to provide direction for preventing fires and procedures on how to use a fire extinguisher.

General

- There is no smoking on the job, other than those areas specifically designated as "smoking areas". Observe all no smoking signs.
- Know the location and use of fire extinguishing equipment and how to summon assistance. In all Yukon communities, EMS is reached by calling 9-1-1.
- Containers containing flammables shall be clearly labeled and stored in a protected separate area such as a “Flammables Shed” which ideally is a separate building soley used for storing flammables. Items larger than aerosol-sized containers (e.g. WD40) should be stored in this separate location.
- When using gasoline-powered engines, do not refuel hot or running engines. After re-fuelling, clean up all spills before starting.
- Never use gasoline or other flammable materials as a cleaner.
- Store oily rags, wiping rags, etc., in a closed metal fire-proof container.
- When using propane for heating or other purposes in an enclosed area, ensure the gas supply is turned off at the cylinder when the flame is extinguished.
- Fire-fighting equipment is not to be used for any other purpose than that for which it is intended.
- Never continue to work in oily or gasoline soaked clothing.
- Never store flammable or other materials in proximity to electrical control panels. Ensure that access to such panels is unimpeded at all times.
- Do not carry flammables inside the cab of a vehicle.

Fire Extinguisher Use

You are not required to fight a fire. If you have the slightest doubt about your control of the situation, DO NOT FIGHT THE FIRE. Use a mental checklist to make a Fight-or-Flight Decision. Attempt to use an extinguisher only if ALL of the following apply:

- The building is being evacuated (fire alarm is pulled)
- The fire department is being called (dial 911).
- The fire is small, contained and not spreading beyond its starting point.

- The exit is clear and you can fight the fire with your back to the exit.
- You can stay low and avoid smoke.
- The proper extinguisher is immediately at hand.
- You have read the instructions and know how to use the extinguisher.

IF ANY OF THESE CONDITIONS HAVE NOT BEEN MET, DON'T FIGHT
THE FIRE YOURSELF. CALL FOR HELP, PULL THE FIRE ALARM AND LEAVE THE AREA.

Whenever possible, use the "Buddy System" to have someone back you up when using a fire extinguisher. If you have any doubt about your personal safety, or if you cannot extinguish a fire, leave immediately and close off the area, close the doors, but DO NOT lock them. Leave the building but contact a firefighter to relay whatever information you have about the fire.

All extinguishers in the office and in trucks should be marked by this symbol.

Pull the pin on the fire extinguisher.

Stand several feet from the fire, depress the handle and sweep back and forth towards the fire.

Note:

Do not walk on an area that you have "extinguished" in case the fire re-ignites or the extinguisher runs out. Remember: you usually can't expect more than 10 full seconds of extinguishing power on a typical unit and this could be significantly less if the extinguisher was not properly maintained or partially discharged.

The metal parts of CO_2 extinguishers tend to get dangerously cold -- practice using one beforehand or have someone show you the proper way to hold one.

Direct the extinguisher at the base of the flames until the fire is completely out.

Recharge any discharged extinguisher immediately after use. If you discharge an extinguisher or pull the pin for any reason, contact the Operations Manager to arrange a replacement.

Use this acronym as a quick reference:
PASS

Pull the Pin at the top of the extinguisher. The pin releases a locking mechanism and will allow you to discharge the extinguisher.

Aim at the base of the fire, not the flames. This is important - in order to put out the fire, you must extinguish the fuel.

Squeeze the lever slowly. This will release the extinguishing agent in the extinguisher. If the handle is released, the discharge will stop.

Sweep from side to side. Using a sweeping motion, move the fire extinguisher back and forth until the fire is completely out. Operate the extinguisher from a safe distance, several feet away, and then move towards the fire once it starts to diminish. Be sure to read the instructions on your fire extinguisher - different fire extinguishers recommend operating them from different distances.

Once the fire is out, do not walk away. Watch the area for a few minutes in case it re-ignites. Recharge the extinguisher immediately after use.

SWP-009 Defective Tools

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Defective Tools	Number:	SWP-009
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Purpose

Defective tools can cause serious and painful injuries.

General

If a tool is defective in some way, DO NOT USE IT. Be aware of problems such as:

- Chisels and wedges with mushroomed heads.
- Split or cracked handles.
- Chipped or broken drill bits.
- Wrenches with worn-out jaws.
- Tools which are not complete, such as files without handles.
- Broken or inoperative guards.
- Insufficient or improper grounding due to damage on double-insulated tools.
- No ground wire on the plugs or cords of standard tools.
- An on/off switch not in good working order.
- A cracked tool blade.
- The wrong grinder wheel is being used.
- The guard on a power saw has been wedged back.

Guidelines

To ensure the safe use of tools:

- Never use a defective tool.
- Double check all tools prior to use.
- Remove and tag out of service any defective tools
- Ensure that defective tools are properly repaired or discarded

SWP-010 Driving and Trailering

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Driving and Trailering	Number:	SWP-010
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Driving

Purpose

To protect workers from injuries associated with driving operations including winter driving and towing a trailer.

General

Operation of motor vehicles must be performed according to all vehicle codes, traffic laws, Club procedures, and manufacturer's recommended operating guidelines.

Supervisor Responsibility

- To facilitate and/or provide proper instruction to their workers on protection requirements and training, ensure workers are compliant, and follow through with enforcement of expectations if needed.

Worker Responsibility

- Ensure you have a valid operator's licence.
- Be conversant with traffic laws and applicable regulations.
- Drive defensively.
- Back in when practical.
- Ensure the vehicle has an emergency road kit.
- Clear snow from all windows, lights and mirrors, when required.
- Avoid using cruise control on icy roads.
- Accelerate and brake gently to reduce skids or spinouts.
- Ensure winter clothing does not restrict movement, vision or hearing.
- Ensure fuel tank is full when possible.
- Ensure you are familiar with the installation of snow chains, if applicable.
- Monitor weather reports, road conditions.
- Do not operate a cell phone or other hand-held device while driving.
- Refer to Working Alone procedures when driving in isolated areas.
- When operating your own, WCCSC-owned, or a rental motor vehicle on Club business, employees are to notify their appropriate Supervisor/Manager of intended travel route when travelling outside of city limits, report all vehicle accidents, or any other non-normal circumstances.

- The operation of any motor vehicle for Club business is prohibited when the driver is fatigued, consumed alcoholic beverages or drugs causing impairment, or when the road authority does not recommend travel.
- Drivers and passengers must wear seatbelts at all times.
- Be familiar with the vehicle and its capabilities.
- Do not offer rides to hitchhikers or strangers.

Coupling and Uncoupling a Trailer

- For small trailers, in order to couple the trailer to the vehicle, back the tow vehicle close to the trailer so that the trailer can be manually moved into position.
- For large trailers the vehicle must be backed into place using a guide.
- Use a second person as a guide, if available. The guide person is NOT to stand between the tow vehicle and trailer but in a position where they can see both the back of the tow vehicle and the trailer and communicate with the vehicle driver.
- Attach the trailer to the tow vehicle and secure coupler latch. The “tongue load” is the amount of downward force on the coupler when loaded. Important: You should always load your trailer so that it has positive tongue load. (i.e. is pressing down on the hitch, rather than pulling up away from it.)
- Secure the trailer chains to the vehicle. Chains should be crossed in an X pattern.
- Attach the Breakaway Switch to the tow vehicle, if equipped. Be certain the cable has no strain or restrictions, and will not be restricted in case of trailer breakaway.
- Raise the jack all the way up by turning in a counter-clockwise motion or turn to a horizontal position. After the jack stops, DO NOT TORQUE, this could damage the interior components of the jack and reduce capacity and safety of the jack.
- Connect the electrical connector on the trailer to the vehicle. Check the operation of all lights. Important: On a pull-type trailer, the hitch height is very important. The trailer bed is to run level. If the hitch height is too high, it will put excessive weight on the rear axle. If the hitch is too low it will cause the trailer to sway.
- In order to uncouple the trailer from the vehicle, start by parking the tow vehicle and trailer on level ground. Ensure the trailer is not left in an unattended area when children are present. When unloading a trailer use pylons around the trailer for protection in high traffic areas.
- Place a board between the ground and the jack.
- Block the tires to prevent rolling.
- Set the jack down on the board and make sure it is securely engaged.
- Remove the chains from the tow vehicle. Remove Breakaway lanyard from tow vehicle.
- Unplug the electrical connection and place on the trailer. Do not let it hang to the ground.
- Disconnect the coupler/hitch.
- Turn the handle on the jack to raise the tongue of the trailer off of the tow vehicle. Do not crank

up too hard at end of travel.

- Check that all trailer parts are not connected and are clear of the tow vehicle.
- Perform any necessary maintenance, cleaning or repairs before storing.

Towing a Trailer

- Areas used to couple and uncouple trailers should be: clear of other traffic, pedestrians and people not involved in loading or unloading; clear of overhead electric cables so there is no chance touching them, or of electricity jumping to 'earth' through machinery, loads or people; and level, to maintain stability, trailers should be parked on firm level ground.
- Ensure the ball size is the correct match for the trailer hitch.
- Loads should be spread as evenly as possible, during both loading and unloading. Uneven loads can make the vehicle or trailer unstable.
- Loads should be secured, covered or arranged so that they do not slide around
- Ensure the vehicle or trailer has its brakes applied and all stabilizers are used. The vehicle should be as stable as possible.
- Vehicles and trailers must never be overloaded. Overloaded vehicles or trailers can become unstable, difficult to steer or be less able to brake.
- Always check the floor or deck of the loading area before loading to make sure it is safe. Look out for debris, broken boarding, etc.,
- When towing, ensure you use extra caution and travel at reduced speeds.
- When towing, allow for extra length of truck and trailer when entering intersections.
- Allow for extra time and altered vehicle turning path when clearing intersections.

SWP-011 Shoveling

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Shoveling	Number:	SWP-011
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Purpose

To ensure workers or volunteers use proper techniques to avoid injury when shovelling snow.

Potential Hazards

- Awkward postures – reach, twisting
- Forceful exertions – lifting, pushing loaded shovel
- Repetitive movements – shoveling is repetitive
- Compression – hitting foot onto shovel to dig
- Surfaces causing falls – ice, snow, rough ground
- Extreme heat / cold – weather conditions, clothes
- Signs and symptoms of a musculoskeletal injury (MSI) can include pain, burning, swelling, stiffness, numbness/tingling, and/or loss of movement or strength in a body part.

Personal Protective Equipment

- Wear appropriate footwear and clothing considering weather conditions
- Appropriate shovel helps reduce effort
- Curved (ergonomic) shaft shovels are designed to reduce bending

General Practices

- Choose an appropriate shovel for the job
- Try to keep your physical exertion to a moderate level. Push or shovel only a reasonable amount at once. If you feel you have to hold your breath when lifting, you are probably lifting too much
- If shoveling snow, try to clear before it gets packed down. Attempt to push the snow with a wide shovel or scoop shovel to reduce repetitive bending and lifting
- Try to use safe body mechanics. For shoveling, these include:
  - a wide stance, a wide grip on the shovel, and trying to keep your back straight and upright
  - try to push snow as much as possible rather than lift it
  - bending the knees and hips when lifting rather than rounding your back forward
  - take small steps to turn to avoid twisting your back especially when carrying loads
  - don't try to throw snow or other material great distances. Forcefully twisting with a load greatly increases the stress on your back and shoulders
- Pace yourself. Take frequent micro breaks to stretch your back if you are shoveling for long periods

- Alternate your hands periodically to break up the same movement
- Once snow has been cleared, use a small container and sprinkle sand or de-icing agent on the area if appropriate.

SWP-012 Working Alone

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Working Alone	Number:	SWP-012
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Purpose

To provide general guidance on actions to be taken to protect employees in the event they have to work alone or in isolation.

Potential Hazards

High risk activities when working alone include working:

- At heights.
- In confined spaces (such as tanks, grain bins or elevators, culverts, etc.).
- With electricity or other forms of hazardous energy.
- With hazardous products.
- With hazardous equipment such as chainsaws or firearms.
- With the public, where there is a potential for violence.

General Practices

- Avoid having a lone worker whenever possible, especially for jobs with a recognized risk.
- Assess the hazards of your workplace.
- Talk to workers about their work. Get their input about the work they do and possible solutions.
- Investigate incidents at your workplace and learn from incidents in similar workplaces.
- Take corrective action to prevent or minimize the potential risks of working alone.
- Provide appropriate training and education to both the lone worker and the person tasked to respond if there is concern.
- Report all situations, incidents or 'near misses' where being alone increased the severity of the situation. Analyze this information and make changes to Club policy where necessary.
- Establish a check-in procedure. Make sure that regular contact is kept with all workers. Establish ways to account for people (visually or verbally) while they are working.
- Schedule higher risk tasks to be done during normal business hours, or when another worker capable of helping in an emergency is present.

Other Factors to Consider

- Length of time the person will be working alone:

- What is a reasonable length of time for the person to be alone?
- Is it reasonable for the person to be alone at all?
- How long will the person be alone to finish the job?
- Is it legal for the person to be alone while doing certain activities? (For example: some jurisdictions may restrict working alone in a confined space, or during lock-out / tag-out operations).
- What time of the day will the person be alone?

- Communication:
  - What forms of communication are available?
  - Is it necessary to "see" the person, or is voice communication adequate?
  - Will emergency communication systems work properly in all situations?
  - If the communication systems are located in a vehicle, do you need alternative arrangements to cover the person when they are away from the vehicle?

- Location of the work:
  - Is the work in a remote or isolated location? (Remember that a remote location does not have to be far away. Storage rooms that are rarely used can be considered remote or isolated.)
  - Is transportation necessary to get there? What kind of transportation is needed?
  - Is the area or vehicle equipped with emergency supplies such as food and drinking water, as well as a first aid kit?
  - Will the person need to carry some or all of the emergency supplies with them when they leave the vehicle?
  - Does the person need training to be able to use the first aid equipment?
  - What are the consequences if the vehicle breaks down?
  - Will the person have to leave the vehicle for long periods of time?

- Type or nature of work:
  - Is there adequate education and training provided for the person to be able to work alone safely?
  - Is there adequate education and training provided for the person who is responding?
  - Is there adequate personal protective equipment available, if needed? Is it in good working order?
  - What machinery, tools or equipment will be used?
  - Is there a high risk activity involved?
  - Is fatigue likely to be a factor?
  - Are there extremes of temperature?
  - Is there risk of an animal attack, insect bite (poisonous, or allergic reaction), etc.?
  - If the person is working inside a locked building, how will emergency services be able to get in? (For example: a night cleaner in a secure office building)
  - Does the work involve working with money or other valuables?
  - Does the work involve seizing property or goods (such as repossession, recovering stolen property, etc.,)?

- Characteristics required by the individual who is working alone:

- Are there any pre-existing medical conditions that may increase the risk?
- Does the person have adequate levels of experience and training? (For example: first aid, communication systems repair, vehicle breakdowns, relevant administrative procedures, and/or outdoor survival?)

SWP-013 Mobile Equipment

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Mobile Equipment	Number:	SWP-013
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Purpose

To provide general guidance on working safely with mobile equipment.

Powered mobile equipment is self-propelled off-highway equipment used for construction, mining, agriculture, forestry and other purposes. It includes front-end loaders, dozers, backhoes, excavators, skidders, forwarders, tree-harvesters, scrapers, compactors, rollers, graders, agricultural tractors and industrial tractors.

General Practices

When operating powered mobile equipment, the best measure an operator can take to avoid injury or death in the event of a rollover or collision is to wear the seatbelt. In the event of a rollover, the rollover protective structures (ROPS) will act as a protective box around you and the seatbelt keeps you inside the box.

As an employer, you must:

- Ensure that the powered mobile equipment has the necessary equipment to protect employees from flying, intruding or falling objects
- Ensure powered mobile equipment is equipped with a rollover protective structure (ROPS), and that all ROPS equipment meets the required criteria
- Ensure they are fitted with seat belts, or other restraining devices where seat belts are impracticable
- Ensure that operators use the seat belts or restraining devices
- Ensure that powered mobile equipment is
    - Used only for the purposed it is designed and equipped.
    - Operated by a competent employee.
    - Equipped with adequate brakes, a manually operated horn, rear-view mirror (or other means to ensure safe backing up), automatic audible back-up alarm, guarded gears and moving parts, and three-point contact to access the operator's cab.
    - Equipped with adequate headlights and tail lights when used in dimly lit areas or after dark.
    - Equipped with controls that cannot be operated from the outside of the cab (unless designed in that way).
    - Ensure that any load on the equipment is adequately secured.
- Designate an employee to signal to an operator who is backing up and is unable to see clearly.
- Ensure that all aspects of the powered mobile equipment are maintained in safe working condition, defective parts are replaced or repaired, wire ropes (and drums and sheaves) are inspected visually every day by the operator, and physically by a competent person weekly.
- Ensure any raised parts are adequately blocked and no employee works under or goes under the

equipment unless the parts are adequately blocked.

- Ensure that any safety device is not altered in any way that makes it ineffective.
- Ensure the operator checks the effectiveness of all safety devices before operating the equipment.
- Ensure adequate actions are taken when working on a slope or bank, pushing materials into a body of water, pit, excavation or other cavity or frozen body of water.

While the employer is ultimately responsible for all the provisions mentioned above, the supervisor has a vital role to play in the safety of their teams.

As a supervisor, you must:

- Acquaint your employees with the hazards and control measures associated with their work
- Provide the information and instruction necessary to ensure their health and safety
- Enforce Club safety rules, programs, codes of practice and procedures, including ensuring employees comply with the requirements below.

As the operator of powered mobile equipment, you must:

- Ensure that nobody rides on any part of the equipment not designed to carry passengers.
- Use the seatbelts or restraining devices while the equipment is moving.
- Follow safe operating procedures, including air and hydraulic operation, and refuelling.
- When leaving equipment unattended, place it in a safe state by doing the following:
  - Park on level ground.
  - Set the brake.
  - Lower blades/buckets to the ground.
  - Disengage the master clutch.
  - Stop the engine.
  - Remove the key.
- Not store flammable substances in the cab or carry loose articles.
- Keep equipment in gear when going downhill.
- Not work under or go under raised parts or perform repairs or maintenance unless the parts are adequately blocked.
- Not alter any safety device in any way that makes it ineffective.
- Check the effectiveness of all safety devices before operating the equipment

SWP-014 Mechanical Repair

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	Mechanical Repair	Number:	SWP-014
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

1. Personal protective equipment

- Hardhat and high-visibility clothing to be worn when not inside the cab.
- Safety boots in good condition, properly laced, must be worn at all times. Worn-out soles and heels could lead to slips and falls.
- Eye protection will be worn where there is danger of falling or flying material or debris.
- Hand protection will be worn when handling cable or any other material where there is danger of cuts or puncture injury.
- Hearing protection will be worn when exposed to noise levels exceeding 85dBA.

2. Mounting and dismounting

- Three-points contact will be used to mount and dismount equipment.

3. Housekeeping

- Ensure work area is clean and clear prior to starting a task. Keep the working area clear.
- Keep tools and parts in a safe and reasonable order.
- When finished, return all tools and materials to their proper location.
- Make sure work area is cleared and swept before starting next job.

4. Danger zone

- The danger zone is defined as the area around operating machines or working personnel, in which there is potential for being struck by moving equipment or objects.
- The danger zone may vary according to the machine or work being performed.
- Operators must make sure that all persons, vehicles and equipment are clear of the danger zone before the vehicle or its components are moved.

5. Lockout

- Lockout procedures must be followed during mechanical service, repairs or inspection for the protection of employees and equipment.
- Refer to Club and manufacturer’s procedures on lockout.
- Communications while assisting in mechanical repairs – When operators are assisting mechanics to repair machines, clear communications must be established prior to starting the tasks. The operator and the mechanic must each know who will be responsible for:
    - Starting or moving a machine
    - Ensuring that anyone involved is in a clear and safe position
    - Directing the movement of the machine
    - Ensuring that it is safe to resume working and that all guards are in place.
- The operator must have a clear understanding of what is to be done and follow the specific lockout instructions and instructions given by the mechanic responsible for performing the job.

6. Fuelling

- Shut off the engine of the towing vehicle while being fuelled. No smoking. Be aware of slip and trip hazards.
- Beware of spills and splash-back. Return hose to its proper storage position when fuelling is completed.

7. Hazardous materials

- Read WHMIS label. If there is no label, contact the supervisor. Refer to SDS if further information is needed.
- Use protective equipment and follow safe handling instructions as outlined on WHMIS label.
- If an incident occurs, follow first aid instructions.
- Use proper storage procedures.

8. Operating machinery/vehicles

- Complete the prescribed circle check prior to and after use.
- Report required repairs or defects on appropriate form.
- Operate machinery or vehicles in a safe manner and in accordance with conditions.

9. Care/use and repair of tools/equipment

- Select proper tools/equipment for the task and use in proper safe manner.
- Ensure tool is in safe operating condition.
- Return tools and equipment to proper storage location in clean and safe condition; reporting, tagging or locking out if defective.

10. Tires

- Inspect tires for any defects or damage.
- Put tire in cage if a qualified person is doing repairs.
- Inflate tire to recommended air pressure.
- Inspect for rim damage and/or foreign object in dual wheels. If rim or tire is damaged or foreign object is in duals – deflate tires.
- Use a jack or blocking of suitable capacity to do the job.
- Use proper lifting techniques for small tires. For larger tires, use a machine of suitable capacity.
- Stand to the side of lugs on truck wheels when freeing rim with a hammer.
- Inspect wheel studs for damage, replace as required.

11. Fire watch

- Clear area of hazardous material.
- Inspect fire extinguishers for operability and locate them strategically near welding area.
- Do not leave machine unattended until welding has cooled. Put equipment back in place after use. Replace any used extinguishers.

12. Proper manual lifting

- Inspect material to be lifted for sharp edges, weak points, etc.,
- If too heavy for one person, get help.
- Secure a proper stance and grip on material. Bend at knees and lift with your legs, keeping your back straight.
- Never carry anything that will impair your visibility.
- Ensure a clear, open route.

13. Use of lifting devices

- Use a proper lifting device for the job to be done.
- Inspect the lifting device prior to using it.
- Properly position and secure the lifting device on the material or equipment to be lifted.
- Never lift material or equipment higher than required.
- If assisting another worker, ensure proper communication is established.
- Never leave suspended material unattended.

14. Blocking

- Use proper size of blocking or stands for job.
- Ensure proper positioning and secure to the load.
- When the front or rear of equipment is blocked, the remaining wheels must be chocked.

15. Using tools

- Wear appropriate PPE. Ensure no one is in the danger zone. Inspect tools before use and do not use defective tools – report them immediately to your supervisor. Use the correct-sized tool for the job.

16. Welding

- Keep clothing free of oil and grease. When weather conditions permit, woolen clothing is preferred to cotton.
- Never use oil or grease around oxygen. Keep hands free of oil and grease. When operating oxygen or acetylene torches, secure loose clothing.
- When welding or cutting galvanized iron, brass, bronze, or materials coated with lead, zinc, aluminum, mercury, cadmium or beryllium, work must be done in well-ventilated areas.
- Whenever welding equipment is suspected of being defective, report it immediately to supervisor.
- When opening cylinders, do not stand in front of cylinder valve.
- All oxygen or acetylene equipment must have flashback safety check valves installed and must be shut off when not attended. All oxygen or acetylene equipment must be inspected every six months by a supervisor, and a written report kept on file. Protect fellow workers from flash and noise by using screens in appropriate locations.

17. Grinding

- Ensure proper setting and guarding of stones.

18. Use of compressed air

- Never direct compressed air on yourself or someone else.
- Ensure proper pressure for tool requirements.
- Ensure proper routing or storage of air lines.

19. Cleaning equipment

- Locate equipment in proper designated area.

20. Drilling/clamping/machining

- Ensure clamping device is properly secured and is securely clamped or chucked.
- Secure loose clothing.

21. Use of hydraulic press

- Clean area around press.
- Position bed as close to ram as possible and secure with proper pins, still allowing sufficient room to perform the work required.
- All drivers must be secured to the ram.
- Use V-blocks on round objects and proper bed plates.
- Close protective cage of press, clear danger zone before applying pressure.

22. Hammering

- Use proper stance and good footing.
- Use proper controllable swing.
- If a drift needs to be held, make sure it has a handle and your helper holds it properly.

23. Working under machinery

- Make sure work area is as clean as possible.
- Lockout the machine.

24. Air brakes

- Drain air tanks completely if components are to be repaired or removed.
- Cage maxi brake with retaining bolt before removing or installing.
- Use caging fixture if there is any physical damage before removing brake pot.
- Dispose of defective brake pot in bomb chamber as soon as they are removed.

25. Fall protection

- Must be worn at or above the height of 3 metres, including when on any piece of equipment or machinery.
- Fall protection must be used at less than 3 metres if there is an unusual risk of injury below.

26. Electrical systems

- Shut off engine.

- Turn off master switch or disconnect ground cable when removing components.
- Beware of battery liquid acid or vapour
- Use proper lifting
- Avoid arcing across battery posts
- Never wear rings and watches

27. Working in confined spaces

- Lockout machine.
- Make sure work area is safe to enter before commencing job. Remove as many panels, components or covers as possible to enlarge work area as much as possible.
- Provide adequate lighting and ventilation
- Test the atmosphere before entering if it is a confined space and continuously monitor the atmosphere

28. Repairing hydraulic systems

- Lockout.
- Drain all accumulators and systems of pressure.
- Properly number and cap or plug all disassembled hoses or lines. Use proper lifting equipment and techniques for removing or installing components.
- Attach all frame locking devices as outlined in service manuals.

29. Ventilation

- When using toxic substances, make sure work area is well ventilated.
- Other persons working in or around this area should be notified of such work.
- Welders are to use air filtering machines wherever possible to keep shop air clean and well ventilated.
- Ensure all available ventilation equipment is used where so equipped. If fumes build up beyond capacity of ventilation systems, stop and clear the area before continuing.

30. Painting

- Never paint near open flames or welding.
- Clean up work area and equipment after completion of job.

31. Loading, transporting, unloading parts and service vehicles

- Ensure decks and general work area are kept clean and dry.
- Lift items to be loaded properly using assistance or proper lifting device where necessary.
- Lay out and load in an efficient, safe manner ensuring full use of available space and properly balanced load.
- Secure all items in transport where necessary using proper binders, chains, clamping devices, etc. If transporting loads protruding out the rear or side, flag and mark as required.
- If transporting hazardous goods, make up dangerous goods waybill placards where required.
- Unload vehicle in a safe efficient manner ensuring the use of proper lifting devices or obtaining help where necessary.

32. Working in adverse weather conditions

- Use proper clothing, footwear, head protection and hand protection to suit the season must be worn.
- Ensure there is proper lighting in the work area.
- Adjust safe work procedures and vehicle/equipment operation to suit conditions.

SWP-015 Electrical Safety

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Electrical Safety	Number:	SWP-015
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

1. Why is it so important to work safely with or near electricity?

The voltage of the electricity and the available electrical current in regular businesses and homes has enough power to cause death by electrocution. Even changing a light bulb without unplugging the lamp can be hazardous because coming in contact with the "hot", "energized" or "live" part of the socket could kill a person.

2. What do I need to know about electricity?

All electrical systems have the potential to cause harm. Electricity can be either "static" or "dynamic." Dynamic electricity is the uniform motion of electrons through a conductor (this is known as electric current). Conductors are materials that allow the movement of electricity through it. Most metals are conductors. The human body is also a conductor. This document is about dynamic electricity.

Note: Static electricity is accumulation of charge on surfaces as a result of contact and friction with another surface. This contact/friction causes an accumulation of electrons on one surface, and a deficiency of electrons on the other surface.

Electric current cannot exist without an unbroken path to and from the conductor. Electricity will form a "path" or "loop". When you plug in a device (e.g., a power tool), the electricity takes the easiest path from the plug-in, to the tool, and back to the power source. This is action is also known as creating or completing an electrical circuit.

3. What kinds of injuries result from electrical currents?

People are injured when they become part of the electrical circuit. Humans are more conductive than the earth (the ground we stand on) which means if there is no other easy path, electricity will try to flow through our bodies.

There are four main types of injuries: electrocution (fatal), electric shock, burns, and falls. These injuries can happen in various ways:

- Direct contact with exposed energized conductors or circuit parts. When electrical current travels through our bodies, it can interfere with the normal electrical signals between the brain and our muscles (e.g., heart may stop beating properly, breathing may stop, or muscles may spasm).
- When the electricity arcs (jumps, or "arcs") from an exposed energized conductor or circuit part (e.g., overhead power lines) through a gas (such as air) to a person who is grounded (that would provide an alternative route to the ground for the electrical current).
- Thermal burns including burns from heat generated by an electric arc, and flame burns from materials that catch on fire from heating or ignition by electrical currents or an electric arc flash. Contact burns from being shocked can burn internal tissues while leaving only very small injuries on the outside of the skin.

- Thermal burns from the heat radiated from an electric arc flash. Ultraviolet (UV) and infrared (IR) light emitted from the arc flash can also cause damage to the eyes.
- An arc blast can include a potential pressure wave released from an arc flash. This wave can cause physical injuries, collapse your lungs, or create noise that can damage hearing.
- Muscle contractions, or a startle reaction, can cause a person to fall from a ladder, scaffold or aerial bucket. The fall can cause serious injuries.

4. What should I do if I think I am too close to overhead power lines?

Do not work close to power lines. Recommended distances vary by jurisdiction and/or utility companies. Check with both your jurisdiction and electrical utility company when working, driving, parking, or storing materials closer than 15 m (49 feet) to overhead power lines.

- If you must be close to power lines, you must first call your electrical utility company and they will assist you.
- If your vehicle comes into contact with a power line:
  - DO NOT get out of your vehicle.
  - Call 911 and your local utility service for help.
  - Wait for the electrical utility to come and they will tell you when it is safe to get out of your vehicle.
  - Never try to rescue another person if you are not trained to do so.
  - If you must leave the vehicle (e.g., your vehicle catches on fire), exit by jumping as far as possible – at least 45 to 60 cm (1.5 to 2 feet). Never touch the vehicle or equipment and the ground at the same time. Keep your feet, legs, and arms close to your body.
  - Keep your feet together (touching) and move away by shuffling your feet. Never let your feet separate or you may be shocked or electrocuted.
  - Shuffle at least 10 metres away from your vehicle before you take a normal step.
- Do not enter an electrical power substation, or other marked areas.

5. What are some general safety tips for working with or near electricity?

- Inspect portable cord-and-plug connected equipment, extension cords, power bars, and electrical fittings for damage or wear before each use. Repair or replace damaged equipment immediately.
- Always tape extension cords to walls or floors when necessary. Do not use nails and staples because they can damage extension cords and cause fire and shocks.
- Use extension cords or equipment that is rated for the level of amperage or wattage that you are using.
- Always use the correct size fuse or breaker. Replacing a fuse with one of a larger size can cause excessive currents in the wiring and possibly start a fire.
- Be aware that unusually warm or hot outlets or cords may be a sign that unsafe wiring conditions exists. Unplug any cords or extension cords from these outlets and do not use until a qualified electrician has checked the wiring.
- Always use ladders made with non-conductive side rails (e.g., fibreglass) when working with or

near electricity or power lines.

- Place halogen lights away from combustible materials such as cloths or curtains. Halogen lamps can become very hot and may be a fire hazard.
- Risk of electric shock is greater in areas that are wet or damp. Install Ground Fault Circuit Interrupters (GFCIs) as they will interrupt the electrical circuit before a current sufficient to cause death or serious injury occurs.
- Use a portable in-line Ground Fault Circuit Interrupter (GFCI) if you are not certain that the receptacle you are plugging your extension cord into is GFCI protected.
- Make sure that exposed receptacle boxes are made of non-conductive materials.
- Know where the panel and circuit breakers are located in case of an emergency.
- Label all circuit breakers and fuse boxes clearly. Each switch should be positively identified as to which outlet or appliance it is for.
- Do not use outlets or cords that have exposed wiring.
- Do not use portable cord-and-plug connected power tools if the guards are removed.
- Do not block access to panels and circuit breakers or fuse boxes.
- Do not touch a person or electrical apparatus in the event of an electrical incident. Always disconnect the power source first.

6. What are some tips for working with power tools?

- Switch all tools OFF before connecting them to a power supply.
- Disconnect and lockout the power supply before completing any maintenance work tasks or making adjustments.
- Ensure tools are properly grounded or double-insulated. The grounded equipment must have an approved 3-wire cord with a 3-prong plug. This plug should be plugged in a properly grounded 3-pole outlet.
- Test all tools for effective grounding with a continuity tester or a Ground Fault Circuit Interrupter (GFCI) before use.
- Do not bypass the on/off switch and operate the tools by connecting and disconnecting the power cord.
- Do not use electrical equipment in wet conditions or damp locations unless the equipment is connected to a GFCI.
- Do not clean tools with flammable or toxic solvents.
- Do not operate tools in an area containing explosive vapours or gases, unless they are intrinsically safe and only if you follow the manufacturer's guidelines.

7. What are some tips for working with power cords?

- Keep power cords clear of tools during use.

- Suspend extension cords temporarily during use over aisles or work areas to eliminate stumbling or tripping hazards.
- Replace open front plugs with dead front plugs. Dead front plugs are sealed and present less danger of shock or short circuit.
- Do not use light duty extension cords in a non-residential situation.
- Do not carry or lift up electrical equipment by the power cord.
- Do not tie cords in tight knots. Knots can cause short circuits and shocks. Loop the cords or use a twist lock plug.

8. What is a Ground Fault Circuit Interrupter (GFCI)?

A Class A Ground Fault Circuit Interrupter (GFCI) works by detecting any loss of electrical current in a circuit (e.g., it will trip at a maximum of 6mA). When a loss is detected, the GFCI turns the electricity off before severe injuries or electrocution can occur. A painful non-fatal shock may occur during the time that it takes for the GFCI to cut off the electricity so it is important to use the GFCI as an extra protective measure rather than a replacement for safe work practices.

GFCI wall outlets can be installed in place of standard outlets to protect against electrocution for just that outlet, or a series of outlets in the same branch circuit. A GFCI Circuit Breaker can be installed on some circuit breaker electrical panels to protect an entire branch circuit. Portable in-line plug-in GFCIs can be plugged into wall outlets where appliances will be used.

9. When and how do I test the Ground Fault Circuit Interrupter (GFCI)?

It is important that you follow the manufacturer's instructions with respect to the use of a GFCI. Test permanently wired GFCIs monthly, and portable devices before each use. Use a GFCI tester. You may also test by pressing the "test" and "reset" buttons. Plug a "night light" or lamp into the GFCI-protected wall outlet (the light should turn on), then press the "TEST" button on the GFCI. If the GFCI is working properly, the light should go out. If not, have the GFCI repaired or replaced. Press the "RESET" button on the GFCI to restore power.

Contact a qualified electrician if you are unsure or to correct any wiring errors.

10. What is a sample checklist for basic electrical safety?

Inspect Cords and Plugs

- Check extension cords and plugs daily. Do not use, and discard cords and plugs if they are worn or damaged.
- Have any extension cord that feels more than comfortably warm checked by an electrician.

Eliminate Octopus Connections

- Do not plug several items into one outlet.
- Pull the plug, not the cord.
- Do not disconnect from the power supply by pulling or jerking the cord from the outlet. Pulling the cord causes wear and may cause a shock.

Never Break OFF the Third Prong on a Plug

- Replace broken 3-prong plugs and make sure the third prong is properly grounded.

Never Use Extension Cords as Permanent Wiring

- Use extension cords only to temporarily supply power to an area that does not have a power outlet.
- Keep extension cords away from heat, water and oil. They can damage the insulation and cause a shock.
- Do not allow vehicles to pass over unprotected extension cords. Extension cords should be put in protective wireway, conduit, pipe or protected by placing planks alongside them.

SWP-016 Chainsaw Safety

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	Chainsaw Safety	Number:	SWP-016
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

1. Personal Protective Equipment

Description	Standard
Work Gloves	Required
Chaps / Cutter Pants	Required
CSA Approved Footwear	Required
Hard Hat with ear protection and face shield	Required
CSA Approved Hearing Protection	Required
CSA Approved Eye Protection	Required
High Visibility Vest	Recommended
First Aid Kit with Pressure Bandage	Required

2. What are some general tips to know when using chain saws?

- Only use chain saws that you have been trained to use properly and safely.
- Read the owner's manual carefully.
- Make sure you understand instructions before attempting to use any chain saw.
- Review pertinent health and safety legislation before operating a chain saw.
- Operate, adjust and maintain saws according to the manufacturers' directions and the CSA Standard Z62.1-15 "Chain Saws" or ANSI standard B175.1-2012 (and A1-2014) (Outdoor Power Equipment - Internal Combustion Engine-Powered Hand-Held Chain Saws - Safety and Environmental Requirements). Both standards describe safety requirements for the design of chain saws and include recommendations on how to use chain saws safely.
- Operate the chain saw in well-ventilated areas only.
- Wear personal protective equipment and clothing.
- Ask questions if you have any doubts about doing the work safely. Safety procedures that you follow will also depend on where the sawing is carried out (e.g., on the ground or at height in a tree or elevating device) and on the presence of trip, slip, snag, and fall hazards.
- Only operate saws when you are well rested. Fatigue causes carelessness. Be cautious before breaks and end of shift.
- Have all required supplies and equipment with you before you start the work.
- Be aware of your surroundings – weather conditions, terrain, wildlife, buildings, powerlines, vehicles, and other people.

3. What are some safety tips to know and follow when starting the saw?

DO

- Use only chain saws that have been manufactured and maintained according to standards like the CSA Standard Z62.1-15 "Chain Saws" and that are equipped with a safety chain and chain brake. Check legislation in your jurisdiction for other requirements.
- Know how to use the controls before starting a chain saw.
- Remove the chain bar guard (scabbard) and inspect the saw and machine for damaged, loose, missing parts, or other signs of wear, or leaks around the engine before starting.
- Ensure that the guide bar is tight and the chain fits snugly without binding; adjust the chain tension, if required according to manufacturer's specifications.
- Inspect the saw chain to ensure it is properly lubricated and is sharp. Sharpen and lubricate, as needed.
- Check the air filter and clean when needed.
- Check the muffler spark arrestor screen, if present. Spark arrestor screens help reduce the risk of fire, especially in dry forest conditions.
- Inspect the chain catcher – it helps reduce the risk of injury when a chain breaks or comes off the guide bar.
- Ensure that chain is clear of obstructions before starting.
- Engage the chain brake before starting the chain saw.
- Ensure that you have secure footing and that your stance is well balanced.
- Start the saw using ground start or leg lock start methods with the chain brake engaged.
- Warm up the saw prior to cutting. The saw should idle without the chain turning. If the chain continues to turn after the throttle switch is released, stop the saw. Then adjust the idle as shown in the owner's manual.
- Check that the throttle trigger, throttle trigger interlock, master control lever, etc., are operating properly.

DO NOT

- Do not use a saw if it is damaged or improperly adjusted, or has loose or missing parts.
- Do not "drop start" (starting a saw in hands) or when a chain saw is touching your body. This method leaves only one hand to control a running saw and can result in leg cuts. Leg lock and ground starts are the only methods to be used when starting a saw and the chain brake must be engaged.
- Do not start a saw unless it is at least 3 metres (10 feet) from any approved fuel safety containers.
- Do not make adjustments to the chain or guide bar when the motor is running.
- Do not move your feet with a running saw unless the chain brake is engaged.
-

4. What precautions should I take when fuelling a chain saw?

- Follow manufacturer's directions for oil/gas mixture to be used.

- Use only safety containers for storing and dispensing fuel that have been approved by standards like the CSA International B376-M1980 (R2014) titled "Portable Containers for Gasoline and Other Petroleum Fuels" or by agencies like Underwriters' Laboratories (UL or ULC [Canada]).
- Do not refuel a running or hot saw.
- Dispense fuel at least 3 metres (10 feet) away from sources of ignition.
- Use funnel or spout for pouring. Wipe off any spills and have spill kit materials nearby.
- Mix fuel in a well-ventilated area. Keep a well-maintained fire extinguisher nearby.
- Do not smoke or allow any ignition sources while refueling.

5. What should I do and not do when cutting?

DO

- Plan each job before you start. Arrange to have help.
- Carry the chain saw by its front handle, with the muffler away from your body and the guard bar pointing behind you.
- Know the location of the persons working with you at all times.
- Use the correct saw. The weight, power, and bar length should all be suitable for the job.
- Operate the chain saw in a firm two-handed grip with fingers and thumb surrounding the handles. Keep both feet firmly positioned when operating a chain saw.
- To reduce the risk of kickbacks, keep a firm grip on the saw with your thumb underneath the handhold and avoid touching limbs or other objects with the tip of the bar.
- Cut at shoulder height or below, whenever possible.
- Maintain full power throughout each cut.
- Ensure that the chain does not move when the chain saw is idling. Engage the chain brake.
- Turn off the chain saw before refuelling or doing any maintenance.
- Keep your saw clean – free of sawdust, dirt and oil.
- Wear safety gloves or mitts when sharpening the chain.

DO NOT

- Do not start a chain saw when it is resting against any part of your body except for the leg lock starting method.
- Do not stand directly behind the saw.
- Do not leave a saw running unattended.
- Do not carry a chain saws while it is running except for short distance with the chain brake engaged. When in doubt, turn the saw off, move to your new location, and restart the saw.
- Avoid contact with the muffler. Serious skin burns may result.
- Do not cut alone.

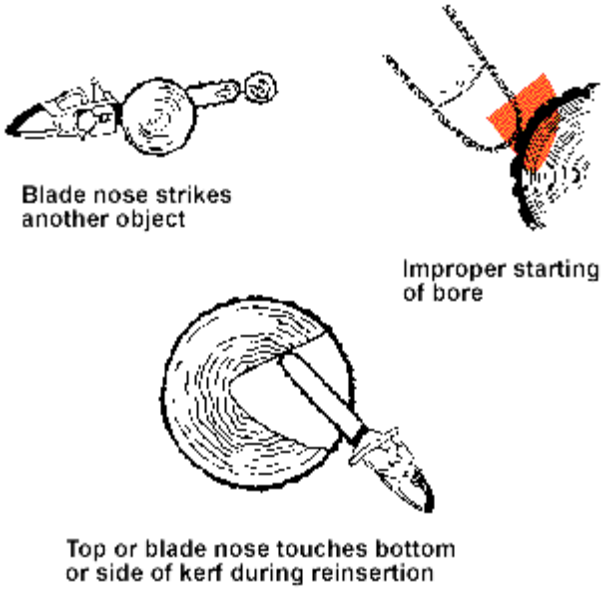
6. Avoiding Kickback

When the tip of the chainsaw's bar catches on material being cut, or another object, the bar of the saw can be thrown violently toward the operator – this is called kickback.

Following these rules can reduce kickback of the chainsaw:

- The chain should always be sharp.
- Make sure the chain oil pump is working properly. To test if the pump is working properly, hold the tip close to the ground and watch for oil splatter.
- Ensure the bar tip is well oiled.
- Ensure proper chain brake operation & raker settings
- Avoid contact with objects
- Adjust for tree size
- Brace yourself
- Be careful of catching your leg
- Keep your body on the "safe" side of the bar; hold the saw to the outside of your body

Hold the saw to the outside of your body



Avoid situations that can cause kickback.

7. Bucking Logs

- Watch for pivot points, scissor logs, loaded trees or logs that may roll after they have been bucked and limbed, particularly in decks.
- Keep clear of loaders and skidders and try not to have your back towards them. They are bigger and have more blind spots than you do.
- Do not start bucking or limbing until chokers are removed.
- Never walk under a log that is being held up by a loader.
- Be sure all snags and dangerous trees are removed from around landing.
- Always be aware of your footing and keep caulks in good condition.

8. Delimbing Trees

Many chain saw accidents occur during limbing operations. Examine each limb before cutting to be sure it will not bind the bar or cause the trunk to roll toward you.

Saw Position

- Never cut a limb above the height of your shoulders.

Kickback

- Ensure that most of the bar does the delimbing. Using the end of the bar creates kickback hazard.

Cutting Tree Limbs

- Always begin delimbing a tree from the base of the trunk. Cut the limbs on the top side of the tree first and always stand on the opposite side of the trunk from the limb being cut.
- Watch for limbs under stress from the weight of the log. These should be removed ahead of time so that the saw is not flipped towards you as the log is sawn off.
- Cutting branches resting on the ground may be necessary to clear the area as you work. Beware that the tree may sag or roll as a new branch is cut and cut accordingly. Watch for compression and tension forces before cutting.
- Avoid contacting other limbs with the backside or the nose of the chain.

Clearing Limbs

- When clearing limbs, put the saw down. Never hold a running saw with one hand and clear limbs with the other.

SWP-017 Brushing Saw Safety

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	Brushing Saw Safety	Number:	SWP-017
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

1. Personal Protective Equipment

Description	Standard
Work Gloves	Required
Chaps / Cutter Pants	Required
CSA Approved Footwear	Required
Hard Hat with ear protection and face shield	Required
CSA Approved Hearing Protection	Required
CSA Approved Eye Protection	Required
High Visibility Vest	Recommended
First Aid Kit with Pressure Bandage	Required

2. Health Considerations

Mechanical brushing is very physical work with many hazards associated with a forested environment including:

- Mosquitoes – have repellent available and cover
- Bees and Wasps – If any identified, inform the rest of the crew.
- Wildlife (e.g. bears, cougars, moose…) – Check the work area for any wildlife before and during operations that could have come onto the site.

To maintain good health before and during work:

- Get a good night's sleep.
- Be mentally and physically prepared to begin work, including stretching and warming up before and during work.
- Eat health, nutritious meals and refrain from using drugs and alcohol
- Prepare nutritious meals and snacks; and bring lots of water and electrolytes replacements for the work day.
- Bring personal care products including suitable medical prescriptions and medications; sun screen; and lotions
- Take frequent small breaks for water and nutrition; and to stretch.

3. Hazards to be aware of could include:

- Danger trees and overhead hazards
- Steep ground, rocky terrain, gullies, holes and debris

- Weather conditions including snow and ice; high winds; rain; fog and poor visibility conditions; heat and high fire hazard conditions.
- Insects and wildlife as previously mentioned.

4. Brushing Technique

The following general rules should be followed for brushing operations:

- Each crew member is assigned a separate work area or strip.
- The worker should work uphill in a zig-zag pattern covering the whole strip, looking head for hazards and stem distribution.
- Stay aware of your position in the work area and the position of the adjacent workers.
- Keep stump heights low and less than 30 cm; and cut below the lowest live branch.
- All cuts should be parallel to the ground to avoid sharp points that can injure other workers and wildlife.
- All stems cut cleanly with no hinges.
- Accidentally damaged trees must be cut.
- Larger stems should be fallen with a small undercut.
- Avoid using brush saws on steep slopes and use only on level or moderately sloping terrain.
- Ensure that the saw is properly maintained.
- Check that the saw is running well and that the muffler is adequate.
- Carry a personal first aid kit and have a fire extinguisher handy when fueling.
- Have available tools available for maintaining the saw including sharpening tool, screwdriver, and grease gun.
- Check that there is sufficient mixed gas for the work day.
- Refuel after the engine has cooled down.
- Maintain good balance and a secure footing when operating; and keep saw below waist height.
- Cut on the left side of the blade so that machine pulls away from operator.
- Keep saw blade sharp and extra saw blades are available.
- Ensure that the cutting head is adjusted properly and tight and the guard is intact.
- Ensure that the harness is properly fitted and adjusted to prevent back strain.
- Shut off engine before putting cutter down and before cleaning out clogged or stuck cutter.

SWP-018 Working Outdoors

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	Working Outdoors	Number:	SWP-018
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

1. Shelters and Facilities

- Unless the outdoor work location is within close proximity to indoor facilities (toilets, washing and dining facilities, etc.), such facilities should be provided.

2. Wet and Cold Conditions

- In work locations where personnel may be exposed to low temperatures, high winds, and wet conditions, first aiders should be trained in recognising the symptoms of hypothermia and administering the relevant first aid.
- The provision of first aid for hypothermia must include:
  - Prevention of further heat loss (clothing, blankets, etc.)
  - Provision of heat (indoors, warm drinks, heat packs, etc.)
  - Evacuation (if required, to a hospital)

3. UV Radiation

- Activities carried out in the sun must be assessed to determine whether:
  - The task can be carried out indoors or in the shade; or if this is not practicable, direct exposure to the sun should be minimised.
  - Outdoor workers must be provided with equipment to protect them from UV radiation, such as broad-brim hats, sunglasses, clothing with the appropriate UPF (UV Protection factor), etc. This should also apply to Personal Protective Equipment (PPE) and must include items such as UVR-rated hard hats, etc.
  - The use of long-sleeved shirts and long pants should be promoted and clothes provided to personnel should be light and loose, so as to allow 'breathing' and reducing the potential for thermal stress.
  - Arrangements should also be established to ensure the consistent use of sun screen by all personnel exposed to UV radiation.
  - Personnel who are required to work in the sun must be given information to increase their awareness of the importance of using the protective measures provided.

4. Working in Hot Conditions

- Managers must take steps to prevent the effect of heat on workers required to work outdoors in hot weather. This should cover heat exhaustion, heat cramps, heat stroke, etc.,
- Measures can include the provision of shade (where possible), the provision of loose clothing, and ensuring the availability of salt-replacement fluids.

5. Lightning Strikes

- Workers should be provided with awareness training and instruction on the risk associated with lightning strikes. This must include steps to be taken in the event of being outdoors during a thunder storm. These steps normally include, but are not limited to the following:
  - immediately seek the shelter of a building or an enclosed vehicle;
  - never shelter under trees;
  - if in a boat, immediately head for shore;
  - don't touch any metal objects;
  - if caught in the open, crouch down with your feet together preferably in a ravine or gully and try to crouch on a layer insulating you from the ground– do not lie down;
  - follow the 30:30 Rule – if the time between a lightening flash and the thunder is less than 30 seconds, you should take lightening precautions (e.g. get in a vehicle) for a minimum of 30 seconds

6. Natural Hazards

- In areas where personnel may be exposed to natural hazards, arrangements must be in place to manage the associated risk, including:
  - To provide personnel with information on the risks and to ensure they are able to identify such hazards;
  - To ensure good housekeeping and workplace hygiene and to have in place arrangements for the regular disposal of rubbish;
  - To provide personnel with insect repellent as required;
  - Where appropriate, to ensure that work areas are assessed for infestation (e.g. wasps nests, bee hives, mouse droppings) and that any such sources are removed;
  - Where required, first aid provisions should include specialised first aid kit modules (e.g. for spider and insect bites). This must include the provisions of kits to personnel working in remote locations.
  - Uneven surfaces, wet grass, and mud can make for dangerous travel, whether walking or driving. Take precautions when maneuvering vehicles over rough terrain;
  - Holes in the ground can cause trips or falls. Make sure they are identified and marked, or filled in quickly;
  - Hazards can also be found overhead. Remember to keep track of where any power lines might be when working or moving equipment.

7. Health Assessment and Acclimatisation

- Workers required to work outdoors (particularly in the hot sun) for extended periods should undergo periodic health assessments.
- The assessment takes into consideration the risk factors of personnel who may be exposed to the heat. These risk factors should include:
- Specific conditions relevant to these personnel (e.g. mature aged persons, pregnant women, persons who are obese or in poor physical condition, etc);
- Any recent illnesses suffered by personnel involved;
- Any other considerations specifically relevant.

- Where appropriate, such workers should be given the opportunity to acclimatise to these conditions over a period of time.
- Workers should have up to date immunizations including tetanus
- Workers should not perform medium to high risk work tasks in remote locations without a second person present to initiate first aid and rescue if needed

3.2 Safe Work Practice Annual Review Sheet

Safe Work Practices	Development				Review				Review			
	Date			By Whom	Date			By Whom	Date			By Whom
	M	D	Y		M	D	Y		M	D	Y	
001 Snowmobile Operations	06	25	21	M. Kramer								
002 Animal Encounters	06	25	21	M. Kramer								
003 Cold Stress	06	25	21	M. Kramer								
004 Hand and Power Tools	06	25	21	M. Kramer								
005 Wildland Fire Prevention	06	25	21	M. Kramer								
006 Heavy Lifting	06	25	21	M. Kramer								
007 Heat Stress	06	25	21	M. Kramer								
008 Fire Prevention & Fire Extinguishers	06	25	21	M. Kramer								
009 Defective Tools	06	25	21	M. Kramer								
010 Driving and Trailering	06	25	21	M. Kramer								
011 Shoveling	06	25	21	M. Kramer								
012 Working Alone	06	25	21	M. Kramer								
013 Mobile Equipment	06	25	21	M. Kramer								
014 Mechanical Repair	06	25	21	M. Kramer								
015 Electrical Safety	06	25	21	M. Kramer								
016 Chainsaw Safety	06	25	21	M. Kramer								
017 Brushing Saw Safety	06	25	21	M. Kramer								
018 Working Outdoors	06	25	21	M. Kramer								

4.1 Safe Job Procedures Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Safe Job Procedures	Number:	4.1
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Safe Job Procedures are specific step-by-step descriptions of how to complete a job safely and efficiently from start to finish.

A job hazard analysis (JHA) is a procedure, which provides for the integration of accepted safety and health principles and practices into a particular operation. In a JHA, each basic step of the job is examined to identify potential hazards and to determine the safest way to do the job. The end result is called a safe job procedure. This manual contains a Job Hazard Analysis (JHA) form for use when creating new safe job procedures.

When to conduct a JHA: Written safe job procedures are used to train new workers and workers that are moved to new jobs. Safe job procedures are also used by workers as a reference, especially for complex jobs, particularly hazardous jobs, or for jobs that are not done very often. A safe job procedure contains the appropriate safe work practices and highlights safety points. Critical tasks that involve confined-space entry, working alone, machinery lock-out procedures, working alone, using fall protection equipment, trenching and working near overhead power lines are just a few of jobs that should be analyzed. Others considerations are:

- Jobs that have already produced fatalities, property damage, serious injuries or environmental harm;
- Jobs involving two or more workers who must perform specific tasks simultaneously;
- Newly established jobs whose hazards may not be evident because of lack of experience.
- Jobs that have undergone a change in procedure, equipment or materials.

WCCSC will create Safe Job Procedures on an “as-needed” basis. In addition, all safe job procedures will be reviewed on an annual basis and documented on the annual review sheet. Any changes will be communicated to workers who are, or will be, performing that job.

SJP 001-Glide Waxing Skis

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Glide-waxing Skis	Number:	SJP-001
Policy Type:	Safe Work Practices	Amended:	June 25, 2021

Steps

1. Secure skis in vice; Visual monitor while tightening vice so you don't pinch your fingers

2. Remove any old wax with scraper or wax remover; Stroke away from body and hands with scraper; wear vinyl gloves if using wax remover and dispose of rag properly

3. Put on N95 mask and turn exhaust fan on before melting wax and leave on until skis are finished; melt ptex repair sticks (if needed) and glide wax onto skis; wear gloves and apron when melting wax; set iron in stable place when not in use; turn off iron and disconnect when done

4. Once wax has cooled, scrape skis with plastic scrapers and buff with finishing brush

SJP 002-Working Alone in Ski Base When Closing

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Working Alone in Ski Base When Closing	Number:	SJP-002
Policy Type:	Safe Job procedures	Amended:	June 25, 2021

Steps

1. Closing up till and financials at end of day.
    a. Only to be completed with office and shop doors locked and curtains closed to outer wax room; financials are left in safe in office.

2. Checking of washrooms and changerooms.
    a. Announce loudly from outside door to specific room that the facility is closing
    b. Enter when no response; confirm area is clear, turn off lights and close door
    c. Have cell phone with you in case there is a problem at the location

3. Secure doors, enter security code and exit to parking lot
    a. Be aware of surroundings
    b. Ensure outside lighting is still in place
    c. Have a personal contact or manager who you call/text to tell them you are leaving the building
    d. Call or text them when you are safely in your vehicle

4. If you feel unsafe or unsure, call
    a. 911
    b. Curling Club Lounge
    c. Ski Club Manager

4.2 Safe Job Procedure Annual Review Sheet

Safe Job Procedure	Development				Review				Review			
	Date			By Whom	Date			By Whom	Date			By Whom
	M	D	Y		M	D	Y		M	D	Y	
001 Glide Waxing Skis	06	25	21	M. Kramer								
002 Working Alone in Ski Base When Closing	06	25	21	M. Kramer								

5.1 General Rules

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	General Rules	Number:	5.1
Policy Type:	Safety	Amended:	June 25, 2021

1. Consuming or being in possession of alcohol or illegal drugs on workplace premises, or on any workplace job site, is prohibited.
2. Fighting, horseplay, practical jokes or otherwise interfering with other workers is prohibited.
3. Theft, vandalism or any other abuse or misuse of the organization's property is prohibited.
4. All unsafe acts and conditions, including "near miss" incidents, are to be reported to the appropriate supervisor promptly.
5. All incidents that result in damage or injury, and near miss incidents are to be reported to a supervisor immediately.
6. First aid treatment is to be obtained promptly for any injury.
7. Proper personal protective equipment (PPE) is to be worn at all times as required by policy, task, or regulations.
8. All work shall be carried out in accordance with appropriate safe work practices, safe job procedures, and the supervisor's direction.
9. Only those tools that are in good repair, with all guards and safety devices in place, shall be used.
10. Every worker shall keep their work area neat, clean and orderly.

WCCSC will follow their HR process described in their Policy Manual in dealing with a worker who is not in compliance with a rule.

6.1 Personal Protective Equipment Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Personal Protective Equipment Policy	Number:	6.1
Policy Type:	Safety	Amended:	June 25, 2021

It is the policy of the WCCSC to have all workers (including volunteers and contractors) use proper Personal Protective Equipment (PPE) when and where required.

- Workers are required to provide and wear:
  - Footwear adequate to the hazard(s) of the work
  - General purpose clothing suitable for the work
  - General purpose work gloves when needed

- All other PPE will be provided by the organization including:
  - Specialized gloves (e.g. vinyl gloves for waxing skis)
  - Protective hearing protection
  - Protective eye and face protection
  - Protective respiratory protection
  - High visibility outer layer(s)
  - Hard hat protection and snowmobile helmets
  - Specialized PPE including chainsaw chaps
- All PPE used shall be in good condition and maintained according to manufacturer's instructions.
- All PPE will conform to government OH&S requirements and relevant CSA Safety Standards.
- Workers will be instructed in the proper use, care, and maintenance of PPE.
- All PPE will be maintained in accordance with manufacturer's instructions and requirements.
- All PPE that is of questionable reliability, damaged, or in need of service or repair will be removed from service immediately.
- All PPE that has been removed from service will be tagged "OUT OF SERVICE." Any PPE tagged "OUT OF SERVICE" will not be returned to service until repaired and inspected by a qualified person, or it will be discarded in a proper manner.
- No piece of PPE will be modified or changed contrary to its manufacturer's instructions or specifications or OH&S Legislation.

6.2 Personal Protective Equipment Information Sheets

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Head Protection Info Sheet	Number:	6.2
Policy Type:	Safety	Amended:	June 25, 2021

The following pages contain the following Information sheets:

- Head Protection Info Sheet
- Info Sheet for Eye and Face Protection
- Foot Protection Info Sheet
- Hearing Protection Info Sheet

Head Protection Info Sheet

General Information

Safety headwear is designed to protect the head from impact from falling objects, bumps, splashes from chemicals or harmful substances, and contact with energized objects and equipment.

In construction, the recommended type of protective headwear is a hard hat that has the required "dielectric strength." There are many designs, but they all must meet CSA requirements for Class G (General Usage) and Class E (Electrical trades).

Most head protection is made up of two parts:

- The shell (light and rigid to deflect blows)
- The suspension (to absorb and distribute the energy of the blow)

Both parts of the headwear must be compatible and maintained according to manufacturer's instructions. If attachments are used with headwear, they must be designed specifically for use with the specific headwear used. Bump caps or laceration hats are not considered safety helmets.

Inspection and Maintenance

Proper care is required for headgear to perform efficiently. Its service life is affected by many factors including temperature, chemicals, sunlight and ultraviolet radiation (sun, welding). The usual maintenance for headgear is simply washing with a mild detergent and rinsing thoroughly.

Do

- Replace headgear that is pitted, holed, cracked or brittle;
- Replace headgear that has been subjected to a blow even though damage cannot be seen;
- Remove from service any headgear if its serviceability is in doubt;
- Replace headgear and components according to manufacturer's instructions; and
- Consult applicable legislation or your supplier for information on headgear.

Do Not

- Drill, remove peaks, or alter the shell or suspension in any way;
- Use solvents or paints on the shell (makes shell "break down");
- Put chin straps over the brims of certain classes of headgear;
- Use any liner that contains metal or conductive material; or
- Carry anything in the hard hat while wearing the hard hat.

For more information, look at:

- CSA Standard "Industrial Protective Headwear"
- Yukon’s Occupational Health and Safety Regulations

Info Sheet for Eye and Face Protection

General Information

This PPE is designed to protect the worker from such hazards as:

- Flying objects and particles
- Molten metals
- Splashing liquids
- Ultraviolet, infrared and visible radiation (welding)

There are two types of PPE:

1. **"basic eye protection"** includes:
   - Eye cup goggles
   - Monoframe goggles and spectacles with or without side shields
2. **"face protection"** includes:
   - Metal mesh face shields for radiant heat or hot and humid conditions
   - Chemical and impact resistant (plastic) face shields
   - Welders' shields or helmets with specified cover
   - Filter plates and lenses

Hardened glass prescription lens and sport glasses are not an acceptable substitute for proper, required industrial safety eye protection.

Comfort and fit are very important in the selection of safety eye wear. Lens coatings, venting or fittings may be needed to prevent fogging.

Contact lenses should **NOT** be worn at construction work sites. Contact lenses may trap or absorb particles or gases causing eye irritation or blindness. Hard contact lenses may injure the eye when hit.

Basic eye protection should be worn with face shields. **Face shields** alone often are not enough to fully protect the eyes from work hazards. When eye and face protection is required, advice from specialists, information on Safety Data Sheets (SDS) for various chemicals, or your supplier will help you select such protection.

For more information, refer to:

- Yukon's Occupational Health and Safety Regulations
- CSA Standards for "Industrial Eye and Face Protectors"

Do

- Ensure your eye protection fits properly (close to the face);
- Clean safety glasses daily, more often if needed;

- Store safety glasses in a safe, clean, dry place when not in use; and
- Replace pitted, scratched, bent and poorly fitted PPE. (Damaged face/eye protection interferes with vision and will not provide the protection it is designed to deliver.)

Do Not

- Modify eye/face protection; or
- Use eye/face protection that does not have a proper certification. (Various markings or the safety stamp for safety glasses are usually on the frame inside the temple near the hinges of the glasses.)

Eye Protection for Welders

Welders and welders' helpers should also wear the prescribed equipment. Anyone else working in the area should also wear eye protection where there is a chance they could be exposed to a flash.

Foot Protection Info Sheet

General Information

Safety footwear is designed to protect against foot hazards in the workplace. Safety footwear protects against compression, puncture injuries, and impact.

Safety footwear is divided into three grades, which are indicated by colored tags and symbols:

- The **tag color** tells the amount of resistance the toe will supply to different weights dropped from different heights.
- The **symbol** indicates the strength of the sole. For example, a **triangle** means a puncture resistant sole able to withstand 135 kg (300 ft. lbs) of pressure without being punctured by a 5 cm (2 inch) nail.

In construction, it is recommended that only the green triangle grade of footwear, which also gives ankle support, be used.

Your choice of protective footwear should always overprotect, not underprotect.

Do

- Choose footwear according to the job hazard and approved standards;
- Lace up boot and tie laces securely (boots do not protect if they are a tripping hazard or fall off);
- Use a protective boot dressing to help the boot last longer and provide greater water resistance (wet boots conduct current); and
- Choose a high-cut boot to provide ankle support (fewer injuries).

Do Not

- Wear defective safety footwear (i.e., exposed steel toe caps);
- Underprotect your feet; or
- Modify safety footwear.

For more information, look at:

- Yukon's Occupational Health and Safety Act and other applicable legislation
- CSA Standard "Protective Footwear"

Hearing Protection Info Sheet

How can I protect my hearing at work?

What are some things I should know about when selecting hearing protection devices?

People should wear a hearing protector if the noise or sound level they are exposed to is close to or greater than the occupational exposure limits (OEL) for noise. For most jurisdictions, this occupational exposure limit is 85 decibels (A-weighted) or dBA. Hearing protectors reduce the noise exposure level and the risk of hearing loss when worn correctly.

If hearing protection is required, then a complete hearing conservation program should be implemented. A hearing conservation program includes noise assessment, methods for controlling noise, hearing protector selection, employee training and education, audiometric testing, maintenance, inspection, record keeping, and program evaluation.

The effectiveness of hearing protection is reduced greatly if the hearing protectors do not fit properly, are not inserted or worn correctly, if they are worn only periodically, or if they are removed even for a short period of time. To maintain their effectiveness, the hearing protection should not be modified. Radio/music earphones or headsets are not substitutes for hearing protectors and should not be worn where hearing protectors are required to protect against exposure to noise.

Select hearing protection that is:

- Correct for the job. Refer to the Canadian Standards Association (CSA) Standard Z94.2-14 (R2019) “Hearing Protection Devices - Performance, Selection, Care and Use” or contact the agency responsible for occupational health and safety legislation in your jurisdiction for more information.
- Adequate in terms of protection or noise attenuation. Check the manufacturer's literature.
- Compatible with other required personal protective equipment, or communication devices.
- Comfortable enough to be worn.
- Appropriate for the temperature and humidity in the workplace.
- Able to provide adequate communication and audibility needs (e.g., the ability to hear alarms or warning sounds).

What types of hearing protectors are available?

Earplugs are inserted in the ear canal. They may be premolded (preformed), moldable, rolldown foam, push-to-fit, or custom molded. Disposable, reusable and custom earplugs are available.

Semi-insert earplugs which consist of two earplugs held over the ends of the ear canal by a rigid headband.

Earmuffs consist of sound-attenuating material and soft ear cushions that fit around the ear and hard outer cups. They are held together by a head band.

How do I pick my hearing protectors?

The choice of hearing protectors is a very personal one and depends on a number of factors including level of noise, comfort, and the suitability of the hearing protector for both the worker and the environment. Most importantly, the hearing protector should provide the desired noise reduction. It is best, where hearing protectors must be used, to provide a choice of a number of different types to choose from.

If the noise exposure is intermittent, earmuffs are more desirable, since it may be inconvenient to remove and reinsert earplugs.

How can I find out how much a hearing protector can reduce a worker's exposure to noise?

Manufacturers provide information about the noise reducing capability of a hearing protector referred to as an NRR (noise reduction rating) value. The NRR ratings are based on laboratory conditions, therefore calculations to de-rate the noise reduction rating should be done to reflect workplace conditions (see further below).

CSA Standard Z94.2-14 (R2019) Hearing protection devices — Performance, selection, care, and use defines noise reduction rating as “a single number rating that indicated the overall hearing protector attenuation, computed as the difference between the overall C-weighted level of a noise spectrum having equal energy per octave and the A-weighted noise levels under a hearing protector, using mean attenuation data less two standard deviations, derived from the experimenter-fit-procedure of the 1974 edition of ANSI Z3.19 (withdrawn) as defined in EPA (1979)”.

How do I use Noise Reduction Rating (NRR)values to determine the protection provided by a hearing protector?

The NRR, or other similar systems such as the single number rating (SNR), is a method to more accurately determine the effective exposure of a person when wearing a hearing protector. These rating systems attempt to estimate the actual sound protection provided by hearing protectors when worn in actual working environments (vs. laboratory testing situations). The “real world” results are often different than laboratory tests with the main reasons for this difference being poor fit, and lack of proper training, supervision and enforcement. For these reasons, training on the correct fit, and making sure users have a thorough understanding of hearing loss are important elements of the hearing conservation program.

Detailed calculations of the protection provided by a hearing protector involves using octave band analysis of the workplace noise and the noise attenuation provided by the hearing protector for noise in each octave band. Attenuation is defined by CSA Standard Z94.2-14 (R2019) Hearing protection devices — Performance, selection, care, and use as “the reduction in sound pressure level incident upon the ear due to the application of a hearing protector or, specifically, the change in hearing threshold level that results when a hearing protector is worn.”

What are the advantages and limitations of earplugs and earmuffs?

Both types of hearing protection offer advantages and disadvantages. Earplugs can be mass-produced or individually molded to fit the ear. They can be reusable or disposable. On the positive side, they are simple to use, less expensive than muffs, and often more comfortable to wear when in hot or damp work areas. Some disadvantages are they provide less noise protection than some muffs, and should not be used in areas exceeding 105 dBA. They are not as visible as muffs, making it more difficult for supervisor to check to see if workers are wearing them. They must be properly inserted and inserted hygienically to provide adequate protection.

Earmuffs can vary with respect to the material and depth of the dome, and the force of the headband. The deeper and heavier the dome, the greater the low-frequency attenuation provided by the protector. The headband must fit tightly enough to maintain a proper seal, yet not be too tight for comfort. Some advantages are that earmuffs usually provide greater protection than plugs, although this is not always true. They are easier to fit, generally more durable than plugs, and they have replaceable parts. On the negative side, they are more expensive, and often less comfortable than plugs, especially in hot work areas. In areas where noise levels are very high, muffs and plugs can be worn together to give better protection.

The following table summarizes the differences between earplugs and earmuffs.

Comparison of Hearing Protection	
Ear Plugs	**Ear Muffs**
Advantages: • small and easily carried • convenient to use with other personal protection equipment (can be worn with earmuffs) • more comfortable for long-term wear in hot, humid work areas • convenient for use in confined work areas	**Advantages:** • less attenuation variability among users • designed so that one size fits most head sizes • easily seen at a distance to assist in the monitoring of their use • not easily misplaced or lost • may be worn with minor ear infections
Disadvantages: • requires more time to fit • more difficult to insert and remove • require good hygiene practices • may irritate the ear canal • easily misplaced • more difficult to see and monitor usage	**Disadvantages:** • less portable and heavier • more inconvenient for use with other personal protective equipment. • more uncomfortable in hot, humid work area • more inconvenient for use in confined work areas • may interfere with the wearing of safety or prescription glasses: wearing glasses results in breaking the seal between the earmuff and the skin and results in decreased hearing protection.

Why is user preference so important?

The human aspects of hearing protection are particularly important since the only useful kind of protection is the protection that is actually worn. Some people do not accept particular kinds of protectors; every human being is different, and the anatomy of the ear and ear canal can vary significantly from person to person.

It is a good idea for the employer to provide a number of different types of hearing protection from which workers can choose, keeping in mind any safety or hygienic reasons for not providing a particular kind of protector. That is, a particular type of protector should not be used if noise levels are too high or if it proves to be inadequate from a hygienic point of view. For example, earplugs which are used in a plant setting where people reuse them throughout the day, often reinserting them with dirty fingers, can introduce dirt and bacteria into the ears, causing ear infections.

The bottom line on hearing protection is worker preference. If the workers do not like the type of protection (for example, if it is uncomfortable, does not fit well, or is impractical), they will not wear it.

What should I know about the fit of my hearing protectors?

Follow manufacturer's instructions. With earplugs, for example, the ear should be pulled outward and upward with the opposite hand to enlarge and straighten the ear canal, and insert the plug with clean hands.

Ensure the hearing protector tightly seals within the ear canal or against the side of the head. Hair and clothing should not be in the way.

What happens to the protection level when hearing protectors are removed for short periods of time?

In order to get full benefit, hearing protectors must be worn all the time during noisy work. If hearing protectors are removed only for a short duration, the protection is substantially reduced. The following table gives a maximum protection provided for non-continuous use of an ideally fitted 100% efficient hearing protector. For example, when hearing protection is rated with an attenuation of 25dB, if one takes off his/her hearing protector for 5 minutes in an hour the maximum protection will be reduced to no more than 11dB.

Impact of removing hearing protection	
Time removed (in 1 hr)	**Maximum 25 dB Protection is reduced to (dB)**
0 min	no reduction
1 min	17
5 min	11
10 min	8
30 min	3
60 min	0

Source: Removal of hearing protectors severely reduces protection. Health and Safety Executive, UK (no date). Hearing protectors must be used **ALL THE TIME** to get full benefit.

How should I care for my hearing protection device?

- Follow the manufacturer's instructions.
- Check hearing protection regularly for wear and tear.
- Replace ear cushions or plugs that are no longer pliable.
- Replace a unit when head bands are so stretched that they do not keep ear cushions snugly against the head.
- Disassemble earmuffs to clean.
- Wash earmuffs with a mild liquid detergent in warm water, and then rinse in clear warm water. Ensure that the sound-attenuating material inside the ear cushions does not get wet.
- Use a soft brush to remove skin oil and dirt that can harden ear cushions.

- Squeeze excess moisture from the plugs or cushions and then place them on a clean surface to air dry. (Check the manufacturer's recommendations first to find out if the earplugs are washable.)

Source: Canadian Centre for Occupational Health and Safety
See also: Yukon Occupational Health Regulations at www.yukonregs.ca

7.1 Preventative Maintenance Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Preventative Maintenance Policy	Number:	7.1
Policy Type:	Safety	Amended:	June 25, 2021

It is the policy of WCCSC to maintain all tools, vehicles, and equipment in a condition that will maximize the safety of all personnel.

To accomplish this, a Preventative Maintenance Program shall be maintained and shall include the following components:

- Adherence to applicable regulations, standards, and manufacturers' specifications
- Services by appropriately qualified maintenance personnel
- Current inventory list of tools/equipment to be maintained
- Scheduling and documentation of all maintenance work

Operational managers and supervisors shall be responsible for the application of the program in their area of responsibility.

- If a tool is defective, remove it from service, and tag it clearly "Out of service for repair".
- Replace damaged equipment immediately - do not use defective tools "temporarily".
- Have tools repaired by a qualified person - do not attempt repairs unless qualified.

Inventory List of Tools/Equipment

Item:	**Maintenance schedule (In addition to manufacturer specifications)**
Computer equipment	Vacuum ventilation ports regularly
Waxing irons	Clean off built up wax after use
Portable power tools	Check cords and operational parts prior to use
Central vacuum for wax room	Empty dirt cannister before it’s full
Electrical kitchen equipment	Keep clean and inspect prior to use
Snowmobiles	Regularly scheduled maintenance plus pre-use inspection by operator
PB snowcat	Regularly scheduled maintenance plus pre-use inspection by operator
Grooming equipment	Regularly scheduled maintenance plus pre-use inspection by operator
Chainsaws gas and electric	Regularly scheduled maintenance plus pre-use inspection and maintenance by operator

8.1 Training and Communication Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Training and Communication	Number:	8.1
Policy Type:	Safety	Amended:	June 25, 2021

Purpose

The purpose of this policy is to ensure that all employees receive adequate safety training.

Policy

The Whitehorse Cross Country Ski Club will provide and ensure that all employees participate in the following safety training:

- Orientation for all newly-hired staff;
- Job-specific training as required; and
- Refresher and update training.

Training for managers and supervisors will be provided as needed.

In addition, safety meetings involving all employees will be held and documented at a minimum of once per operating season and more frequently if required. Meeting minutes will be shared with staff and reviewed by management.

Additional training will be provided to grooming volunteers including

- Initial orientation for all new grooming volunteers
- Start of season update training for returning volunteers
- Training sessions as required related to new equipment and processes

8.2 Safety Meeting Form

Safety Meeting Minutes

DATE: _____

(1) REVIEW OF PREVIOUS MEETING _____
(2) REVIEW OF INSPECTIONS/INCIDENTS _____
(3) REVIEW SAFE WORK PROCEDURES/SAFE JOB PRCEDURES _____
(4) CURRENT TOPIC DISCUSSION _____
(5) EMPLOYEE INPUT _____
(6) DATE/TIME/TOPIC NEXT MEETING _____

ATTENDANCE:

(1) _____ (2) _____
(3) _____ (4) _____
(5) _____ (6) _____
(7) _____ (8) _____
(9) _____ (10) _____
(11) _____ (12) _____
(13) _____ (14) _____

TOPIC OF REVIEW:

_____
_____
_____
_____

EMPLOYEE INPUT:

_____
_____
_____
_____

ACTION(S) TO BE TAKEN:

_____
_____
_____
_____

NEXT MEETING: DATE: _____ TIME: _____
TOPIC NEXT MEETING _____
_____
_____

_____ _____
Facilitated by Reviewed by:

8.3 New Employee Safety Orientation Checklist

Employee:	Hire Date:
Date orientation given:	Position

Introduction
- ☐ WCCSC History
- ☐ WCCSC Safety Policy

Responsibilities for Safety
- ☐ Worker
- ☐ Supervisor
- ☐ Manager

Emergency Procedures
- ☐ Fire
- ☐ Ambulance
- ☐ First Aid
- ☐ Security/Police
- ☐ Incident Reporting
- ☐ Lost/Injured skier

General Rules
- ☐ Alcohol
- ☐ Horseplay
- ☐ Vehicle Operation
- ☐ Theft

Personal Protective Equipment
- ☐ Office PPE
- ☐ Outside operations

WHMIS
- ☐ Overview
- ☐ Safety Data Sheets

Safe Work Practices
- ☐

Safe Job Procedures
- ☐

Meetings
- ☐ Safety Representative

Trainer/Supervisor: _____

Employee Signature: _____

8.4 New Employee Safety Orientation Questionnaire

SAFETY ORIENTATION QUESTIONNAIRE

Name of worker_____ **Date** _____
(Please Print)

Note: Place ✓ by correct response(s):

1. Hazard identification and control is important to maintain a safe working environment.
   No: ☐ Yes: ☐

2. Working safely is a condition of employment.
   No: ☐ Yes: ☐

3. All injuries, regardless how minor, must be reported immediately to your supervisor.
   No: ☐ Yes: ☐

4. It is important to maintain good housekeeping in your work area.
   No: ☐ Yes: ☐

5. You observe an unsafe condition on site; you should:
   ☐ Report it immediately to your supervisor.
   ☐ Let someone else worry about it.

6. Personal protective equipment (hearing protection, skin protection, eye protection) should be worn whenever:
   ☐ Your supervisor advises you to wear it
   ☐ The potential for personal injury exists

7. All incidents including Near Misses should be reported to your supervisor.
   No: ☐ Yes: ☐

8. If something does not feel safe to you, you should:
   ☐ Do it extra carefully
   ☐ Explain your concerns immediately to your supervisor.

9. Safety Data Sheets (SDS) are required for WHMIS controlled products. You know where these are located in case you need to review them before using a hazardous product.
   No: ☐ Yes: ☐ Where is the binder?_____

Signature of worker:

9.1 Inspection Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Inspection Policy	Number:	9.1
Policy Type:	Safety	Amended:	June 25, 2021

Purpose

The purpose of this policy is to control losses of human and material resources by identifying and correcting unsafe acts and conditions through a formal inspection process.

Policy

WCCSC will maintain a comprehensive program of safety inspections within their building facilities (e.g. wax room, PB shed). Formal inspections are to be carried out and documented at a minimum of monthly during seasonally-active operations (e.g. September – April).

Responsibilities

Club and Operational managers are responsible for the overall operation of the program. Formal inspections including an Inspection Report will be completed by either the health and safety representative or, when not available, by a manager.

Supervisors are responsible for conducting ongoing informal inspections of areas where their crews are working.

Workers are responsible for participating in and contributing to the Inspection Program. Management will review and initiate corrective actions for all Inspection reports in a timely manner.

9.2 Workplace Inspection Form

Whitehorse Cross Country Ski Club

Workplace Inspection

Date: _____

Location:

Conducted By:

For Month:

Unsafe Act/Condition	Priority	Corrective Action	Completed By	Date/Time Completed:

Priority Index: 1. Imminent Danger 2. Serious 3. Minor 4. Acceptable 5. Not Applicable (N\A)

Copies to:	**Review Date:**

Comments:

Inspection Reminders to Check

Floors
- ☐ Floors free of loose material, debris, or worn carpeting
- ☐ Are the floors dry with no spills?

Lighting
- ☐ Are all bulbs in working order?
- ☐ Are all areas well illuminated?
- ☐ Emergency lighting in place and regularly tested?
- ☐ Exit signs in working order?

Signage
- ☐ Are signs clean and readable?
- ☐ Is the material current?

Hazardous Products
- ☐ Are there Hazardous Products on site?
- ☐ If yes, are they properly labelled?
- ☐ If yes, are the Safety Data Sheets on site and dated within 3 years?

Storage
- ☐ Are material neatly and safety piled?
- ☐ Are there stepladders available for items placed on higher shelves?
- ☐ Are large and heavy objects stored on lower shelves?
- ☐ Passageways and work areas clear of obstructions?

Housekeeping
- ☐ Are all areas free of garbage?
- ☐ Are paper and waste properly disposed of?
- ☐ Are cords tucked away to prevent tripping?
- ☐ Are wall and ceiling fixtures fastened securely?

Sanitation
- ☐ Are washrooms and food preparation areas clean?
- ☐ Are measures in place to prevent the spread of disease?

Emergency Preparedness
- ☐ Is the Emergency Response Plan clearly identified?
- ☐ Is the Emergency phone list posted?
- ☐ Is the First Aid attendant(s) identified?
- ☐ Is the Muster point identified?

Emergency Equipment
- ☐ Are First Aid kits appropriate and available?
- ☐ Are First Aid kits replenished as needed?
- ☐ Are Fire Extinguishers appropriate for potential fire types?
- ☐ Are Fire Extinguishers maintained and inspected as required?

9.3 Office Inspection Checklist

H&S Representative/Other:	**Area:**
Date:	**Supervisor:**

At risk condition	Acceptable (y/n?)	Work Required* (y/n?)	Comments:
Evacuation routes/ stairs/ doors clear			
Floors clean and slippery free			
Workplaces clean and equipment properly stored			
Roof/walls/ other structures maintained			
Lighting in working order			
PPE is adequate and maintained			
PPE is available			
First Aid kit available			
First aid kit supplies adequate			
Fire extinguishers serviced and maintained			
Portable electric equipment / extension cords in good condition			
Qualified First Aid Attendant onsite			
Ladders/stepstools in good working order			
Ventilation in working order			
Ergonomic office equipment in good working order			
Any hazardous chemical products are clearly labeled and properly stored with Safety Data Sheet			
Safety notices, muster points and emergency information up to date and posted?			

10.1 Investigation Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	Investigation Policy	Number:	10.1
Policy Type:	Safety	Amended:	June 25, 2021

Purpose

To investigate incidents so that causes can be determined and corrective actions can be implemented to prevent recurrence.

Policy

The WCCSC will fully investigate the following types of incidents:

- Incidents that result in injuries requiring medical aid.
- Incidents that cause property damage or interrupt operations with potential loss.
- Incidents that have the potential to result in (1) or (2) above, such as close calls or near misses.

All incidents that fall under Section 30 (see below) of the OH&S Act must be reported to YWCHSB and any other required regulatory agencies as soon as possible. The 24-hour phone number to report a Serious Workplace Incident is 867-667-5450.

Responsibilities

All employees and volunteers will report all incidents as soon as possible to their immediate supervisor and assist in the investigation when requested.

Supervisors will conduct initial investigations and submit their report to the Club Manager.

Supervisors will determine the need for, and if necessary, shall direct detailed investigations. They will also determine causes, recommend corrective action, and report to the Club Manager.

The Club Manager will review all reports, determine the corrective action to be taken, and ensure that such action is implemented. The Club Manager will report to the Club President.

Section 30 – Yukon Occupational Health and Safety Act

Injuries and Accidents: Report and investigation

(1) In this section,
"serious accident" means

1. an uncontrolled explosion,
2. failure of a safety device on a hoist, hoist mechanism, or hoist rope,
3. collapse or upset of a crane,
4. collapse or failure of a load-bearing component of a building or structure regardless of whether the building or structure is complete or under construction,
5. collapse or failure of a temporary support structure,
6. an inrush of water in an underground working,

7. fire or explosion in an underground working,

8. collapse or cave-in, of a trench, excavation wall, underground working, or stockpile,

9. accidental release of a controlled product,

10. brake failure on mobile equipment that causes a runway,

11. any accident that likely would have caused serious injury but for safety precautions, rescue measures, or chance; « accident grave »

"serious injury" means

1. an injury that results in death,

2. fracture of a major bone, including the skull, the spine, the pelvis, or the thighbone,

3. amputation other than of a finger or toe,

4. loss of sight of an eye,

5. internal bleeding,

6. third degree burns,

7. dysfunction that results from concussion, electrical contact, lack of oxygen, or poisoning, or

8. an injury that results in paralysis (permanent loss of function); « blessure grave »

(2) If a serious injury or a serious accident takes place at or on any work, undertaking, or business, the employer or person responsible for that place of work, undertaking, or business shall immediately, or as soon as reasonably practicable, give notice to a safety officer, or the office of a safety officer, of the injury or accident.

(3) No person may, except insofar as is necessary for the purpose of saving life or relieving suffering and protecting property that is endangered as a result of the accident, interfere with anything connected with a serious injury or a serious accident until a safety officer or a member of the Royal Canadian Mounted Police has completed an investigation into the accident or authorizes the interference.

(4) If a serious injury or a serious accident has not resulted in death, a safety officer may authorize a health and safety representative from the workplace to conduct the investigation on the safety officer's behalf.

(5) If no safety officer is available to receive notice from the employer or if, as a result of an inadequacy in the system provided by the Government of the Yukon for communication with a safety officer, the employer is unable to give notice to a safety officer or if a safety officer has advised that an immediate investigation cannot be made, the employer may move or permit to be moved anything at the scene connected with a serious injury or a serious accident, if details of the scene are first recorded by photographs, drawings, or other means. S.Y. 2002, c.159, s.30

10.2 Investigation Report – Paper Version

Date of Incident: _____

☐ This was an Incident **with** loss.
The type of loss was:

☐ This was an Incident **without** loss (near miss)

Who was involved?

What happened?

When (date and time)

Reported to OH & S Branch Yes ☐ No ☐

What was the **direct cause** of the loss or near miss?

What were the **underlying or indirect causes**?

What training, instruction, orientations, and cautions were given before the incident?

How can similar incidents be prevented in the future?

Recommendation(s) for further action:

Investigation Completed By Whom: _____
Date: _____

Reviewed By Club Management: _____
Date: _____

Management or Board Comments/Recommendations

10.3 Investigation Report – Computer Version

Date of Incident: _____

☐ This was an Incident **with** loss.
The type of loss was:

☐ This was an Incident **without** loss (near miss)

Who was involved?

What happened?

When (date and time)

Reported to OH & S Branch Yes ☐ No ☐

What was the **direct cause** of the loss or near miss?

What were the **underlying or indirect causes**?

What training, instruction, orientations, and cautions were given before the incident?

How can similar incidents be prevented in the future?

Recommendation(s) for further action:

Investigation Completed By Whom:
Date:

Reviewed By Club Management:
Date:

Management or Board Comments/Recommendations

11.1 Emergency Response Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	Emergency Response Policy	Number:	11.1
Policy Type:	Safety	Amended:	June 25, 2021

It is the policy of the WCCSC to ensure that emergency response plans are in place, and that the appropriate resources are available to handle emergency situations at the workplace.

The manager/supervisor is responsible to implement the emergency response plan, confirm that all personnel are familiar with the plan, and test the plan to assess effectiveness.

The manager/supervisor will maintain pertinent emergency information such as the location of the nearest hospital, fire station, first aid station, etc., to minimize travel time to treatment for all employees.

It is the policy of the WCCSC that all workers are to be aware of the action required in the emergency response plans, but in the event of an emergency, they should also reference the instructions of the manager/supervisor.

It is the policy of the WCCSC that all emergency response plans must be tested a minimum of once annually and this drill will be documented in annual safety documentation. Identified deficiencies in the emergency response plans will be corrected.

11.2 WCCSC Emergency Plan

Last Updated October 22, 2018

Introduction

This plan contains information on safety, preventing emergencies and responding to emergencies at the Whitehorse Cross Country Ski Club (WCCSC).

The Whitehorse Cross Country Ski Club includes the buildings, stadium and all ski trails. During winter, it also includes all single-track trails located within the perimeter of the ski trails.

The Emergency Plan is intended as a resource for ski club staff, management and users, and for Canada Games Centre staff, Canadian Ski Patrol, Curling club staff, EMS, RCMP and Yukon Search and Rescue.

The information regarding safety and preventing emergencies is for the benefit of trail users and for ski club staff when providing information to trail users.

The emergency response information provides a guideline for responding to emergencies. It does not provide specific response directions for every possible emergency. The intent is to provide basic information so that all emergency responders are aware of the resources available so that a coordinated response is possible.

Purpose

- To provide basic information and guidelines for emergencies affecting the WCCSC, including but not limited to power outages, fire, and ammonia gas leaks.
- To provide an organized, coordinated, and timely response to reports of lost and/or injured persons using the Whitehorse Cross Country Ski Club trails.
- To keep all relevant organizations informed on the latest procedures and responsibilities.
- To ensure continuity of purpose and procedure between organizations over the long term as staff change.
- To make emergency response personnel aware of available resources so they are able to make the best decisions when responding to an incident.
- To make trail users, staff and volunteers aware of information for preventing emergencies, and resources for self-rescue and providing care for others while awaiting assistance

Educational Information and Resources For Trail Users

This section contains information about the following areas:

- Season Trail Pass provides safety information including phone numbers on the reverse side.
- Large trail map near the wax room entrance provides locations of emergency resources on the trail system
- Website provides safety information including phone numbers
- Pocket trail map provides tips on safety and location of emergency supplies.
- Resources for trail users

Trail Pass Information on skiing and snowshoeing safely

- Information is printed on the back of each season trail pass.
- Skiing safely information is now provided to day pass users through the Try Our Trails punch cards – information printed on back of punch card
- Information is printed on the day passes purchased online

Ski Safely
For Assistance call the Ski Club Office (668-4477)

- Emergency call 911 and ski club office
- Ski with a buddy; carry a cell phone and a map
- Learn trail namesand know where you are
- Tell someone where and when you are skiing
- Know where emergency supplies are on the trails
- Dress for the weather; bring water and snacks
- Large wall trail map in wax room shows location of emergency resources on the trail system
    - Shows location of emergency/safety supply kits
    - Trail names, junctions and trailheads for briefing EMS personnel

Information on Pocket Trail Map

- Section on pocket map provides information for skiing safely
- Includes a note regarding AED device in Wax Room
- Includes note regarding location of outside payphone and a reminder to phone 911 in emergencies

Resources for Trail Users

- Emergency/Safety Packs Located on Ski Trails
- Containers marked with a Red Cross and stocked with items for use in emergencies are located at following:
    - Harvey's Hut
    - Fireweed Junction
    - Sarah Steele Hut
    - Upper Valley Ridge outhouse
    - Best Chance Corner outhouse
    - Ascent Junction (Lower Valley/Mt Mac Ascent Trail) outhouse
    - Skyline Junction (Ascent Trail/Fraser Loop)
    - On the 10 K near Pierre Harvey Trail in a metal container fastened to a tree
    - Each location is marked with a "first aid" symbol.

Emergency supplies that are contained in waterproof containers at each location:

- Closed cell foam mat
- Emergency blanket
- Fire starter, candle, and matches

- Instant Heat packages
- Plastic for an emergency shelter

Other Emergency Provisions

- Hypothermia Pack – located in ski club office and PB shed – contains extra clothing, insulation and sleeping bag
- AED device – located by The Pro Shop and hanging on the wall
- Oxygen kit – located in Ski Patrol locker and to be administered by ski patrol or qualified person
- Wheeled stretcher owned by CSP that may be useful for single track rescues

Emergency Response Information

Definitions in this section are provided to ensure that all responders and staff understand each other when giving location information and direction

Bastard Search – a search done immediately after a report of a missing person is received to determine if the missing person may have left the area by a route or means unknown to the search party. It is usually performed by telephone to the missing person's residence, homes of friends and family, and places where the missing person would normally hang out.

Canada Games Centre – Some people may refer to it as **Multiplex.**

Canada Games Center Entrance –first set of traffic lights going west on Hamilton Boulevard between Alaska Highway and Sumanik Drive. Provides access to Stadium Trailhead. Turn left after entering from Hamilton Blvd.

CSP – Canadian Ski Patrol

EMS – Emergency Medical Services (Whitehorse Ambulance Station) – will not go beyond paved road access.

Hasty Search - A quick search for a lost person or clues as to their whereabouts. It is usually done by snowmobile in the area that they are most likely to be. The hasty search would also include the Ski Chalet area.

MMRC – Mt McIntyre Recreation Centre encompasses the Ski Club Wax Room (downstairs), Curling Club, Grey Mountain Room (large room upstairs) and parking lot.

Also known as Mt Mac and Ski Chalet.

MMRC Service Road/Firelane – Road that services lower level of Mt McIntyre Rec Centre and joins Sumanik Drive at the ski trail overpass.

Mt McIntyre Recreation Area – refers to the Park Reserve that includes all the land between Fish Lake Road and Copper Ridge subdivision and between Alaska Highway and summit of Mt McIntyre.

Multiplex - (Canada Games Centre) This is included as some people still refer to the Canada Games Centre as the Multiplex.

Pisten Bully (PB) Shed – The large garage where the Pisten Bully (snowcat) and snowmobiles are stored. The PB shed is the first building on left as you leave Sumanik Drive and proceed north on the fire lane/service road to the lower level of Mt McIntyre Recreation Centre.

The Pro Shop – The service centre and business office for the ski club; located on lower level of the Mt McIntyre Recreation Centre.

Ski Chalet - The portion of Mt McIntyre Rec Centre that is part of the ski club lease with the city – includes wax room, changerooms, Ski Base and connected deck areas.

Ski Stadium – The area between Sumanik Drive and the Canada Games Centre parking area. Accessible by vehicle from Hamilton Boulevard at the Canada Games Centre entrance.

Toboggan - A non-motorized skimmer, usually pulled behind a snowmobile but may be pulled by a skier or a person that is walking.

WCCSC – Whitehorse Cross Country Ski Club - refers to the cross-country ski trails, snowshoe trails, stadium, buildings and the Chalet (portion of Mt McIntyre rec Centre leased by WCCSC)

Roles and Responsibilities

Whitehorse Cross Country Ski Club

- WCCSC provides educational information to skiers/snowshoers about using trails safely.
- WCCSC provides emergency resources on the trails for self rescue and to use when assisting others.
- Pro Shop staff are able to initiate phone calls to first aid and search & rescue resources during hours of operation (Monday – Friday: 9AM – 9PM; Saturday-Sunday: 9AM – 6PM) during the ski season. They can make phone calls to ski club personnel on the ski club call-out list. They can also provide keys to the PB shed where the snowmobiles are stored.
- Volunteers from the club, who are authorized to do so, may operate the club snowmobiles to assist in emergency situations, including transporting EMS to an accident site or evacuating a casualty to meet EMS at road access point.
- The ski club has snowmobiles, skimmer toboggan, 2 box utility trailers on skis
- AED located in Wax Room near Ski Base
- Hypothermia pack containing blankets and ensolite pad

Canadian Ski Patrol

- Perform scheduled and random patrols of the trail system.
- Inform Pro Shop staff of contact phone number and on duty
- Provide first aid and assistance within the parameters of CSP training.
- Provide first aid during scheduled ski races at WCCSC.
- Assist in locating missing persons.
- Oxygen is available for use by trained CSP members.
- Ski Patrollers are trained to operate Arctic Bearcats and most patrollers are familiar with the entire trail system
- Ski Patrol has access to a wheeled stretcher that may be useful for single track trails
- Ski Patrol has 3 rescue toboggans outfitted with backboards, blankets and ready to go

RCMP

- Management of full-scale search and rescue operations.

- Authority to call out Yukon Search and Rescue.
- Search dog and handler is available if necessary.
- Snowmobile and air search capabilities available.

Whitehorse Fire Department

- May provide a Rescue Unit consisting of a sidexside all terrain vehicle – equipped for on snow travel – capable of carrying a stretcher and EMS tech
- May provide personnel to operate vehicle and transport ambulance personnel to rescue scene

Whitehorse Emergency Medical Services

- Provides transportation and secondary medical care for a patient when the responsibility is transferred to them.
- Standard loading area for a patient will be the lower level of the Mt. McIntyre Rec Centre unless another loading location is requested. The Mt. McIntyre Rec Centre Service Road (also known as the Fire Lane) accesses the lower level.
- Ambulance personnel are not authorized to travel by snowmobile to an injured person.
- Ambulance personnel not authorized to travel off paved roads.

(See attached diagram for ambulance access points)

Yukon Search and Rescue

- Works under the management of the RCMP.
- Snowmobiles available.
- Skilled search and rescue personnel available.

Canada Games Centre/Whitehorse Curling Club Staff

- Familiar with Emergency plan and respond by making phone calls as needed.
- Knows that AED located at Mt Mac lobby, Wax Room and Canada Games Centre

Communication Resources

Whitehorse Cross Country Ski Club

- UHF and VHF Base radios in wax room compatible with sets of multiple hand-held units
- Ski Base staff to monitor 668-4477 and club radios to coordinate response

CSP

- CSP radios are compatible with ski club base radios – **check annually**
- Ski Patrol members are required to carry a cell phone while on duty on the trails.
- When Ski Patrol members are patrolling the trails, they will sign in at The Ski Base
- CSP Nordic radios operate on channel #1.
- The Yukon Search and Rescue antenna that is located in the ceiling, adjacent to the ski club

office is compatible with the CSP base radio. The antenna cable is marked with a pink tag.

RCMP

- Handheld radios and RCMP base station.

Yukon Search and Rescue

- Search and Rescue has an antenna located on the roof of the Mt. McIntyre Rec Centre. The cable is accessible from the ceiling adjacent to the ski club office and is marked with a pink card. This antenna is available for any base radio that is equipped with the appropriate coupling.
- Base station radio and handheld portable radios are available.

Maps and Searches

- For foot or snowmobile searches the WCCSC main trail map shall be used.
- Searchers should proceed in teams of two and be assigned specific trails.
- When searching in teams of two per snowmachine, and conducting a search, stop every 10 minutes and call out and listen for at least 5 minutes.
- Copies of maps shall be made available for searchers to use. Ski Patrol grid maps should be used when communicating with anybody who does not know trail names.
- To ensure the search process is unified, trails searched shall be marked on a master ski map in the Wax Room. When possible Pro Shop staff will be delegated to do this.
- This manual contains maps that show access points to Mt Mac and ski trails

Suggestions to ensure an efficient search (provided by Search and Rescue)

It is important to initiate a search quickly. Most skiers using the Mt Mac trails are not dressed or equipped to spend a night out, or even several hours.

Get an up-to-date forecast for today and next day.

Search the highest probability trails first. Does the missing person have a favourite route? Or did the person leave a message with a friend or talk to somebody at the Wax Room before leaving?

When searching by snowmachine, stop and turn off engine every 10 minutes. Call out and listen for at least 5 minutes. If using a whistle, give a 3 to 4 second blast, then listen for several minutes. Cup your ears, if necessary. The lost person may be hypothermic and slow to respond. Response could be faint.

Check for lost items on the trail or fresh short cuts to other trails.

Stop and ask other skiers if they have seen somebody who may be the lost person. Ask for description of clothing, direction of travel and last seen location.

When returning to the Wax Room at Mt McIntyre Rec Centre, report to the dispatcher and make sure the area you searched is marked on the map.

WCCSC Incident Form

1 Incident is reported to Ski Club Office: Date and Time_____

☐ Person(s) is (circle) Injured (go to #2) Missing/Lost (go to #3)

☐ Name of Person Reporting Incident_____ Phone#_____

2 Details – **INJURED PERSON** (go to #4 after completing #2)

☐ Name _____ Age_____

☐ Location _____

☐ Nature of Injuries (**If life threatening, call 911 right now)**

☐ Medications, Allergies, Medical Conditions _____

3 Details – **MISSING/LOST PERSON** (go to #4 after completing #3)

☐ Name_____ Age_____

☐ Street address _____

☐ Phone numbers _____

☐ Health status _____

☐ Skiing ability and familiarity with trail system _____

☐ Description of clothing and gear _____

☐ Ski Club Locker and vehicle description and licence number _____

☐ Call missing person's phone numbers to check that they are not at home

☐ Check the parking lot for their vehicle, the change rooms, their locker for signs of their return

4 Response(s) (What is needed?)

☐ What resources are on-site with the person _____

☐ Current weather conditions _____

(Does this affect your decision to call EMS or others?)

☐ Radio/Call Ski Patrol (If there are patrollers on-trail, this should be done initially)

Name _____ Time:_____
Name _____ Time:_____
Name _____ Time:_____
Name _____ Time:_____

☐ Activate Ski Club Call-Out

Name _____ Time:_____
Name _____ Time:_____
Name _____ Time:_____
Name _____ Time:_____

☐ Call 911 for

- Police (search and rescue) Time:_____
- Ambulance (injury) Time:_____

☐ Notify Ski Club Manager, Executive Director, and/or Board President

Name _____ Time:_____
Name _____ Time:_____
Name _____ Time:_____

Follow Up

Once an emergency response action has been taken, follow-up action shall be completed as described below:

- Ski Base staff or Club Manager to complete and file a WCCSC Incident Form and CSP accident report form (if used).
- This form(s) should be given to the Club Manager as soon as possible. (Pro Shop staff)
- Contact with media shall be official and handled exclusively by Club Manager or designated Board member.
- Avoid public messaging on smart phones or social media.
- Consider Critical Incident Stress Management procedures when necessary. (Club Manager/Ski Patrol)
- Dispose of bio-waste in an approved manner. (Ski Patrol)
- Restock CSPS first aid toboggan. (Ski Patrol)
- Replace maps and missing person forms that may have been removed from the WCCSC Emergency Plan manual. (Ski Base staff)
- Clean up accident site to remove evidence of trauma. (Operations Manager/Ski Patrol)
- Promptly remove hazards that may exist on the trail. (Operations Manager)
- Debrief after an incident to discuss concerns and improve procedures for the future. (Club Manager/Ski Patrol)
- Review WCCSC Emergency Plan in September of each year to ensure accuracy of information and updated procedures. (Club Manager)

11.3 Emergency Drill Record

Evacuation/Emergency Drill Record

Emergency Simulated	
Date & Time of Drill	
Weather Conditions	
Drill Conducted By	
Event/Elements Performed Well:	
Events/Elements that need Improvement:	
Names of Attendees	
Recommended Follow-Up:	
Tentative Date for next Drill:	

Reviewed By: _____
Signature: _____
Date: _____

12.1 Records and Statistics Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Records and Statistics Policy	Number:	12.1
Policy Type:	Safety	Amended:	June 25, 2021

The WCCSC will track health and safety records and statistics related to training, incidents, safety meetings, and inspections.

Statistics will be compiled into an annual summary.

Action plans will be made based on the annual compilation of records and statistics related to health and safety issues.

12.2 Employee Training Summary

Year: _____

EMPLOYEE NAME	Orientation	PPE	Safe Work Practices	Safe Job Procedures	First Aid	Emergency Response Plan			Comments
	Date Training Completed								

12.3 Safety Activity Summary

For the Period Ending: _____
Month/Year

☐ **Monthly** ☐ **Quarterly** ☐ **Yearly**

1. Number of Workers Hired: _____
   Number completed Orientation: _____

2. Number of Safety Meetings Scheduled: _____
   Number Conducted: _____
   Percentage Attendance: _____

3. Number of Formal Inspections Scheduled: _____
   Number Completed: _____
   Total Unsafe Acts/Conditions Identified: _____
   Number Corrected: _____
   Number Outstanding: _____

4. Number of Incidents _____
   Damage Only: _____
   Injury Only: _____
   Injury and Damage: _____
   Near Miss: _____

Number of Investigations
   Completed: _____
   Outstanding: _____
Number of Recommendations Made: _____
   Completed: _____
   Outstanding: _____

Comments: _____

Manager's Signature:	**Date:**

12.4 Year End Injury Summary

Year: _____

	Personal Injury Cases				
Month	**Lost Time Cases**	**Medical Referral**	**Days Lost**	**Frequency**	**Severity**
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
Total					
Manager's Signature: _____ Date: _____			**Average:**		

12.5 Annual Action Plan

Date: _____

Action Item	Assigned to	Target Completion Date	Date Completed	Reviewed By

_____ _____

Manager Signature Date

13.1 Health and Safety Representative Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY			
Policy Name:	Health and Safety Representative Policy	Number:	13.1
Policy Type:	Safety	Amended:	June 25, 2021

Preamble

WCCSC usually has between 10 and 20 employees working on a seasonal basis between September and April along with a smaller number of full-time staff. WCCSC operations meet the Class B Hazard Work definition according to the Yukon Minimum First Aid regulations.

Policy

As per section 13 of the Yukon Occupational Health and Safety Act, the WCCSC will ensure there is one worker on staff who is selected annually by the other workers who will perform the additional duties of being the Health and Safety Representative for the workplace.

The primary duties of the Health and Safety Representative will be to

- Conduct monthly workplace Inspections as per the Inspection section of WCCSC's Health and Safety program (during months in which Club operations are active),
- Provide an Inspection Report to the Club Manager upon completion of the Inspections,

The Club Manager will provide written recommendations to the Club President on health and safety issues which come to their attention from Inspections.

13.2 H&S Representative Recommendation Form

DATE SUBMITTED:
REGARDING:
RECOMMENDATION:
BACKGROUND INFORMATION (Reason for recommendation):
Signed:

Health and Safety Representative

14.1 Return to Work Policy Statement

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	Return to Work Policy	Number:	14.1
Policy Type:	Safety	Amended:	June 25, 2021

Policy Statement

The Whitehorse Cross Country Ski Club is committed to cooperate in returning injured and ill workers to safe and suitable employment.

To support this commitment, the employer or a supervisor will contact the worker as soon as possible after an injury and work together on developing a Return-To-Work (RTW) plan. The RTW plan will be based on the individual needs of each employee and include functional abilities information from health professionals as well as input from the Yukon Workers Compensation Health and Safety Board case manager.

If an employee is unable to return to their pre-injury position as a result of a work-related injury or illness, the WCCSC will consider alternate options as required by the Yukon Human Rights Act and the Yukon Workers' Compensation Act. These may include work assignments involving modified equipment, hours or duties, as well as different work units or locations with the goal of reducing the length of an employee's absence to as short as reasonably possible.

All employees will be treated fairly and consistently. If injured or ill for workplace-related reasons, employees are expected to participate and cooperate in the RTW plan developed.

All managers and supervisors are expected to understand and value the importance of returning injured or ill employees to work and must provide assistance where appropriate.

Any personal information received or collected that can lead to the identification of an employee will be held in the strictest of confidence. Information of a personal nature will be released only if required by law or with the written approval of the worker who will specify the nature of the information to be released and to whom it can be released.

This statement reflects the views of both management and employees of this organization.

This statement will be reviewed annually as part of the overall annual review of the health and safety program and may be updated or changed as required.

14.2 Return to Work Procedures

Responding to an incident or injury:
Workers:

- Report to supervisor or first aid of any incident, or injury as soon as possible.
- Complete a Worker's Report of Injury using the online process on the Yukon Workers' Compensation Health and Safety Board website.
- Obtain a job description if available and forward to WCB
- Have the Functional Abilities form completed by the attending physician (or other health care provider). If there is no form available onsite, contact YWCHSB to obtain one.
- The doctor will tell you what you are able to do and will give you the completed Functional Abilities Form necessary for assessing your physical capabilities. Give the completed form to your Supervisor.
- Return the completed Functional Abilities form to your supervisor within 24 hours. You will be part of the "Case Management Team". The team will review the information and arrange return to work based on the information provided by the physician and submit a RTW Plan to the WCB. This plan will be updated until you are back to your regular work duties.
- If you are cleared to return to Modified Work, you will most likely be assigned to an Interim Work Placement. The initial placement would be modified work, graduated return to work, transitional work, trial of work or training on the job.

Employers:

- Call 911 for serious injuries and provide first aid if necessary.
- Arrange transport of the worker to the nearest medical facility.
- Report the incident immediately if it is serious to YWCHSB. If unsure whether or not an incident is serious, report it anyway.
- Report any injury to WCB within three days using the Employer Report of Injury form on the YWCHSB website. If you find out about the injury more than three days after it occurs, report it as soon as possible.
- Investigate the incident. Find out what went wrong and what needs to be done to prevent it from happening again.
- Have a package at the workplace (or know where to access this information) which includes the job description and list of modified duties if available. Provide a Functional Abilities form from the YWCHSB website if the worker needs help accessing this.

The Return-to-Work Plan:

The RTW plan will be developed by the Case Management Team. The RTW Plan will be updated regularly and will include the following information:

- Specific job duties to be performed
- Hours of work. These are important in the case of transitional employment where the hours may vary during the RTW placement.

- Length of placement. This will depend on the worker receiving clearance to return to work from the physician.
- The RTW Plan will be signed by the injured worker and any other members of the Case Management Team. A copy will be forwarded to YWCHSB.

Options for Return to Work:

The following options for modified work will be considered when returning an injured worker to the work place:

Modified Work – may include hours of work, job duties and work-site modifications that will accommodate an injured worker's abilities and/or functional limitations.

Graduated Return to Work – is aimed at facilitating an injured worker's gradual transition from disability to full employment.

Transitional Work – Work not considered part of the employee's work duties but would benefit the injured worker's rehabilitation and may include

- The injured worker shadowing a person doing his/her pre-accident job.
- A meaningful make-work project such as:
  - Taking on the various duties of co-workers that are suitable
  - *Trial of Work* – is a trial placement of an injured worker with an employer to test and assess an injured worker's functional capabilities in a new job setting.
  - *Training on the Job* – is a vocational rehabilitation plan, a contract between the employer, injured worker and the WCB used to identify key elements, milestones, timelines, and the final outcome in advance.

14.3 Return to Work Plan

Return to Work Plan

Incident Date:	
Pre-Injury Position:	
Employer:	Whitehorse Cross Country Ski Club

Summarize current worker's situation briefly and in point form

Goal: Return to Work at Pre-injury Position and Pre-injury Duties by _____

Return to Work Action Plan – Modified Duties

Week	Accommodation	By Whom
1		
2		
3		
4		

Date of Follow-up Case Management Team Meeting: _____

Agreement to Participate: By signing the RTW plan, we understand and agree:

- that the applicable sections of the Return to Work and Rehabilitation Policies have been explained;
- that we have participated in and understand our roles in the development and implementation of our return to work plan;
- to communicate any problems we have with meeting any actions or target dates to the case manager and affected members of the case management team

Case Management Team Member **Case Management Team Role**

_____ _____

_____ _____

_____ _____

Date _____

15.1 Workplace Harassment and Violence Prevention Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	Workplace Harassment and Violence Prevention Policy	Number:	15.1
Policy Type:	Safety	Amended:	June 25, 2021

The WCCSC is committed to providing a workplace where all workers are treated with dignity and respect. Each worker has the right to a violence-and-harassment-free workplace. Violence and harassment will not be tolerated from any person in the workplace including management, supervisors, workers, customers, clients, other employers, members of the public.

Workplace violence is generally understood as the threatened, attempted or actual application of physical force toward a worker that is likely to cause harm or lead a worker to believe that they are likely to be harmed. Violence can cause physical and psychological injuries.

Workplace harassment is generally understood as any objectionable comments or behaviours that we know, or should know, are likely unwelcome. This includes any inappropriate comments or objectionable behaviour relating to a worker's sex, sexual orientation, gender identity or gender expression.

For example:

- *Making inappropriate gestures or comments.*
- *Misusing power or authority.*
- *Using physical or psychological bullying.*
- *Excluding, intimidating or isolating someone.*
- *Making inappropriate sexual advances.*
- *Discriminating based on gender.*
- *Referring to a person using terms that do not align with the person's stated gender.*
- *Using cyberbullying, such as posting offensive or intimidating messages through social media or email.*
- *Deliberately setting someone up to fail.*

Reasonable and respectful actions of an employer or supervisor to manage workers is not harassment. For example, giving instructions, changing workers' job duties, deciding schedules and workloads, evaluating performance or taking disciplinary actions.

To support this policy, our organization has developed workplace harassment prevention procedures. These procedures include steps to protect workers from violence and harassment and a process for workers to raise concerns or report incidents.

All workers at the WCCSC will respect the workplace violence and harassment prevention policy and procedures. Employers are responsible for a safe work environment, free of harassment. The employer, supervisors and managers are required to apply and comply with this policy and supporting procedures. Supervisors are responsible for ensuring that the procedures are followed by workers.

Each worker at our organization must comply with the workplace violence and harassment prevention policy and its procedures. Workers are entitled to a violence-and-harassment-free workplace. Workers must treat each other with respect and not engage in any workplace violence or harassment. Each worker has the right to report any concerns or incidents of violence or harassment.

The privacy of all involved in a complaint or incident of violence and harassment will be protected as much as possible. The WCCSC will not identify to anyone a complainant, a respondent, any witnesses or any circumstances about a complaint, including personal information, unless it is necessary for the purpose of the investigation, to share the results of an investigation, for corrective action relating to the complaint, to inform workers of a risk of violence or harassment or where required by law.

If any personal information is shared, it will be the minimum amount needed to complete the investigation.

This violence and harassment prevention policy does not limit a worker's rights under any other laws.

15.2 Harassment and Violence Prevention Procedures

WCCSC is committed to eliminating, where possible, or otherwise minimizing, the hazard of workplace violence and harassment.

If an individual worker believes they have been subject to workplace violence or harassment, they must follow the procedures for reporting the incident. They must complete the Incident Reporting form when making a formal complaint of violence or harassment.

The form should then be submitted to their supervisor or the Club Manager.

If the alleged violence or harassment complaint is against an employer or supervisor, report the incident or situation to a member of the WCCSC Board.

Incidents of violence or harassment should be reported as soon as possible. The WCCSC will investigate all complaints and incidents of workplace violence and harassment in a fair, respectful and timely manner.

Investigation Procedure:

- A meeting will be scheduled with the complainant within three days after a complaint.
- Interviews will be conducted to investigate the details of the complaint within 10 days.
- An investigation report will be available within 30 days.
- Both parties will have 14 days to respond to the report. After this time period, corrective actions will be taken.

When the investigation is complete, the Club Manager will inform the complainant and the respondent of the results of the investigation in a timely manner.

Workers or members of the WCCSC found to have been violent toward or to have harassed another person will be subject to appropriate corrective action by the WCCSC. Corrective actions include, but are not limited to the following:

- Training on internal policies and procedures
- Training on conflict resolution or assertiveness
- Reprimanding, suspending or terminating.

No worker can be penalized or reprimanded when doing their best to follow this policy and the procedures for preventing workplace violence and harassment.

Employees who have been affected by workplace violence or harassment may be supported through the following:

- Providing information on employee assistance resources
- Advising workers to consult a health professional.
- Wages and benefit support for the time they receive treatment

The WCCSC will ensure that all its workers and supervisors receive training in this workplace violence and harassment prevention policy and supporting procedures.

Our organization will make sure that this policy and supporting procedures are implemented and maintained. The policy and procedures will be reviewed and adjusted when needed, at least once every three years. If there are any concerns with this policy or the procedures, please describe and bring them to the attention of the Club Manager.

15.3 Harassment and Violence Reporting Form

This form is to be completed by a worker who has allegedly experienced violence or harassment in the workplace.

When completed, please give this form the Club Manager or Board Member

Complainant information

Name: _____

Position title: _____

Contact information: _____

Respondent information (if known)

Name: _____

Position title: _____

Contact information: _____

Description of the alleged violence or harassment

Please describe, in as much detail as possible, the incident(s) of alleged violence or harassment. You may attach additional pages if required. Please include:

- Who was involved
- What was specifically said or done (words, tone, actions, etc.,)
- When it happened (dates and time)
- Where it happened
- Any witnesses to the incident(s) (name and contact information, if possible)
- How it affected you
- Whether it was reported to management, with the following details:
  - name of manager/supervisor
  - date and time of reporting
  - actions taken
  - other relevant details

Temporary measures

Do you believe that the employer needs to take any interim measures while the incident is under investigation? Yes _____ No _____

If yes, please describe what interim measures should be taken while the incident is under investigation and why: _____

_____

_____

_____

Other processes

Have you initiated any other processes to deal with these allegations of harassment (for example, one-on-one discussions with the respondent, a grievance, contact with the Human Rights Commission, legal action)? _____

_____
_____
_____

Signature: _____

Date: _____

16.1 Working Alone Policy

WHITEHORSE CROSS COUNTRY SKI CLUB POLICY

Policy Name:	Working Alone Policy	Number:	16.1
Policy Type:	Safety	Amended:	June 25, 2021

Purpose

WCCSC's Working Alone Policy is in place to protect employees from serious injury or loss of life in the event they have to work alone or in isolation. This policy describes the responsibilities and actions to be taken to protect employees in the event they have to work alone or in isolation.

Policy

WCCSC shall take all reasonably practicable steps to reduce, eliminate, or control identified and potential risks to workers who work alone or in isolation. A Working Alone Policy is used to limit the number of injuries or illnesses that result in a lost time accident suffered by a worker or other person(s) in/around the workplace.

Responsibilities

Employer:

- Ensure that high risk work is not undertaken by a lone worker.
- Develop and implement safe work procedures to eliminate or reduce the identified risks to workers working alone or working in isolation.
- Train workers in the safe work procedures.
- Ensure that workers comply with the safe work procedures.
- Review and revise the procedures not less than every three years or sooner if circumstances at a workplace change in a way that poses a risk to the safety or health of a worker working alone or in isolation.

Supervisors:

- Ensure employees follow the safe work procedures set out by the employer.
- Ensure every vehicle or mobile equipment is fitted with a First Aid kit.

Employees:

- Take reasonable care/precautions to ensure their own health and safety.
- Safeguard the health and safety of other people affected by their work.
- Cooperate and comply with the health and safety procedures set out by the employer.
- Use tools and other equipment properly in accordance with relevant safety instructions and any training received.
- Ensure to report any accidents, injuries, near misses, and other dangerous occurrences

Safety Data Sheets

The following Safety Data Sheets form part of this manual:

- Bleach SDS
- Brakleen Brake Parts Cleaner SDS
- Diesel SDS
- Gasoline SDS
- Husqvarna bar oil SDS
- Megaflow-AW-Hydraulic-Oil SDS
- Prestone-coolant-antifreeze SDS
- Quat 10 SDS
- Shell Rotella 5W40 SDS
- Starting Fluid SDS
- STIHL 2 stroke engine oil SDS
- STIHL 2 T premium oil mix for fuel SDS
- STIHL Bar and Chain Lubricant SDS
- Swix base cleaner SDS
- WD-40 SDS
- WD-40 Specialist SDS

For the Word version of this document, these Sheets are in separate PDF documents.

For the PDF version of this document, these Sheets are included on the pages that follow this page.

SAFETY DATA SHEET

Issuing Date January 5, 2015 **Revision Date** June 12, 2015 **Revision Number** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name **Clorox® Regular-Bleach$_1$**

Other means of identification

EPA Registration Number 5813-100

Recommended use of the chemical and restrictions on use

Recommended use Household disinfecting, sanitizing, and laundry bleach

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address
The Clorox Company
1221 Broadway
Oakland, CA 94612

Phone: 1-510-271-7000

Emergency telephone number

Emergency Phone Numbers For Medical Emergencies, call: 1-800-446-1014
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

GHS Label elements, including precautionary statements

Emergency Overview

Signal word **Danger**

Hazard Statements
Causes severe skin burns and eye damage
Causes serious eye damage

Appearance Clear, pale yellow **Physical State** Thin liquid **Odor** Bleach

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling.
Wear protective gloves, protective clothing, face protection, and eye protection such as safety glasses.

Precautionary Statements - Response
Immediately call a poison center or doctor.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Specific treatment (see supplemental first aid instructions on this label).
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary Statements - Storage
Store locked up.

Precautionary Statements - Disposal
Dispose of contents in accordance with all applicable federal, state, and local regulations.

Hazards not otherwise classified (HNOC)
Although not expected, heart conditions or chronic respiratory problems such as asthma, chronic bronchitis, or obstructive lung disease may be aggravated by exposure to high concentrations of vapor or mist.

Product contains a strong oxidizer. Always flush drains before and after use.

Unknown Toxicity
Not applicable.

Other information
Very toxic to aquatic life with long lasting effects.

Interactions with Other Chemicals
Reacts with other household chemicals such as toilet bowl cleaners, rust removers, acids, or products containing ammonia to produce hazardous irritating gases, such as chlorine and other chlorinated compounds.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
Sodium hypochlorite	7681-52-9	5 - 10	*

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

General Advice Call a poison control center or doctor immediately for treatment advice. Show this safety data sheet to the doctor in attendance.

Eye Contact Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin Contact Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation Move to fresh air. If breathing is affected, call a doctor.

Ingestion Have person sip a glassful of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Call a poison control center or doctor immediately for treatment advice.

Protection of First-aiders Avoid contact with skin, eyes, and clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects Burning of eyes and skin.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical
This product causes burns to eyes, skin, and mucous membranes. Thermal decomposition can release sodium chlorate and irritating gases and vapors.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with eyes, skin, and clothing. Ensure adequate ventilation. Use personal protective equipment as required. For spills of multiple products, responders should evaluate the MSDSs of the products for incompatibility with sodium hypochlorite. Breathing protection should be worn in enclosed and/or poorly-ventilated areas until hazard assessment is complete.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental Precautions This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. Do not allow product to enter storm drains, lakes, or streams. See Section 12 for ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Store away from children. Reclose cap tightly after each use. Store this product upright in a cool, dry area, away from direct sunlight and heat to avoid deterioration. Do not contaminate food or feed by storage of this product.

Incompatible Products Toilet bowl cleaners, rust removers, acids, and products containing ammonia.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hypochlorite 7681-52-9	None	None	None

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection If splashes are likely to occur: Wear safety glasses with side shields (or goggles) or face shield.

Skin and Body Protection Wear rubber or neoprene gloves and protective clothing such as long-sleeved shirt.

Respiratory Protection If irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Wash hands after direct contact. Do not wear product-contaminated clothing for prolonged periods. Remove and wash contaminated clothing before re-use. Do not eat, drink, or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Thin liquid		
Appearance	Clear	**Odor**	Bleach
Color	Pale yellow	**Odor Threshold**	No information available

Property	**Values**	**Remarks/ Method**
pH	~12	None known
Melting/freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	Not flammable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
Upper flammability limit	No data available	None known
Lower flammability limit	No data available	None known
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	~1.1	None known
Water Solubility	Soluble	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive Properties	Not explosive	
Oxidizing Properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	No data available

10. STABILITY AND REACTIVITY

Reactivity
Reacts with other household chemicals such as toilet bowl cleaners, rust removers, acids, or products containing ammonia to produce hazardous irritating gases, such as chlorine and other chlorinated compounds.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
None known based on information supplied.

Incompatible materials
Toilet bowl cleaners, rust removers, acids, and products containing ammonia.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information .

Inhalation Exposure to vapor or mist may irritate respiratory tract and cause coughing. Inhalation of high concentrations may cause pulmonary edema.

Eye Contact Corrosive. May cause severe damage to eyes.

Skin Contact May cause severe irritation to skin. Prolonged contact may cause burns to skin.

Ingestion Ingestion may cause burns to gastrointestinal tract and respiratory tract, nausea, vomiting, and diarrhea.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hypochlorite 7681-52-9	8200 mg/kg (Rat)	>10000 mg/kg (Rabbit)	-

Information on toxicological effects

Symptoms May cause redness and tearing of the eyes. May cause burns to eyes. May cause redness or burns to skin. Inhalation may cause coughing.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Sodium hypochlorite 7681-52-9	-	Group 3	-	-

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive Toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.
Chronic Toxicity Carcinogenic potential is unknown.
Target Organ Effects Respiratory system, eyes, skin, gastrointestinal tract (GI).

Aspiration Hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
54 g/kg
ATEmix (inhalation-dust/mist)
58 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. Do not allow product to enter storm drains, lakes, or streams.

Persistence and Degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods
Dispose of in accordance with all applicable federal, state, and local regulations. Do not contaminate food or feed by disposal of this product.

Contaminated Packaging
Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT	Not restricted.
TDG	Not restricted for road or rail.
ICAO	Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.
IATA	Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.
IMDG/IMO	Not restricted, as per IMDG Code 2.10.2.7, Marine Pollutant exception.

15. REGULATORY INFORMATION

Chemical Inventories

TSCA	All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.
DSL/NDSL	All components are on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hypochlorite 7681-52-9	100 lb			X

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium hypochlorite 7681-52-9	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

EPA Statement
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

> **DANGER: CORROSIVE.** Causes irreversible eye damage and skin burns. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Wear protective eyewear and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the restroom. Avoid breathing vapors and use only in a well-ventilated area.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Sodium hypochlorite 7681-52-9	X	X	X	X	
Sodium chlorate 7775-09-9	X	X	X		

International Regulations

Canada
WHMIS Hazard Class
E - Corrosive material

16. OTHER INFORMATION

NFPA	**Health Hazard**	3	**Flammability** 0	**Instability** 0	**Physical and Chemical Hazards**	-
HMIS	**Health Hazard**	3	**Flammability** 0	**Physical Hazard** 0	**Personal Protection**	B

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date June 12, 2015

Revision Note Revision Section 14.

Reference 1096036/164964.159

General Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

1. Identification

Product identifier **Brakleen® Brake Parts Cleaner - 19 oz**

Other means of identification

Product Code No. 05089 (Item# 1003708)

Recommended use Brake parts cleaner

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency (CHEMTREC) 800-424-9300 (US)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Gases under pressure	Compressed gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
	Sensitization, skin	Category 1B
	Carcinogenicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Contains gas under pressure; may explode if heated. Causes skin irritation. May cause an allergic skin reaction. Causes eye irritation. May cause drowsiness or dizziness. May cause cancer.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49 °C/120 °F. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Avoid breathing mist/vapors. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Response	If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If exposed or concerned: Get medical advice/attention.
Storage	Store locked up. Protect from sunlight. Store in a well-ventilated place. Exposure to high temperature may cause can to burst.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen chloride and possibly phosgene.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
tetrachloroethylene	perchloroethylene	127-18-4	90 - 100
carbon dioxide		124-38-9	1 - 3

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth.
Most important symptoms/effects, acute and delayed	May cause drowsiness or dizziness. Headache. Nausea, vomiting. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Dry chemical, CO2, or water spray.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may rupture when exposed to heat or flame. During fire, gases hazardous to health may be formed. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen chloride and possibly phosgene.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.
General fire hazards	Contents under pressure. Pressurized container may rupture when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Collect spillage. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Avoid release to the environment. Do not empty into drains. Observe good industrial hygiene practices. For product usage instructions, see the product label.

Conditions for safe storage, including any incompatibilities

Level 1 Aerosol.

Contents under pressure. Do not handle or store near an open flame, heat or other sources of ignition. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49 °C/120 °F. Protect from sunlight. Store in a well-ventilated place. Store in cool place. Exposure to high temperature may cause can to burst. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
carbon dioxide (CAS 124-38-9)	PEL	9000 mg/m3
		5000 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
tetrachloroethylene (CAS 127-18-4)	Ceiling	200 ppm
	TWA	100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
tetrachloroethylene (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
tetrachloroethylene (CAS 127-18-4)	0.5 mg/l	Tetrachloroethylene	Blood	*
	3 ppm	Tetrachloroethylene	End-exhaled air	*

* - For sampling details, please see the source document.

Exposure guidelines

US - Minnesota Haz Subs: Skin designation applies

tetrachloroethylene (CAS 127-18-4) Skin designation applies.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower should be available when handling this product. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Nitrile. Viton/butyl. Polyvinyl alcohol (PVA). Silver Shield®.

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Aerosol.

Color Colorless.

Odor Irritating.

Odor threshold 50 ppm

pH Not available.

Melting point/freezing point -8.1 °F (-22.3 °C) estimated

Initial boiling point and boiling range 250.3 °F (121.3 °C) estimated

Flash point	None.
Evaporation rate	Very fast.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	1428.3 hPa estimated
Vapor density	5.76 (air = 1)
Relative density	1.62
Solubility(ies)	
Solubility (water)	0.02 % (77 °F (25 °C))
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Percent volatile	97.8 % estimated
Other information	
Partition coefficient (oil/water)	2.88

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen chloride and possibly phosgene.
Incompatible materials	Strong oxidizing agents. Strong acids. Strong bases.
Hazardous decomposition products	Hydrogen chloride. Trace amounts of chlorine and phosgene. Carbon oxides. Halogenated materials. Carbonyl halides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause drowsiness or dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes eye irritation.
Ingestion	Based on available data, the classification criteria are not met.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness or dizziness. Headache. Nausea, vomiting. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity	Not known.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

tetrachloroethylene (CAS 127-18-4) 2A Probably carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

tetrachloroethylene (CAS 127-18-4) Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

tetrachloroethylene 3.4

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions This material and its container must be disposed of as hazardous waste. Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code D039: Waste Tetrachloroethylene
F001: Waste Halogenated Solvent - Spent Halogenated Solvent Used in Degreasing
F002: Waste Halogenated Solvent - Spent Halogenated Solvent

US RCRA Hazardous Waste U List: Reference

tetrachloroethylene (CAS 127-18-4) U210

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN1950
UN proper shipping name Aerosols, poison, Limited Quantity
Transport hazard class(es)
Class 2.2
Subsidiary risk 6.1(PGIII)
Label(s) 2.2, 6.1
Packing group Not applicable.
Special precautions for user Forbidden from transportation by air.
Packaging exceptions 306
Packaging non bulk None
Packaging bulk None

IATA

UN number UN1950
UN proper shipping name Aerosols, non-flammable, containing substances in Division 6.1, Packing Group III

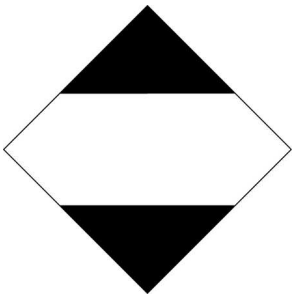
Transport hazard class(es)

Class	2.2
Subsidiary risk	6.1(PGIII)
Packing group	Not applicable.
ERG Code	2P
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

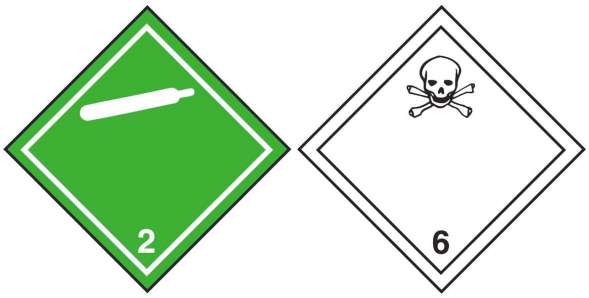
IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	
Class	2.2
Subsidiary risk	6.1(PGIII)
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	Yes, but exempt from the regulations.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

tetrachloroethylene (CAS 127-18-4)

CERCLA Hazardous Substance List (40 CFR 302.4)

tetrachloroethylene (CAS 127-18-4)

CERCLA Hazardous Substances: Reportable quantity

tetrachloroethylene (CAS 127-18-4) 100 LBS

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

tetrachloroethylene (CAS 127-18-4)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Classified hazard categories
Gas under pressure
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
tetrachloroethylene	127-18-4	90 - 100

US state regulations

US. New Jersey Worker and Community Right-to-Know Act

carbon dioxide (CAS 124-38-9)
tetrachloroethylene (CAS 127-18-4)

US. Massachusetts RTK - Substance List

carbon dioxide (CAS 124-38-9)
tetrachloroethylene (CAS 127-18-4)

US. Pennsylvania Worker and Community Right-to-Know Law

carbon dioxide (CAS 124-38-9)
tetrachloroethylene (CAS 127-18-4)

US. Rhode Island RTK

carbon dioxide (CAS 124-38-9)
tetrachloroethylene (CAS 127-18-4)

California Proposition 65

WARNING: Cancer - www.P65Warnings.ca.gov

California Proposition 65 - CRT: Listed date/Carcinogenic substance

carbon tetrachloride (CAS 56-23-5) Listed: October 1, 1987
tetrachloroethylene (CAS 127-18-4) Listed: April 1, 1988

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

tetrachloroethylene (CAS 127-18-4)

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s)) 0 %

Consumer products (40 CFR 59, Subpt. C) Not regulated

State

Consumer products This product is regulated as a Brake Cleaner. This product is not compliant to be sold for use in California and New Jersey. This product is compliant in all other states.

VOC content (CA)	0 %
VOC content (OTC)	0 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	03-12-2019
Revision date	09-15-2020
Prepared by	Allison Yoon
Version #	03
Further information	CRC # 491G/1002481
Disclaimer	The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC's knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries, Inc..
Revision information	This document has undergone significant changes and should be reviewed in its entirety.

PETRO-CANADA

Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Protective Clothing	TDG (pictograms)
	B-3, D-2B		

Section 1. Chemical Product and Company Identification

Product Name	**DIESEL FUEL**	**Code**	W104 SAP: 120, 121, 122, 287
Synonym	Diesel 50, Diesel 50 LS, #1 Diesel , #1 Diesel LS, Diesel LC, Seasonal Diesel, Seasonal Diesel LS, Diesel AA, Domestic Marine Diesel, International marine Diesel, Seasonal Diesel Locomotive, Domestic Marine diesel LS, diesel -20°C (LS), LSD, Low Sulphur Diesel, dyed diesel, marked diesel, coloured diesel, Naval Distillate.	**Validated on**	**3/2/2001.**
Manufacturer	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	**In case of Emergency**	Petro-Canada: 403-296-3000 Canutec Transportation: 613-996-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).
Material Uses	Diesel fuels are distillate fuels suitable for use in high and medium speed internal combustion engines of the compression ignition type.		

Section 2. Composition and Information on Ingredients

			Exposure Limits (ACGIH)		
Name	**CAS #**	**% (V/V)**	**TLV-TWA(8 h)**	**STEL**	**CEILING**
1) Diesel oil. 2) Proprietary additives. 3) Aromatic content is 50% maximum (benzene: nil). 4) * Notice of Intended Change (2000): 100 mg/m³, skin, A3.	68334-30-5 Not available	>99.9 <0.1	Not established* Not established	Not established Not established	Not established Not established

Manufacturer Recommendation	Not applicable
Other Exposure Limits	Consult local, state, provincial or territory authorities for acceptable exposure limits.

Section 3. Hazards Identification.

Potential Health Effects	Eye contact may cause mild eye irritation. Skin contact can cause moderate to severe irritation and produce drying, cracking, or defatting dermatitis. Inhalation of vapours can cause CNS depression with symptoms of nausea, headaches, vomiting, dizziness, fatigue, light-headedness, reduced coordination, unconciousness and possibly death. Inhalation can also cause irritation of nose and throat. Aspiration of liquid drops into the lungs may produce potentially fatal chemical pneumonitis (fluid in the lungs), severe lung damage, or respiratory failure. For more information, refer to Section 11.

Section 4. First Aid Measures

Eye Contact	IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.
Skin Contact	Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Seek medical attention.
Inhalation	Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform artificial respiration. Allow the victim to rest in a well ventilated area. Seek medical attention.
Ingestion	DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.
Note to Physician	Not available

Section 5. Fire-fighting Measures

Flammability	Class II - combustible liquid (NFPA).	**Flammable Limits**	LOWER: 0.7%, UPPER: 6%
Flash Points	Diesel Fuel: Closed Cup: >40ºC (>104ºF) Marine Diesel Fuel: Closed Cup: >60ºC (>140ºF)	**Auto-Ignition Temperature**	225ºC (437ºF)
Fire Hazards in Presence of Various Substances	Flammable in presence of open flames, sparks, or heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite. May accumulate in confined spaces.	**Explosion Hazards in Presence of Various Substances**	Containers may explode in heat of fire. Do not cut, weld, heat, drill or pressurize empty container. Vapour explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard.
Products of Combustion	Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur oxides (SOx), sulphur compounds (H2S), water vapour (H2O), smoke and irritating vapours as products of incomplete combustion.		

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Available in French

Fire Fighting Media and Instructions	NAERG96, GUIDE 128, Flammable liquids (Non-polar/Water-immiscible). CAUTION: This product has a moderate flash point above 40ºC: Use of water spray when fighting fire may be inefficient. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. SMALL FIRES: Dry chemical, CO2, water spray or regular foam. LARGE FIRES: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. Fires Involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting devices or any discolouration of tank. ALWAYS stay away from the ends of tanks. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6. Accidental Release Measures

Material Release or Spill	NAERG96, GUIDE 128, Flammable Liquids (Non-polar/ Water-immiscible). ELIMINATE ALL IGNITION SOURCES. Avoid contact. Stop leak if without risk. Contain spill. Absorb with inert absorbents, dry clay, or diatomaceous earth. Avoid inhaling dust of diatomaceous earth for it may contain silica in very fine particle size, making this a potential respiratory hazard. Place used absorbent in closed metal containers for later disposal or burn absorbent in a suitable combustion chamber. DO NOT FLUSH TO SEWERS, STREAMS OR OTHER BODIES OF WATER. Check with applicable jurisdiction for specific disposal requirements of spilled material and empty containers. Notify the appropriate authorities immediately.

Section 7. Handling and Storage

Handling	Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk. DO NOT reuse empty containers without commercial cleaning or reconditioning. Ground/bond line and equipment during pumping or transfer to avoid accumulation of static charge. DO NOT ingest. Do not breathe gas/vapour/spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately. Avoid contact with skin and eyes. Practice good personal hygiene. Wash hands after handling and before eating. Launder work clothes frequently. Discard saturated leather goods.
Storage	Store in tightly closed containers in cool, dry, isolated, well-ventilated area, and away from incompatibles. Ground all equipment containing material.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	For normal application, special ventilation is not necessary. If user's operations generate vapours or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station.
Personal Protection -	***The selection of personal protective equipment varies, depending upon conditions of use.***
Eyes	Eye protection (i.e., safety glasses, safety goggles and/or face shield) should be determined based on conditions of use. If product is used in an application where splashing may occur, the use of safety goggles and/or a face shield should be considered.
Body	Wear appropriate clothing to prevent skin contact. As a minimum long sleeves and trousers should be worn.
Respiratory	Where concentrations in air may exceed the occupational exposure limits given in Section 2 (and those applicable to your area) and where engineering, work practices or other means of exposure reduction are not adequate, NIOSH approved respirators may be necessary to prevent overexposure by inhalation.
Hands	Wear appropriate chemically protective gloves. When handling hot product ensure gloves are heat resistant and insulated.
Feet	Wear appropriate footwear to prevent product from coming in contact with feet and skin.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Bright oily liquid.	**Viscosity**	1.3-4.1 cSt @ 40ºC (104ºF)
Colour	Clear to yellow / brown. Low sulphur diesel fuels (<0.05 wt % sulphur) are colourless to light yellow (and may be dyed red for taxation purposes). Regular sulphur diesel fuels (0.05-0.50 % sulphur) may be colourless to yellow / brown and are usually dyed red for taxation purposes.	**Pour Point**	Variable, 0ºC to -50ºC (32ºF to -58ºF)
Odour	Petroleum oil like.	**Softening Point**	Not applicable.
Odour Threshold	Not available	**Dropping Point**	Not applicable.
Boiling Point	150-371ºC (302-700ºF)	**Penetration**	Not applicable.
Density	0.85 kg/L @ 15ºC (Water = 1).	**Oil / Water Dist. Coefficient**	Not available
Vapour Density	4.5 (Air = 1)	**Ionicity (in water)**	Not applicable.

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Vapour Pressure	1.0 kPa @ 20ºC (7.5 mmHg @ 68ºF).	**Dispersion Properties**	Not available
Volatility	<0.1 (Butyl acetate = 1), less than gasoline.	**Solubility**	Insoluble in cold water, soluble in non-polar hydrocarbon solvents.

Section 10. Stability and Reactivity

Corrosivity	Not available		
Stability	The product is stable under normal handling and storage conditions.	**Hazardous Polymerization**	Will not occur under normal working conditions.
Incompatible Substances / Conditions to Avoid	Reactive with oxidizing agents and acids.	**Decomposition Products**	May release COx, NOx, SOx, H2S, H2O, smoke and irritating vapours when heated to decomposition.

Section 11. Toxicological Information

Routes of Entry	Skin contact, eye contact, inhalation, and ingestion.
Acute Lethality	Acute oral toxicity (LD50): 7500 mg/kg (rat).
Chronic or Other Toxic Effects	
Dermal Route:	Skin contact may cause moderate to severe irritation. Repeated exposure would produce drying and cracking or defatting dermatitis.
Inhalation Route:	Inhalation of vapours can cause CNS depression with symptoms of nausea, headaches, vomiting, dizziness, fatigue, light-headedness, reduced coordination, unconciousness and possibly death. Inhalation can also cause irritation of nose and throat.
Oral Route:	Aspiration of liquid drops into the lungs may produce potentially fatal chemical pneumonitis (fluid in the lungs), severe lung damage, or respiratory failure.
Eye Irritation/Inflammation:	Eye contact may cause mild irritation, but no permanent damage.
Immunotoxicity:	Not available
Skin Sensitization:	This product is not expected to be a skin sensitizer, based on the available data and the known hazards of the components.
Respiratory Tract Sensitization:	This product is not expected to be a respiratory tract sensitizer, based on the available data and the known hazards of the components.
Mutagenic:	This product is not expected to be a mutagen, based on the available data and the known hazards of the components.
Reproductive Toxicity:	This product is not expected to be a reproductive hazard, based on the available data and the known hazards of the components.
Teratogenicity/Embryotoxicity:	This product is not expected to be a teratogen or an embryotoxin, based on the available data and the known hazards of the components.
Carcinogenicity (ACGIH):	ACGIH Notice of Intended Changed (2000): proposed A3: animal carcinogen. [Diesel oil]
Carcinogenicity (IARC):	This product is not known to contain any chemicals at reportable quantities that are listed as group 1, 2A or 2B carcinogens by IARC.
Carcinogenicity (NTP):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by NTP.
Carcinogenicity (IRIS):	Not available
Carcinogenicity (OSHA):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA.
Other Considerations	No additional remark.

Section 12. Ecological Information

Environmental Fate	Not available	**Persistance/ Bioaccumulation Potential**	Not available
BOD5 and COD	Not available	**Products of Biodegradation**	Not available
Additional Remarks	No additional remark.		

Section 13. Disposal Considerations

Waste Disposal Preferred waste management priorities are: (1) recycle or reprocess; (2) incineration with energy recovery; (3) disposal at licensed waste disposal facility. Ensure that disposal or reprocessing is in compliance with government requirements and local disposal regulations. Consult your local or regional authorities.

Section 14. Transport Information

TDG Classification
Diesel Fuel
UN1202
3
III

Special Provisions for Transport Not applicable.

Section 15. Regulatory Information

Other Regulations

This product is acceptable for use under the provisions of WHMIS-CPR. All components of this formulation are listed on the CEPA-DSL (Domestic Substances List).

All components of this formulation are listed on the US EPA-TSCA Inventory.

All components of this product are on the European Inventory of Existing Commercial Chemical Substances (EINECS).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

Please contact Product Safety for more information.

DSD/DPD (Europe) Not evaluated.

HCS (U.S.A.)
CLASS: Irritating substance.
CLASS: Target organ effects.
CLASS: Combustible liquid having a flash point between 37.8°C (100°F) and 93.3°C (200°F).

ADR (Europe) (Pictograms)
NOT EVALUATED FOR EUROPEAN TRANSPORT

NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.

DOT (U.S.A) (Pictograms)

HMIS (U.S.A.)

Health Hazard	2*
Fire Hazard	2
Reactivity	0
Personal Protection	H

NFPA (U.S.A.)

Rating	
0	Insignificant
1	Slight
2	Moderate
3	High
4	Extreme

Section 16. Other Information

References Available upon request.
* Marque de commerce de Petro-Canada - Trademark

Glossary

ACGIH - American Conference of Governmental Industrial Hygienists
ADR - Agreement on Dangerous goods by Road (Europe)
ASTM - American Society for Testing and Materials (
BOD5 - Biological Oxygen Demand in 5 days
CAN/CGA B149.2 Propane Installation Code
CAS - Chemical Abstract Services
CEPA - Canadian Environmental Protection Act
CERCLA - Comprehensive Environmental Response, Compensation and Liability Act
CFR - Code of Federal Regulations
CHIP - Chemicals Hazard Information and Packaging Approved Supply List
COD5 - Chemical Oxygen Demand in 5 days
CPR - Controlled Products Regulations
DOT - Department of Transport
DSCL - Dangerous Substances Classification and Labeling (Europe)
DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe)
DSL - Domestic Substance List
EEC/EU - European Economic Community/European Union
EINECS - European Inventory of Existing Commercial Chemical Substances
EPCRA - Emergency Planning and Community Right to Know Act
FDA - Food and Drug Administration
FIFRA - Federal Insecticide, Fungicide and Rodenticide Act
HCS - Hazardous Communication System
HMIS - Hazardous Material Information System
IARC - International Agency for Research on Cancer
IRIS - Integrated Risk Information System
LD50/LC50 - Lethal Dose/Concentration kill 50%
LDLo/LCLo - Lowest Published Lethal Dose/Concentration
NAERG'96 - North American Emergency Response Guide Book (1996)
NFPA - National Fire Prevention Association
NIOSH - National Institute for Occupational Safety & Health
NPRI - National Pollutant Release Inventory
NSNR - New Substances Notification Regulations (Canada)
NTP - National Toxicology Program
OSHA - Occupational Safety & Health Administration
PEL - Permissible Exposure Limit
RCRA - Resource Conservation and Recovery Act
SARA - Superfund Amendments and Reorganization Act
SD - Single Dose
STEL - Short Term Exposure Limit (15 minutes)
TDG - Transportation Dangerous Goods (Canada)
TDLo/TCLo - Lowest Published Toxic Dose/Concentration
TLm - Median Tolerance Limit
TLV-TWA - Threshold Limit Value-Time Weighted Average
TSCA - Toxic Substances Control Act
USEPA - United States Environmental Protection Agency
USP - United States Pharmacopoeia
WHMIS - Workplace Hazardous Material Information System

For Copy of MSDS
Fuels & Solvents:
Western Canada, telephone: 403-296-4158; fax: 403-296-6551
Ontario & Central Canada, telephone: 1-800-668-0220; fax: 1-800-837-1228
Quebec & Eastern Canada, telephone: 514-640-8308; fax: 514-640-8385

For Product Safety Information: (905) 804-4752

Prepared by Product Safety - TAR on 3/2/2001.

Data entry by Product Safety - JDW.

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To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

PETRO-CANADA

Material Safety Data Sheet

NFPA	HMIS (U.S.A.)	Rating	Protective Clothing	DOT (pictograms)
	Health Hazard 2* Fire Hazard 4 Reactivity 0 Personal Protection H	0 Insignificant 1 Slight 2 Moderate 3 High 4 Extreme		

Section I. Chemical Product and Company Identification

Product Name	**GASOLINE, UNLEADED**	**Code**	W102E
Synonym	Regular, Unleaded Gasoline (US Grade), Mid-Grade, Plus, Super, WinterGas, SummerGas, Supreme, SuperClean WinterGas, RegularClean, PlusClean, Premium, marked or dyed gasoline, Super Premium (94 RO)	**DSL**	Ingredient(s) are listed.
		TSCA	Ingredient(s) are listed.
Manufacturer	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	**In case of Emergency**	Petro-Canada: 403-296-3000 Canutec Transportation: 613-996-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).
Material Uses	Unleaded gasoline is used in spark ignition engines including motor vehicles, inboard and outboard boat engines, small engines such as chain saws and lawn mowers, and recreational vehicles.		

Section II. Composition and Information on Ingredients

			Exposure Limits (ACGIH)		
Name	**CAS #**	**% (V/V)**	**TLV-TWA(8 h)**	**STEL**	**CEILING**
1) Gasoline	8006-61-9	85-100	300 ppm (890 mg/m³)	500 ppm (1480 mg/m³)	Not established
2) Methyl tert-butly ether	1634-04-4	0-15	40 ppm (144mg/m³)	Not established	Not established

Manufacturer Recommendation	Not applicable
Other Exposure Limits	Consult local, state, provincial or territory authorities for acceptable exposure limits.

Section III. Hazards Identification.

Potential Health Effects	Possible cancer hazard. Inhalation of vapours can be irritating to respiratory tract and cause CNS depression with symptoms of nausea, headaches, vomiting, dizziness, fatigue, light-headedness, reduced coordination, unconciousness and possibly death. Skin and eye contact can cause irritation. Toxic if ingested. For more information, refer to Section 11.

Section IV. First Aid Measures

Eye Contact	IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.
Skin Contact	Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Seek medical attention.
Inhalation	Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform artificial respiration. Allow the victim to rest in a well ventilated area. Seek medical attention.
Ingestion	DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.
Note to Physician	Not available

Section V. Fire-fighting Measures

Flammability	Flammable liquid (NFPA).	**Flammable Limits**	Lower: 1.3%; Upper: 7.6% (NFPA).
Flash Points	Closed Cup: -50 to -38°C (-58 to -36°F), ASTM D56 Standard Test Method for Flash Point by Tag Closed Tester.	**Auto-Ignition Temperature**	257°C (495°F) (NFPA).
Fire Hazards in Presence of Various Substances	Extremely flammable in presence of open flames, sparks, and heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. Rapid escape of vapour may generate static charge causing ignition.	**Explosion Hazards in Presence of Various Substances**	Do not cut, weld, heat, drill or pressurize empty container. Containers may explode in heat of fire. Vapours may form explosive mixtures with air.
Products of Combustion	Carbon oxides (CO, CO2), nitrogen oxides (NOx), polynuclear aromatic hydrocarbons, phenols, smoke and irritating vapours as products of incomplete combustion.		

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Available in French

Fire Fighting Media and Instructions	NAERG96, GUIDE 128, flammable/combustible liquid (non-polar/water-immiscible). CAUTION: This product has a very low flash point, use of water spray when fighting fire may be inefficient. SMALL FIRE: Use DRY chemicals, CO2, water spray or foam. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. DO NOT extinguish a leaking gas flame unless leak can be stopped. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from area and let fire burn out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discolouration of tank due to fire. Cool containing vessels with water spray in order to prevent pressure build-up, autoignition or explosion. Avoid flushing spilled material into sewers, streams or other bodies of water. Self-contained breathing apparatus (SCBA) will be required if approaching the fire from downwind, or to enter enclosed areas or buildings.

Section VI. Accidental Release Measures

Material Release or Spill	NAERG96, GUIDE 128, flammable/combustible liquid (non-polar/water-immiscible). Evacuate in a downwind direction for at least 300 meters (1000 feet). ELIMINATE ALL IGNITION SOURCES. Ventilate closed spaces before entering. By forced ventilation, maintain concentration of vapour below the range of explosive mixture. Avoid contact, fully-encapsulating, vapour-protective clothing should be worn for spills and leaks with no fire. Stop leak if without risk. Use vapour suppressing foam or water spray to reduce vapours; it may reduce vapour, but it may not prevent ignition in closed spaces; isolate area until vapour has dispersed. Contain spill. Absorb with inert absorbents such as dry clay, or diatomaceous earth, or recover using electrically grounded explosion-proof pumps. Avoid inhaling dust of diatomaceous earth for it may contain silica (very fine particle size), making this a potential respiratory hazard. Place used absorbent in closed metal containers for later disposal or burn absorbent in a suitable combustion chamber. DO NOT FLUSH TO SEWERS, STREAMS OR OTHER BODIES OF WATER. Check with applicable jurisdiction for specific disposal requirements of spilled material and empty containers. Notify the appropriate authorities immediately.

Section VII. Handling and Storage

Handling	Keep away from heat, spark and other sources of ignition. Empty container may contain flammable/explosive residues or vapours. DO NOT reuse empty containers without commercial cleaning or reconditioning. Ground/bond line and equipment during pumping or transfer to avoid accumulation of static charge. DO NOT USE AS CLEANING FLUID OR SIPHON BY MOUTH. Wear proper protective equipment. Avoid inhalation and contact with skin or eyes. Practice good personal hygiene. Wash hands after handling and before eating. Launder work clothes frequently. Discard saturated leather goods.
Storage	Store in cool, dry, isolated, well-ventilated area, and away from direct sunlight, sources of ignition and incompatibles. Flammable materials should be stored in a separate safety storage cabinet or room. Ground all equipment containing material.

Section VIII. Exposure Controls/Personal Protection

Engineering Controls	For normal application, special ventilation is not necessary. If user's operations generate vapours or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station.
Personal Protection - ***The selection of personal protective equipment varies, depending upon conditions of use.***	
Eyes	Eye protection (i.e., safety glasses, safety goggles and/or face shield) should be determined based on conditions of use. If product is used in an application where splashing may occur, the use of safety goggles and/or a face shield should be considered.
Body	Wear appropriate clothing to prevent skin contact. As a minimum long sleeves and trousers should be worn.
Respiratory	Where concentrations in air may exceed the occupational exposure limits given in Section 2 (and those applicable to your area) and where engineering, work practices or other means of exposure reduction are not adequate, NIOSH approved respirators may be necessary to prevent overexposure by inhalation.
Hands	Wear appropriate chemically protective gloves. When handling hot product ensure gloves are heat resistant and insulated.
Feet	Wear appropriate footwear to prevent product from coming in contact with feet and skin.

Section IX. Physical and Chemical Properties

Physical State and Appearance	Clear liquid.	**Viscosity**	0.6 cSt.
Colour	Clear to slightly yellow, undyed liquid. May be dyed red for taxation purposes.	**Pour Point**	Not applicable.
Odour	Gasoline. MTBE has a terpene-like odour.	**Softening Point**	Not applicable.
Odour Threshold	Less than 1 ppm.	**Dropping Point**	Not applicable.
Boiling Point	25 to 220°C (77 to 428°F) Initial boiling point by ASTM D86 Standard Test Method.	**Penetration**	Not applicable.
Density	0.7 kg/L @ 15ºC (59ºF).	**Oil / Water Dist. Coeff.**	Not available
Vapour Density	3 to 4 (Air = 1) (NFPA).	**Ionicity (in water)**	Insoluble in water.
Vapour Pressure	107 kPa @ 37.8ºC (100ºF)	**Dispersion Properties**	Not available
Volatility	Volatile.	**Solubility**	Hydrocarbon components virtually insoluble in water. Soluble in alcohol, ether, chloroform, and benzene. Dissolves fats, oils and natural resins.

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Section X. Stability and Reactivity

Corrosivity	Non corrosive.		
Stability	The product is stable under normal handling and storage conditions.	**Hazardous Polymerization**	Will not occur under normal working conditions.
Incompatible Substances / Conditions to Avoid	Reactive with oxidizing agents, acids.	**Decomposition Products**	May release COx, NOx, phenols, polynuclear aromatic hydrocarbons, smoke and irritating vapours when heated to decomposition.

Section XI. Toxicological Information

Routes of Entry	Skin contact, eye contact, inhalation, and ingestion.
Acute Lethality	Gasoline: Acute oral toxicity (LD50): 13 600 mg/kg (rat). Acute dermal toxicity (LD50): >5000 mg/kg (rabbit). Acute inhalation toxicity (LC50): >300 000 mg/m³/4h (rat). MTBE: Acute oral toxicity (LD50): 29630 mg/kg (rat). Acute dermal toxicity (LD50): >6800 mg/kg (rabbit). Acute inhalation toxicity (LC50): 23 576 ppm/4h (rat).
Chronic or Other Toxic Effects	
Dermal Route:	This product can cause skin irritation. Prolonged or repeated contact with skin may cause dermatitis.
Inhalation Route:	Inhalation of vapours can be irritating to repiratory tract and cause CNS depression with symptoms of nausea, headaches, vomiting, dizziness, fatigue, light-headedness, reduced coordination, unconciousness and possibly death.
Oral Route:	Swallowing or vomiting of the liquid may result in aspiration into the lungs. Can cause CNS depression. (See Inhalation Route for symptoms).
Eye Irritation/Inflammation:	Can cause irritation to the eyes.
Immunotoxicity:	Not available
Skin Sensitization:	This product is not expected to be a skin sensitizer, based on the available data and the known hazards of the components.
Respiratory Tract Sensitization:	This product is not expected to be a respiratory tract sensitizer, based on the available data and the known hazards of the components.
Mutagenic:	This product is not considered to be a mutagen, based on the available data and the known hazards of the components.
Reproductive Toxicity:	This product is not considered to be a reproductive hazard, based on the available data and the known hazards of the components.
Teratogenicity/Embryotoxicity:	This product is not considered to be a teratogen or an embryotoxin, based on the available data and the known hazards of the components.
Carcinogenicity (ACGIH):	ACGIH A3: animal carcinogen. [Gasoline, MTBE]
Carcinogenicity (IARC):	IARC Group 2B: possibly carcinogenic to humans. [Gasoline]
Carcinogenicity (NTP):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by NTP.
Carcinogenicity (IRIS):	Not available
Carcinogenicity (OSHA):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA.
Other Considerations	Unleaded gasoline caused kidney effects in male rats and liver effects in female mice.

Section XII. Ecological Information

Environmental Fate	Not available	**Persistance/ Bioaccumulation Potential**	Not available
BOD5 and COD	Not available	**Products of Biodegradation**	Not available
Additional Remarks	Not available		

Section XIII. Disposal Considerations

Waste Disposal	Preferred waste management priorities are: (1) recycle or reprocess; (2) incineration with energy recovery; (3) disposal at licensed waste disposal facility. Ensure that disposal or reprocessing is in compliance with government requirements and local disposal regulations. Consult your local or regional authorities.

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Section XIV. Transport Information

DOT Classification	**Special Provisions for Transport**

Section XV. Regulatory Information

Other Regulations	CEPA: This product is acceptable for use under the provisions of WHMIS-CPR. All components of this formulation are listed on the CEPA-DSL (Domestic Substances List). EPA: All components of this formulation are listed on the US EPA-TSCA Inventory. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR. Please contact Product Safety for more information.		
DSD/DPD (EEC)	Not evaluated.	**WHMIS (Canada)**	B-2, D-2A, D-2B
ADR (Europe) (Pictograms)	**NOT EVALUATED FOR EUROPEAN TRANSPORT** **NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.**	**TDG (Canada) (Pictograms)**	

Section XVI. Other Information

References Available upon request.
* Marque de commerce de Petro-Canada - Trademark

Glossary

ACGIH - American Conference of Governmental Industrial Hygienists
ADR - Agreement on Dangerous goods by Road (Europe)
ASTM - American Society for Testing and Materials (
BOD5 - Biological Oxygen Demand in 5 days
CAN/CGA B149.2 Propane Installation Code
CAS - Chemical Abstract Services
CEPA - Canadian Environmental Protection Act
CERCLA - Comprehensive Environmental Response, Compensation and Liability Act
CFR - Code of Federal Regulations
CHIP - Chemicals Hazard Information and Packaging Approved Supply List
COD5 - Chemical Oxygen Demand in 5 days
CPR - Controlled Products Regulations
DOT - Department of Transport
DSCL - Dangerous Substances Classification and Labeling (Europe)
DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe)
DSL - Domestic Substance List
EEC/EU - European Economic Community/European Union
EINECS - European Inventory of Existing Commercial Chemical Substances
EPCRA - Emergency Planning and Community Right to Know Act
FDA - Food and Drug Administration
FIFRA - Federal Insecticide, Fungicide and Rodenticide Act
HCS - Hazardous Communication System
HMIS - Hazardous Material Information System
IARC - International Agency for Research on Cancer
IRIS - Integrated Risk Information System
LD50/LC50 - Lethal Dose/Concentration kill 50%
LDLo/LCLo - Lowest Published Lethal Dose/Concentration
NAERG'96 - North American Emergency Response Guide Book (1996)
NFPA - National Fire Prevention Association
NIOSH - National Institute for Occupational Safety & Health
NPRI - National Pollutant Release Inventory
NSNR - New Substances Notification Regulations (Canada)
NTP - National Toxicology Program
OSHA - Occupational Safety & Health Administration
PEL - Permissible Exposure Limit
RCRA - Resource Conservation and Recovery Act
SARA - Superfund Amendments and Reorganization Act
SD - Single Dose
STEL - Short Term Exposure Limit (15 minutes)
TDG - Transportation Dangerous Goods (Canada)
TDLo/TCLo - Lowest Published Toxic Dose/Concentration
TLm - Median Tolerance Limit
TLV-TWA - Threshold Limit Value-Time Weighted Average
TSCA - Toxic Substances Control Act
USEPA - United States Environmental Protection Agency
USP - United States Pharmacopoeia
WHMIS - Workplace Hazardous Material Information System

For Copy of MSDS
Fuels & Solvents:
Western Canada, telephone: 403-296-4158; fax: 403-296-6551
Ontario & Central Canada, telephone: 1-800-668-0220; fax: 1-800-837-1228
Quebec & Eastern Canada, telephone: 514-640-8308; fax: 514-640-8385

For Product Safety Information: (905) 804-4752

Prepared by Product Safety - TAR on 6/20/2001.

Data entry by Product Safety - TAR.

SAFETY DATA SHEET

1. Identification

Product identifier **Husqvarna Bar and Chain Oil**

Other means of identification

Product code 610000014, 610000023, 610000175, 610000158, 610000061, 610000176, 610000039, 610000152, 610000093, (Not all part numbers are available in all markets.)

Recommended use Chainsaws

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Supplier Husqvarna Group

Address 9335 Harris Corners Parkway
Charlotte, NC 28269
USA

Telephone number 800-487-5951

Emergency telephone number +1-760-476-3961 (Access code 333721)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Severely hydrotreated heavy naphthenic petroleum oil	64742-52-5	90 - 100

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Material will burn in a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Use only in well-ventilated areas. Avoid inhalation of oil mist and contact with skin and eyes. Wear protective clothing as described in Section 8 of this safety data sheet. Do not eat, drink or smoke when using the product. Be aware of potential for surfaces to become slippery. Observe good industrial hygiene practices. "Empty" containers retain product residue (liquid or vapor) and can be dangerous. Do not cut or weld on empty drums unless they are thoroughly cleaned.
Conditions for safe storage, including any incompatibilities	Keep away from ignition, flame and heat sources. Store in a cool, dry, well-ventilated place. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Severely hydrotreated heavy naphthenic petroleum oil (CAS 64742-52-5)	PEL	5 mg/m3	Mist.
		2000 mg/m3	
		500 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Severely hydrotreated heavy naphthenic petroleum oil (CAS 64742-52-5)	TWA	5 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Severely hydrotreated heavy naphthenic petroleum oil (CAS 64742-52-5)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Amber.

Odor Mild hydrocarbon.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Wide range

Flash point 425.0 °F (218.3 °C)

Evaporation rate < 1 (BUAC=1)

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure < 1 mm Hg at 20 °C

Vapor density > 1 (Air=1)

Relative density 0.919 (60.08 °F (15.6 °C))

Solubility(ies)

Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

Other information

Density	7.62 lb/gal
Explosive properties	Not explosive.
Kinematic viscosity	10.3 mm²/s (212 °F (100 °C)) 146 mm²/s (104 °F (40 °C))
Oxidizing properties	Not oxidizing.
VOC (Weight %)	Nil

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	The product is insoluble in water.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Severely hydrotreated heavy naphthenic petroleum oil (CAS 64742-52-5)

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 03-August-2015

Revision date -

Version # 01

HMIS® ratings Health: 1
Flammability: 1
Physical hazard: 0

NFPA ratings

Disclaimer

Husqvarna Group cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Megaflow® AW Hydraulic Oil

Material Safety Data Sheet

1. Product and Company Identification

Product Name: Megaflow® AW Hydraulic Oil

MSDS Number: 814637

Synonyms/Other Means of Identification:
Megaflow® AW Hydraulic Oil 22
Megaflow® AW Hydraulic Oil 32
Megaflow® AW Hydraulic Oil 46
Megaflow® AW Hydraulic Oil 68
Megaflow® AW Hydraulic Oil 100
Megaflow® AW Hydraulic Oil 150
Megaflow® AW Hydraulic Oil 220
Megaflow® AW Hydraulic Oil 320
Megaflow® AW Ultra-Clean Hydraulic Oil 32
Megaflow® AW Ultra-Clean Hydraulic Oil 46
Megaflow® AW Ultra-Clean Hydraulic Oil 68
Megaflow® AW Ultra-Clean Hydraulic Oil 100

Intended Use: Hydraulic Fluid

Manufacturer:
ConocoPhillips Lubricants
600 N. Dairy Ashford, 2W900
Houston, Texas 77079-1175

Emergency Health and Safety Number: Chemtrec: 800-424-9300 (24 Hours)

Customer Service: U.S.: 1-800-822-6457 or International: +1-83-2486-3363

Technical Information: 1-877-445-9198

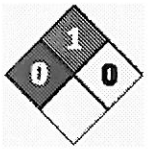
MSDS Information:
Phone: 800-762-0942
Email: MSDS@conocophillips.com
www.conocophillips.com

2. Hazards Identification

Emergency Overview

This material is not considered hazardous according to OSHA criteria.

NFPA



Appearance: Clear and bright
Physical Form: Liquid
Odor: Petroleum

Potential Health Effects
Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Contact may cause mild skin irritation including redness and a burning sensation. Repeated exposure may cause skin dryness or cracking. No harmful effects from skin absorption are expected.

Inhalation (Breathing): Not expected to be toxic.

Ingestion (Swallowing): No harmful effects expected from ingestion.

Signs and Symptoms: Inhalation of oil mists or vapors generated at elevated temperatures may cause respiratory irritation. Accidental ingestion can result in minor irritation of the digestive tract, nausea and diarrhea.

Pre-Existing Medical Conditions: Conditions which may be aggravated by exposure include skin disorders.

See Section 11 for additional Toxicity Information.

3. Composition / Information on Ingredients

Component	CASRN	Concentration[1]
Lubricant Base Oil (Petroleum)	VARIOUS	>99
Additives	PROPRIETARY	<1

[1] All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First Aid Measures

Eye Contact: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin Contact: Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops and persists, seek medical attention. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician. (see Note to Physician)

Inhalation (Breathing): First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. Seek immediate medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Notes to Physician: Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. These injuries often require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury. Early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

5. Fire-Fighting Measures

NFPA 704 Hazard Class

Health: 0 **Flammability:** 1 **Instability:** 0 (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F / 100°C. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

Fire Fighting Instructions: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of sulfur, nitrogen or phosphorus may also be formed.
See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

6. Accidental Release Measures

Personal Precautions: This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Avoid direct contact with material. For larges spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

Methods for Containment and Clean-Up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

7. Handling and Storage

Precautions for safe handling: Keep away from flames and hot surfaces. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

Spills will produce extremely slippery surfaces. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes.

Conditions for safe storage: Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated area away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

8. Exposure Controls / Personal Protection

Component	US-ACGIH	OSHA	Other
Lubricant Base Oil (Petroleum)	TWA: 5mg/m^3 STEL: 10 mg/m^3 as Oil Mist, if generated	TWA: 5 mg/m^3 as Oil Mist, if generated	---

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye protection that meets or exceeds ANSI Z.87.1 is recommended to protect against potential eye contact, irritation, or injury. Depending on conditions of use, a face shield may be necessary.

Skin/Hand Protection: The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Suggested protective materials: Nitrile

Respiratory Protection: Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with R or P95 filters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

9. Physical and Chemical Properties

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

Appearance:	Clear and bright
Physical Form:	Liquid
Odor:	Petroleum
Odor Threshold:	No data
pH:	Not applicable
Vapor Pressure:	<1 mm Hg
Vapor Density (air=1):	>1
Initial Boiling Point/Range:	No data
Melting/Freezing Point:	<5°F / <-15°C
Pour Point:	<5°F / <-15°C
Solubility in Water:	Insoluble
Partition Coefficient (n-octanol/water) (Kow):	No data
Specific Gravity (water=1):	0.87 @ 60°F (15.6°C)
Bulk Density:	7.3 lbs/gal
Viscosity:	4 - 24 cSt @ 100°C; 22 - 320 cSt @ 40°C
Evaporation Rate (nBuAc=1):	No data
Flash Point:	>302°F / >150°C
Test Method:	Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010
Lower Explosive Limits (vol % in air):	No data
Upper Explosive Limits (vol % in air):	No data
Auto-ignition Temperature:	No data

10. Stability and Reactivity

Stability: Stable under normal ambient and anticipated conditions of use.

Conditions to Avoid: Extended exposure to high temperatures can cause decomposition. Avoid all possible sources of ignition.

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidizing agents and strong reducing agents.

Hazardous Decomposition Products: Not anticipated under normal conditions of use.

Hazardous Polymerization: Not known to occur.

11. Toxicological Information

Chronic Toxicity:

Lubricant Base Oil (Petroleum)

Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including severe hydrocracking/hydroprocessing to reduce aromatics and improve performance characteristics. All of the oils meet the IP-346 criteria of less than 3 percent PAH's and are not considered carcinogens by NTP, IARC, or OSHA.

Lubricant Base Oil (Petroleum)

Acute Toxicity:

Component	Oral LD50	Dermal LD50	Inhalation LC50
Lubricant Base Oil (Petroleum)	> 5 g/kg	> 2 g/kg	> 5 mg/L

12. Ecological Information

Ecotoxicity: Experimental studies show that acute aquatic toxicity values are greater than 1000 mg/l. These values are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon compositions.

Mobility: Volatilization to air is not expected to be a significant fate process due to the low vapor pressure of this material. In water, base oils will float and spread over the surface at a rate dependent upon viscosity. There will be significant removal of hydrocarbons from the water by sediment adsorption. In soil and sediment, hydrocarbon components will show low mobility with adsorption to sediments being the predominant physical process. The main fate process is expected to be slow biodegradation of base oil components in soil and sediment.

Persistence and degradability: The hydrocarbons in this material are not readily biodegradable, but since they can be degraded by microorganisms, they are regarded as inherently biodegradable.

Bioaccumulation Potential: Log Kow values measured for the hydrocarbon components of this material range from 4 to over 6, and therefore regarded as having the potential to bioaccumulate. In practice, metabolic processes may reduce bioconcentration.

13. Disposal Considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations.

This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste and is not believed to exhibit characteristics of hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the MSDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

This material under most intended uses would become "Used Oil" due to contamination by physical or chemical impurities. Whenever possible, Recycle Used Oil in accordance with applicable federal and state or local regulations. Container contents should be completely used and containers should be emptied prior to discard.

14. Transportation Information

U.S. Department of Transportation (DOT)
Shipping Description: ***Not regulated***
Note: ***If shipped by land in a packaging having a capacity of 3,500 gallons or more, the provisions of 49 CFR, Part 130 apply. (Contains oil)***

International Maritime Dangerous Goods (IMDG)
Shipping Description: ***Not regulated***
Note: ***U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 25.***

International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)
UN/ID #: ***Not regulated***
Note: ***U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 24.***

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	---	---	---
Max. Net Qty. Per Package:	---	---	---
Packaging Instruction # after 12/31/2010:	---	---	---

15. Regulatory Information

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):
This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)

Acute Health:	No
Chronic Health:	No
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

CERCLA/SARA - Section 313 and 40 CFR 372:
This material does not contain any chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.

EPA (CERCLA) Reportable Quantity (in pounds):
This material does not contain any chemicals with CERCLA Reportable Quantities.

California Proposition 65:
This material does not contain any chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm at concentrations that trigger the warning requirements of California Proposition 65.

Canadian Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the Regulations.

WHMIS Hazard Class
None

National Chemical Inventories:
All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.

All components are either on the DSL, or are exempt from DSL listing requirements.

U.S. Export Control Classification Number: EAR99

16. Other Information

Date of Issue:	03-Aug-2010
Status:	FINAL
Previous Issue Date:	14-Nov-2008
Revised Sections or Basis for Revision:	Periodic review and update
MSDS Number:	814637

Guide to Abbreviations:
ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

Disclaimer of Expressed and Implied Warranties:
The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

SAFETY DATA SHEET

1. Product And Company Identification

SDS ID: SDS 501
PRODUCT NAME: Prestone ® Antifreeze/Coolant
PRODUCT NUMBER: AF2000X, AF2000L, AF2050, AF2055, 72025, 71605, 71621, PRES04C, AF2000UK, AF2000PL. AF2000-1KL, AF2000LRU, AF2000RU, 65069, AF2000/GF, AF2000/GFC, AF2055/GF, AF2000-1KL/GF, AF2000/GXF, AF2000/GXF-HT, 71621/GF, 71621/GFC, 71621/GFC3, AF2000BULK/F
FORMULA NUMBER: YA956BY, YA956BY-B, YA956BY-ED, YA956BY-ED-B, YA-956BY-GLY, YA-992

MANUFACTURER:	CANADIAN OFFICE:	MEXICO OFFICE:
Prestone Products Corporation 69 Eagle Rd. Danbury, CT 06810	AutoSupply Acquisition Canada Inc. 33 MacIntosh Blvd. Concord, ON L4K 4L5	ASG Operations Mexico S. de R.L. de C.V. Carretera Mexico Cuautitlan, Kilometro 31.5, Nave Industrial 5, Loma Bonita, Cuautitlan, Mexico, 54800

MEDICAL EMERGENCIES AND ALL OTHER INFORMATION PHONE NUMBER:
(888)269-0750 (in the US and Canada)
01-800-715-4135 (in Mexico)
TRANSPORTATION EMERGENCY PHONE NUMBER (Chemical Spills and Transport Accidents only):
CHEMTREC 1-800-424-9300 (in the US and Canada) +1 703 741-5970 (outside the US and Canada)

PRODUCT USE: Automobile Antifreeze – consumer product
RESTRICTIONS ON USE: None identified

2. Hazards Identification

GHS/HAZCOM 2012 Classification:

Health	Physical
Acute Toxicity Category 4 (oral) Specific Target Organ Toxicity – Repeated Exposure Category 2 Toxic to Reproduction Category 2	Not Hazardous

Label Elements

WARNING!
H302 Harmful if swallowed.
H361d Suspected of damaging the unborn child.
H373 May cause damage to kidneys through prolonged or repeated exposure.

Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist or vapors.

P264 Wash exposed skin thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P280 Wear protective gloves.
Response:
P301 + P312 IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.
P330 Rinse mouth.
P308 + P313 IF exposed or concerned: Get medical advice.
Disposal:
P405 Store locked up.
P501 Dispose of contents and container in accordance with local and national regulations.

3. Composition/Information On Ingredients

Component	CAS No.	Amount
Ethylene Glycol	107-21-1	75-95%
2-Ethyl Hexanoic Acid, Sodium Salt	19766-89-3	1-5%
Neodecanoic Acid, Sodium Salt	31548-27-3	1-5%
Diethylene Glycol	111-46-6	0-5%

The exact concentrations are a trade secret.

4. First Aid Measures

INHALATION: Remove the victim to fresh air. If breathing has stopped administer artificial respiration. If breathing is difficult, have medical personnel administer oxygen. Get medical attention.

SKIN CONTACT: Remove contaminated clothing. Immediately wash contacted area thoroughly with soap and water. If irritation persists, get medical attention.

EYE CONTACT: Immediately flush eyes with large amounts of water for 15 minutes. Get medical attention if irritation persists.

INGESTION: Seek immediate medical attention. Immediately call local poison control center or go to an emergency department. Never give anything by mouth to or induce vomiting in an unconscious or drowsy person.

MOST IMPORTANT SYMPTOMS: May cause eye irritation. Inhalation of mists may cause nose and throat irritation and nervous system effects. Ingestion may cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT, IF NEEDED: Seek immediate medical attention for large ingestions.

NOTES TO PHYSICIAN: The principal toxic effects of ethylene glycol, when swallowed, are kidney damage and metabolic acidosis. The combination of metabolic acidosis, an osmol gap and oxalate crystals in the urine is evidence of ethylene glycol poisoning. Pulmonary edema with hypoxemia has been described in a number of patients following poisoning with ethylene glycol. Respiratory support with mechanical ventilation may be required. There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth, and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphagia.

Ethanol is antidotal and its early administration may block the formation of nephrotoxic metabolites of ethylene glycol in the liver. The objective is to rapidly achieve and maintain a blood ethanol level of approximately 100 mg/dl by giving a loading dose of ethanol followed by a maintenance dose. Intravenous administration of ethanol is the preferred route. Ethanol blood

levels should be checked frequently. Hemodialysis may be required. 4-Methyl pyrazole (Fomepizole®), a potent inhibitor of alcohol dehydrogenase, has been used therapeutically to decrease the metabolic consequences of ethylene glycol poisoning. Fomepizole® is easier to use clinically than ethanol, does not cause CNS depression or hypoglycemia and requires less monitoring than ethanol. Additional therapeutic modalities which may decrease the adverse consequences of ethylene glycol metabolism are the administration of both thiamine and pyridoxine. As there are complicated and serious overdoses, we recommend you consult with the toxicologists at your poison control center.

5. Firefighting Measures

SUITABLE EXTINGUISHING MEDIA: For large fires, use alcohol type or all-purpose foams. For small fires, use water spray, carbon dioxide or dry chemical.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL: A solid stream of water or foam directed into hot, burning liquid can cause frothing. Burning may produce carbon monoxide and carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES: Do not spray pool fires directly. Firefighters should wear positive pressure self- contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

6: Accidental Release Measures

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Wear appropriate protective clothing and equipment (See Section 8).

METHODS AND MATERIALS FOR CONTAINMENT/CLEANUP: Collect with absorbent material and place in appropriate, labeled container for disposal or, if permitted flush spill area with water.

7. Handling and Storage

PRECAUTIONS FOR SAFE HANDLING:

Harmful or Fatal if Swallowed. Do not drink antifreeze or solution. Avoid eye and prolonged or repeated skin contact. Avoid breathing vapors or mists. Wash exposed skin thoroughly with soap and water after use. Do not store in opened or unlabeled containers. Keep container away from open flames and excessive heat. Do not reuse empty containers unless properly cleaned. Empty containers retain product residue and may be dangerous. Do not cut, weld, drill, etc. containers, even empty.

Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without any obvious ignition sources. Published "autoignition" or "ignition" temperatures cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Use of this product in elevated temperature applications should be thoroughly evaluated to assure safe operating conditions.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Store away from excessive heat and oxidizers.

NFPA CLASSIFICATION: IIIB

8. Exposure Controls / Personal Protection

EXPOSURE GUIDELINES

CHEMICAL	EXPOSURE LIMIT

Ethylene Glycol (as aerosol)	100 mg/m^3 Ceiling ACGIH TLV
2-Ethyl Hexanoic Acid, Sodium Salt	None Established
Neodecanoic Acid, Sodium Salt	None Established
Diethylene Glycol	10 mg/m^3 TWA AIHA WEEL

VENTILATION: Use general ventilation or local exhaust as required to maintain exposures below the occupational exposure limits.

RESPIRATORY PROTECTION: For operations where the TLV is exceeded a NIOSH approved respirator with organic vapor cartridges and dust/mist prefilters or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration. Select and use in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

GLOVES: Chemical resistant gloves such as neoprene or PVC where contact is possible.

EYE PROTECTION: Splash-proof goggles.

OTHER PROTECTIVE EQUIPMENT/CLOTHING: Appropriate protective clothing as needed to minimize skin contact.

9. Physical and Chemical Properties

APPEARANCE:	Yellow liquid	ODOR:	Characteristic odor
ODOR THRESHOLD:	None	pH:	8.7-9.2
MELTING/FREEZING POINT:	-34°F (-36.6°C) – -36°F (-37.7°C)	BOILING POINT/RANGE:	327°F (164°C) – 340°F (171.1°C)
FLASH POINT:	254 °F (123 °C) TOC >230 °F (>110 °C) Setaflash	EVAPORATION RATE:	Not determined
FLAMMABILITY (SOLID, GAS)	Not Applicable	FLAMMABILITY LIMITS:	LEL: Not determined UEL: Not determined
VAPOR PRESSURE:	<0.06 mm Hg @20°C	VAPOR DENSITY:	2.1
RELATIVE DENSITY:	1.07-1.14	SOLUBILITIES	Water: Complete
PARTITION COEFFICIENT (n-octanol/water)	Not determined	AUTOIGNITION TEMPERATURE:	Not determined
DECOMPOSITION TEMPERATURE:	Not determined	VISCOSITY:	Not determined

10. Stability and Reactivity

REACTIVITY: Normally unreactive

CHEMICAL STABILITY: Stable

POSSIBILITY OF HAZARDOUS REACTIONS: Reaction with strong oxidizers will generate heat.

CONDITIONS TO AVOID: None known

INCOMPATIBLE MATERIALS: Avoid strong bases at high temperatures, strong acids, strong oxidizing agents, and materials reactive with hydroxyl compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide.

11. Toxicological Information

POTENTIAL HEALTH EFFECTS:

ACUTE HAZARDS:
INHALATION: May cause irritation of the nose and throat with headache, particularly from mists. High vapor concentrations caused, for example, by heating the material in an enclosed and poorly ventilated workplace, may produce nausea, vomiting, headache, dizziness and irregular eye movements.

SKIN CONTACT: No evidence of adverse effects from available information.

EYE CONTACT: Liquid, vapors or mist may cause discomfort in the eye with persistent conjunctivitis, seen as slight excess redness or conjunctiva. Serious corneal injury is not anticipated.

INGESTION: May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects, including irregular eye movements, convulsions and coma. Cardiac failure and pulmonary edema may develop. Severe kidney damage which may be fatal may follow the swallowing of ethylene glycol. A few reports have been published describing the development of weakness of the facial muscles, diminishing hearing, and difficulty with swallowing, during the late stages of severe poisoning.

CHRONIC EFFECTS: Prolonged or repeated inhalation exposure may produce signs of central nervous system involvement, particularly dizziness and jerking eye movements. Prolonged or repeated skin contact may cause skin sensitization and an associated dermatitis in some individuals. Ethylene glycol has been found to cause birth defects in laboratory animals. The significance of this finding to humans has not been determined. 2-Ethyl Hexanoic Acid, Sodium Salt is suspected of causing developmental effects based on animal data.

CARCINOGENICITY LISTING: None of the components of these products is listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH or OSHA.

ACUTE TOXICITY VALUES:
Ethylene Glycol: LD50 Oral Rat: 4700 mg/kg
LD50 Skin Rabbit: 9530 mg/kg

Diethylene Glycol: LD50 Oral Rat: 12,565 mg/kg
LD50 Skin Rabbit: 11,890 mg/kg

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH: Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. Also, in a preliminary study to assess the effects of exposure of pregnant rats and mice to aerosols at concentrations 150, 1,000 and 2,500 mg/m3 for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentrations, but only in mice. The conditions of these latter experiments did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol, percutaneous absorption of ethylene glycol from contaminated skin, or swallowing of ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that nose-only exposure resulted in maternal toxicity (1,000 and 2,500 mg/m3) and developmental toxicity in with minimal evidence of teratogenicity (2,500 mg/m3). The no-effects concentration (based on maternal toxicity) was 500 mg/m3. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to the skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen; there is currently no available information to suggest that ethylene glycol caused birth defects in humans. Cutaneous application of ethylene glycol is ineffective in producing developmental toxicity; exposure to high aerosol concentration is only minimally effective in producing developmental toxicity; the major route for producing developmental toxicity is perorally.

Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related

increases in tumor incidence or a different pattern of tumors compared with untreated controls. The absence of carcinogenic potential for ethylene glycol has been supported by numerous invitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects. This product contains less than 0.3% tolytriazole which has demonstrates mutagenic activity in a bacterial test system. A correlation has been established between mutagenic activity and carcinogenic activity for many chemicals. Tolytriazole has not been identified as a carcinogen or probable carcinogen by NTP, IARC or OSHA.

In a study of Wistar rats, adverse developmental results were reported at a dose of 100 mg / kg of body weight for 2-Ethyl Hexanoic Acid, Sodium Salt.

12. Ecological Information

ECOTOXICITY:

Ethylene Glycol: LC50 Fathead Minnow <10,000 mg/L/96 hr.
EC50 Daphnia Magna 100,000 mg/L/48 hr.
Bacterial (Pseudomonas putida): 10,000 mg/l
Protozoa (Entosiphon sulcatum and Uronema parduczi; Chatton-Lwoff) : >10,000 mg/l
Algae (Microcystis aeruginosa): 2,000 mg/l
Green algae (Scenedesmus quandricauda) : >10,000 mg/l

Diethylene Glycol: LC50 western mosquitofish >32,000 mg/L/96 hr.

PERSISTENCE AND DEGRADABILITY:

Ethylene Glycol is readily biodegradable (97-100% in 2-12 days). Diethylene glycol is readily biodegradable (>70% in 19 days).

BIOACCUMULATIVE POTENTIAL:

Ethylene glycol: A BCF of 10, reported for ethylene glycol in fish, Golden ide (Leuciscus idus melanotus), after 3 days of exposure suggests the potential for bio concentration in aquatic organisms is low.
Diethylene glycol: An estimated BCF of 3 suggests the potential for bio concentration in aquatic organisms is low.

MOBILITY IN SOIL: Ethylene glycol and diethylene glycol are highly mobile in soil.

OTHER ADVERSE EFFECTS: None known

13. Disposal Considerations

Dispose of product in accordance with all local, state/provincial and federal regulations.

14. Transport Information

U.S. DOT HAZARD CLASSIFICATION: Not Regulated (unless package contains a reportable quantity)

Note: IF A SHIPMENT OF A REPORTABLE QUANTITY (5,260 LBS/553 GAL.) IN A SINGLE PACKAGE IS INVOLVED, THE FOLLOWING INFORMATION APPLIES:

PROPER SHIPPING NAME: RQ, Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol)
UN NUMBER: UN3082
PACKING GROUP: III
LABELS REQUIRED: Class 9

DOT MARINE POLLUTANTS: This product does not contain Marine Pollutants as defined in 49 CFR 171.8.

IMDG CODE SHIPPING CLASSIFICATION: Not Regulated

CANADIAN TDG CLASSIFICATION: Not Regulated

15. Regulatory Information

EPA SARA 311/312 HAZARD CLASSIFICATION: Acute health, chronic health

EPA SARA 313: This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Ethylene Glycol	107-21-1	75-95%

PROTECTION OF STRATOSPHERIC OZONE: This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.

CERCLA SECTION 103: Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for this product, based on the RQ for Ethylene Glycol (95% maximum) of 5,000 lbs, is 5,260 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

CALIFORNIA PROPOSITION 65: This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity (birth defects):

Ethylene Glycol	107-21-1	75-95%	Developmental

EPA TSCA INVENTORY: All of the components of this material are listed on or exempt from the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CANADIAN ENVIRONMENTAL PROTECTION ACT: All of the ingredients are listed on or exempt from the Canadian Domestic Substances List.

EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS): All of the ingredients are listed on or exempt from the EINECS inventory.

JAPAN: All of the ingredients of this product are listed on or exempt from the Japanese Existing and New Chemical Substances (MITI) List.

AUSTRALIA: All of the ingredients of this product are listed on or exempt from the Australian Inventory of Chemical Substances.

KOREA: All of the ingredients of this product are listed on or exempt from the Korean Existing Chemical List (KECL).

PHILIPPINES: All of the ingredients of this product are listed on or exempt from the Philippine Inventory of Chemical and Chemical Substance (PICCS)

CHINA: All of the ingredients of this product are listed on or exempt from the Inventory of Existing Chemical Substance in China (IECSC).

16. Other Information

NFPA RATING (NFPA 704) - FIRE: 1 HEALTH: 2 INSTABILITY: 0

REVISION SUMMARY: Section 1: Product Number

SDS Date of Preparation/Revision: May 31, 2017

This SDS is directed to professional users and bulk handlers of the product. Consumer products are labeled in accordance with Federal Hazardous Substances Act regulations.

While Prestone Products Corporation believes that the data contained herein are factual and the opinions expressed are those of qualified experts regarding the results of the tests conducted, the data are not to be taken as a warranty or representation for which Prestone Products Corporation assumes legal responsibility. They are offered solely for your consideration, investigation and verification. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

Safety Data Sheet

1. Identification

Product Identifier :	Quat 10 DIN #02243517
Recommended Uses :	Disinfectant
Supplier :	CP Industries Ltd. P.O. Box 300 535 Dickson Drive Fergus, Ontario N1M 2W8
Emergency Telephone :	(613) 996-6666 (CANUTEC)

2. Hazard Identification

Product Classifications :	This product is a DIN registered disinfectant and is excluded from WHMIS 2015 (Hazardous Products Act Part II).
Hazard Statements :	Causes severe skin burns and eye damage.
Precautionary Statements :	Wear protective gloves and eye protection/face protection. Do not breathe mists. Wash thoroughly after handling. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CONTROL CENTRE or doctor. Store locked up. Dispose of contents/container according to local, provincial and federal regulations.

3. Composition/Information on Ingredients

Hazardous Ingredients :

Chemical Name	CAS Number	Concentration (% w/w)
Alkyl dimethyl benzyl ammonium chloride	68424-85-1	3 – 7
Alkyl dimethyl ethylbenzyl ammonium chloride	68956-79-6	3 – 7
Ethanol	64-17-5	0.5 – 1.5

4. First Aid Measures

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CONTROL CENTRE or doctor.

IF ON SKIN (or hair): Wash with plenty of water. Take off contaminated clothing and wash it before reuse. Immediately call a POISON CONTROL CENTRE or doctor.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CONTROL CENTRE or doctor.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CONTROL CENTRE or doctor.

Symptoms of Acute Exposure :

Eye contact :	Burns, redness, watering, pain, loss of vision.
Skin contact :	Severe burns, redness, itching, swelling, damage to underlying tissues.
Ingestion :	Burns, irritation and swelling to mouth, throat and stomach.
Inhalation :	Burns to nose, throat and respiratory tract. Coughing, difficulty breathing and/or shortness of breath.

5. Fire Fighting Measures

Suitable Extinguishing Media :	As for surrounding fire. Suitable materials include water spray, dry chemical, carbon dioxide, and alcohol-resistant foam.
Unsuitable Extinguishing Media :	Not available.
Specific Hazards and Combustion Products :	Non-combustible. If in a fire or heated, container may experience a pressure rise and rupture. During fire, gases hazardous to health may be formed. Combustion products include oxides of carbon, oxides of nitrogen.
Protective Equipment and Precautions for Firefighters :	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Move containers from fire area if possible without risk. Keep containers cool with water spray. Collect contaminated fire extinguishing water and other media separately.

6. Accidental Release Measures

Personal Precautions : Immediately evacuate personnel to safe areas. Provide adequate ventilation. Wear appropriate personal protective equipment (See Section 8: Exposure controls / Personal protection). Only trained and properly protected personnel must be involved in clean-up operations. Material may create slippery conditions.

Containment and Clean Up : Stop leak if it is safe to do so. Dike spilled material, where possible. Absorb with suitable inert dry material such as absorbent clay and place into closed containers for disposal. Avoid dispersal of spilled material or contact with soil or entry into waterways, sewers and drains. Dispose of contents/containers according to local, provincial, and federal regulations. Following product recovery, flush area with water.

7. Handling and Storage

Handling : Avoid contact with skin, eyes, and clothing. Use personal protective equipment as required (See Section 8: Exposure controls / Personal protection). Wash thoroughly after handling.

Storage : Keep away from incompatible materials (See Section 10: Stability and Reactivity). Keep away from oxidizing agents. Store in a cool, dry, well-ventilated place. Keep container tightly closed when not in use. Store locked up.

8. Exposure Controls/Personal Protection

Control Parameters :

Chemical Name	CAS Number	Value type	Permissible Concentration	Basis
Alkyl dimethyl benzyl ammonium chloride	68424-85-1	TLV	Not established	
Alkyl dimethyl ethylbenzyl ammonium chloride	68956-79-6	TLV	Not established	
Ethanol	64-17-5	TLV-TWA	1,000 ppm	ACGIH

Engineering Controls : Ensure adequate ventilation.

Personal Protection :

Eye/Face : Safety glasses or chemical splash goggles.

Skin : Chemical-resistant protective gloves.

Respiratory : If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Other : Long pants and long sleeved shirt.

9. Physical and Chemical Properties

Appearance :	Clear, colourless liquid
Odour :	Not available
Odour Threshold :	Not available
pH :	6.0 – 8.5
Freezing Point :	Not available
Boiling Point :	Not available
Flash Point :	Not available
Evaporation Rate :	Not available
Flammability :	Not available
Lower Flammability Limit :	Not available
Upper Flammability Limit :	Not available
Vapour Pressure :	Not available
Vapour Density :	Not available
Relative Density :	1.00
Solubility :	Complete in water
Partition Coefficient :	Not available
Auto-ignition Temperature :	Not available
Decomposition Temperature :	Not available
Viscosity :	Not available

10. Stability and Reactivity

Reactivity :	With incompatible materials.
Chemical stability :	Chemically stable.
Hazardous reactions :	With incompatible materials. Polymerization not expected to occur.
Conditions to avoid :	Avoid incompatible materials.
Incompatible materials :	Oxidizing agents.
Hazardous decomposition products :	Not applicable.

11. Toxicological Information

Routes of Exposure :

Eye contact :	Causes serious eye damage.
Skin contact :	Causes severe skin burns.
Ingestion :	Causes burns to mouth, throat and stomach.
Inhalation :	Causes burns to nose, throat and respiratory tract.

Symptoms of Acute Exposure :

Eye contact :	Burns, redness, watering, pain, loss of vision.
Skin contact :	Severe burns, redness, itching, swelling, damage to underlying tissues.
Ingestion :	Burns, irritation and swelling to mouth, throat and stomach.
Inhalation :	Burns to nose, throat and respiratory tract. Coughing, difficulty breathing and/or shortness of breath.

Chronic Effects : None known.

Calculated Acute Toxicity Estimates

Oral :	3,000 – 3,500 mg/kg
Dermal :	>10,000 mg/kg
Inhalation :	Not available.

12. Ecological Information

Not available.

13. Disposal Considerations

Dispose of contents/container according to local, provincial and federal regulations.

14. Transportation Information

For transportation in a road vehicle or a railway vehicle :
TDG Classification : Not Regulated.

15. Regulatory Information

Not available.

16. Other Information

SDS Revision Date : February 23, 2017

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Shell Rotella T6 5W-40

Version	Revision Date:	SDS Number:	Print Date: 08/28/2018
1.2	08/27/2018	800010026864	Date of last issue: 10/14/2016

SECTION 1. IDENTIFICATION

Product name : Shell Rotella T6 5W-40

Product code : 001F8875

Manufacturer or supplier's details

Manufacturer/Supplier : **Shell Oil Products US**
PO Box 4427
Houston TX 77210-4427
USA

SDS Request : (+1) 877-276-7285

Customer Service :

Emergency telephone number

Spill Information : 877-504-9351

Health Information : 877-242-7400

Recommended use of the chemical and restrictions on use

Recommended use : Engine oil.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Based on available data this substance / mixture does not meet the classification criteria.

GHS label elements

Hazard pictograms : No Hazard Symbol required

Signal word : No signal word

Hazard statements : PHYSICAL HAZARDS:
Not classified as a physical hazard under GHS criteria.
HEALTH HAZARDS:
Not classified as a health hazard under GHS criteria.
ENVIRONMENTAL HAZARDS:
Not classified as an environmental hazard under GHS criteria.

Precautionary statements :

Prevention:

No precautionary phrases.

Response:

No precautionary phrases.

Storage:

No precautionary phrases.

Disposal:

No precautionary phrases.

Other hazards which do not result in classification

Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Used oil may contain harmful impurities.
Not classified as flammable but will burn.
The classification of this material is based on OSHA HCS 2012 criteria.
Under normal conditions of use or in a foreseeable emergency, this product does not meet the definition of a hazardous chemical when evaluated according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Highly refined mineral oils and additives.
The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.

* contains one or more of the following CAS-numbers: 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-65-0, 68037-01-4, 72623-86-0, 72623-87-1, 8042-47-5, 848301-69-9.

Hazardous components

Chemical name	Synonyms	CAS-No.	Concentration (% w/w)
Zinc dialkyldithiophosphate	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isooctyl) esters, zinc salts	113706-15-3	1 - 2.4
Interchangeable low viscosity base oil (<20,5 cSt @40°C) *		Not Assigned	0 - 90

SECTION 4. FIRST-AID MEASURES

If inhaled : No treatment necessary under normal conditions of use.
If symptoms persist, obtain medical advice.

In case of skin contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.
If persistent irritation occurs, obtain medical attention.

In case of eye contact : Flush eye with copious quantities of water.
Remove contact lenses, if present and easy to do. Continue rinsing.
If persistent irritation occurs, obtain medical attention.

If swallowed : In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.

Most important symptoms and effects, both acute and delayed	:	Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.
Protection of first-aiders	:	When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.
Indication of any immediate medical attention and special treatment needed	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	:	Do not use water in a jet.
Specific hazards during fire-fighting	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds.
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for firefighters	:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Avoid contact with skin and eyes.
Environmental precautions	:	Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up	:	Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.
Additional advice	:	For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet.

SECTION 7. HANDLING AND STORAGE

Technical measures	:	Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Advice on safe handling	:	Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.
Avoidance of contact	:	Strong oxidising agents.
Product Transfer	:	Proper grounding and bonding procedures should be used during all bulk transfer operations to avoid static accumulation.
Further information on storage stability	:	Keep container tightly closed and in a cool, well-ventilated place. Use properly labeled and closable containers. Store at ambient temperature.
Packaging material	:	Suitable material: For containers or container linings, use mild steel or high density polyethylene. Unsuitable material: PVC.
Container Advice	:	Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Oil mist, mineral	Not Assigned	TWA (Mist)	5 mg/m3	OSHA Z-1
Oil mist, mineral		TWA (Inhalable fraction)	5 mg/m3	ACGIH

Biological occupational exposure limits

No biological limit allocated.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp
L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:
Adequate ventilation to control airborne concentrations.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information:
Define procedures for safe handling and maintenance of controls.
Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.
Always observe good personal hygiene measures, such as

washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Personal protective equipment

Respiratory protection : No respiratory protection is ordinarily required under normal conditions of use.
In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material.
If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.
Check with respiratory protective equipment suppliers.
Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.
Select a filter suitable for the combination of organic gases and vapours [Type A/Type P boiling point >65°C (149°F)].

Hand protection
Remarks : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber gloves Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.
Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material.
Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Eye protection : If material is handled such that it could be splashed into eyes, protective eyewear is recommended.

Skin and body protection : Skin protection is not ordinarily required beyond standard work clothes.

It is good practice to wear chemical resistant gloves.

Protective measures : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Thermal hazards : Not applicable

Environmental exposure controls

General advice : Take appropriate measures to fulfill the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water.
Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	Clear amber
Odour	:	Slight hydrocarbon
Odour Threshold	:	Data not available
pH	:	Not applicable
pour point	:	-42 °C / -44 °F Method: ASTM D97
Initial boiling point and boiling range	:	> 280 °C / 536 °F estimated value(s)
Flash point	:	224 °C / 435 °F Method: ASTM D92 (COC)
Evaporation rate	:	Data not available
Flammability (solid, gas)	:	Data not available
Upper explosion limit / upper flammability limit	:	Typical 10 %(V)
Lower explosion limit / Lower flammability limit	:	Typical 1 %(V)
Vapour pressure	:	< 0.5 Pa (20 °C / 68 °F)

		estimated value(s)
Relative vapour density	:	> 1 estimated value(s)
Relative density	:	0.858 (15 °C / 59 °F)
Density	:	858 kg/m3 (15.0 °C / 59.0 °F) Method: ASTM D4052
Solubility(ies)		
Water solubility	:	negligible
Solubility in other solvents	:	Data not available
Partition coefficient: n-octanol/water	:	log Pow: > 6 (based on information on similar products)
Auto-ignition temperature	:	> 320 °C / 608 °F
Decomposition temperature	:	Data not available
Viscosity		
Viscosity, dynamic	:	Data not available
Viscosity, kinematic	:	14.2 mm2/s (100 °C / 212 °F) Method: ASTM D445
Explosive properties	:	Not classified
Oxidizing properties	:	Data not available
Conductivity	:	This material is not expected to be a static accumulator.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
Chemical stability	:	Stable.
Possibility of hazardous reactions	:	Reacts with strong oxidising agents.
Conditions to avoid	:	Extremes of temperature and direct sunlight.
Incompatible materials	:	Strong oxidising agents.
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment : Information given is based on data on the components and the toxicology of similar products.Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Information on likely routes of exposure
Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity : LD50 (rat): > 5,000 mg/kg
Remarks: Low toxicity:
Based on available data, the classification criteria are not met.

Acute inhalation toxicity : Remarks: Based on available data, the classification criteria are not met.

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Remarks: Low toxicity:
Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Product:

Remarks: Slightly irritating to skin., Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis., Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Product:

Remarks: Slightly irritating to the eye., Based on available data, the classification criteria are not met.

Components:

Zinc dialkyldithiophosphate:
Remarks: Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Product:

Remarks: Not a skin sensitiser.
Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Product:

: Remarks: Non mutagenic, Based on available data, the classification criteria are not met.

Carcinogenicity

Product:

Remarks: Not a carcinogen., Based on available data, the classification criteria are not met.

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

: Remarks: Not a developmental toxicant., Does not impair fertility., Based on available data, the classification criteria are not met.

STOT - single exposure

Product:

Remarks: Based on available data, the classification criteria are not met.

STOT - repeated exposure

Product:

Remarks: Based on available data, the classification criteria are not met.

Aspiration toxicity

Product:

Not an aspiration hazard.

Further information

Product:

Remarks: Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal., ALL used oil should be handled with caution and skin contact avoided as far as possible.

Remarks: Continuous contact with used engine oils has caused skin cancer in animal tests.

Remarks: Slightly irritating to respiratory system.

SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment : Ecotoxicological data have not been determined specifically for this product.
Information given is based on a knowledge of the components and the ecotoxicology of similar products.
Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).(LL/EL/IL50 expressed as the nominal amount of product required to prepare aqueous test extract).

Ecotoxicity

Product:

Toxicity to fish (Acute toxicity) :
Remarks: LL/EL/IL50 > 100 mg/l
Practically non toxic:
Based on available data, the classification criteria are not met.

Toxicity to daphnia and other aquatic invertebrates (Acute toxicity) :
Remarks: LL/EL/IL50 > 100 mg/l
Practically non toxic:
Based on available data, the classification criteria are not met.

Toxicity to algae (Acute toxicity) :
Remarks: LL/EL/IL50 > 100 mg/l
Practically non toxic:
Based on available data, the classification criteria are not met.

Toxicity to fish (Chronic toxicity) : Remarks: Data not available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: Data not available

Toxicity to microorganisms (Acute toxicity) : Remarks: Data not available

Persistence and degradability

Product:

Biodegradability : Remarks: Not readily biodegradable.
Major constituents are inherently biodegradable, but contains components that may persist in the environment.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Contains components with the potential to bioaccumulate.

Mobility in soil

Product:

Mobility : Remarks: Liquid under most environmental conditions.
If it enters soil, it will adsorb to soil particles and will not be mobile.

Remarks: Floats on water.

Other adverse effects

Product:

Additional ecological information : Does not have ozone depletion potential, photochemical ozone creation potential or global warming potential.
Product is a mixture of non-volatile components, which will not be released to air in any significant quantities under normal conditions of use.

Poorly soluble mixture.
Causes physical fouling of aquatic organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Recover or recycle if possible.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
Do not dispose into the environment, in drains or in water courses

Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment.
Waste, spills or used product is dangerous waste.

Contaminated packaging : Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.
Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

Local legislation
Remarks : Disposal should be in accordance with applicable regional, national, and local laws and regulations.

SECTION 14. TRANSPORT INFORMATION

National Regulations

US Department of Transportation Classification (49 CFR Parts 171-180)

Not regulated as a dangerous good

International Regulations

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied. MARPOL Annex 1 rules apply for bulk shipments by sea.

Special precautions for user

Remarks : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
toluene	**108-88-3**	**100**	**100 (F005)**
benzene	**71-43-2**	**10**	**10 (D018)**
benzene	**71-43-2**	**10**	*****

*: Calculated RQ exceeds reasonably attainable upper limit., Shell classifies this material as an "oil" under the CERCLA Petroleum Exclusion, therefore releases to the environment are not reportable under CERCLA., The components with RQs are given for information.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Zinc dialkyldithiophosphate	113706-15-3	>= 1 - < 5 %

Clean Water Act

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

fumaric acid	110-17-8	0.018 %
Ethylenediamine	107-15-3	0.0088 %
toluene	108-88-3	0.002 %
benzene	71-43-2	0.0002 %

US State Regulations

Pennsylvania Right To Know

Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0
Zinc dialkyldithiophosphate	113706-15-3
fumaric acid	110-17-8

California Prop. 65

WARNING: This product can expose you to chemicals including benzene, which is/are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0
Zinc dialkyldithiophosphate	113706-15-3

Other regulations:

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

The components of this product are reported in the following inventories:

EINECS : All components listed or polymer exempt.

TSCA : All components listed.

DSL : All components listed.

SECTION 16. OTHER INFORMATION

Further information

NFPA Rating (Health, Fire, Reactivity)	0, 1, 0

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average
Abbreviations and Acronyms	:	The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites. ACGIH = American Conference of Governmental Industrial Hygienists ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road AICS = Australian Inventory of Chemical Substances ASTM = American Society for Testing and Materials BEL = Biological exposure limits BTEX = Benzene, Toluene, Ethylbenzene, Xylenes CAS = Chemical Abstracts Service CEFIC = European Chemical Industry Council CLP = Classification Packaging and Labelling COC = Cleveland Open-Cup DIN = Deutsches Institut fur Normung DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level DSL = Canada Domestic Substance List EC = European Commission EC50 = Effective Concentration fifty ECETOC = European Center on Ecotoxicology and Toxicology Of Chemicals ECHA = European Chemicals Agency EINECS = The European Inventory of Existing Commercial Chemical Substances EL50 = Effective Loading fifty ENCS = Japanese Existing and New Chemical Substances Inventory EWC = European Waste Code GHS = Globally Harmonised System of Classification and Labelling of Chemicals IARC = International Agency for Research on Cancer IATA = International Air Transport Association IC50 = Inhibitory Concentration fifty IL50 = Inhibitory Level fifty IMDG = International Maritime Dangerous Goods INV = Chinese Chemicals Inventory IP346 = Institute of Petroleum test method N° 346 for the determination of polycyclic aromatics DMSO-extractables KECI = Korea Existing Chemicals Inventory LC50 = Lethal Concentration fifty LD50 = Lethal Dose fifty per cent.

LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading
LL50 = Lethal Loading fifty
MARPOL = International Convention for the Prevention of Pollution From Ships
NOEC/NOEL = No Observed Effect Concentration / No Observed Effect Level
OE_HPV = Occupational Exposure - High Production Volume
PBT = Persistent, Bioaccumulative and Toxic
PICCS = Philippine Inventory of Chemicals and Chemical Substances
PNEC = Predicted No Effect Concentration
REACH = Registration Evaluation And Authorisation Of Chemicals
RID = Regulations Relating to International Carriage of Dangerous Goods by Rail
SKIN_DES = Skin Designation
STEL = Short term exposure limit
TRA = Targeted Risk Assessment
TSCA = US Toxic Substances Control Act
TWA = Time-Weighted Average
vPvB = very Persistent and very Bioaccumulative

A vertical bar (|) in the left margin indicates an amendment from the previous version.

Sources of key data used to compile the Safety Data Sheet	:	The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).
Revision Date	:	08/27/2018

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / EN

SAFETY DATA SHEET

1. Identification

Product identifier **Motor Medic Instant Starting Fluid**

Other means of identification

SDS number M3515

Part No. M3515

Tariff code 2909.11.0000

Recommended use Starting Fluid

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name RSC Chemical Solutions

Address 600 Radiator Road
Indian Trail, NC 28079
United States

Telephone Customer Service: (704) 821-7643
Technical: (704) 684-1811

Website www.rscbrands.com

E-mail sds@rscbrands.com

Emergency phone number Emergency Telephone: (303) 623-5716
Emergency Contact: RMPDC (877-740-5015)

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
	Carcinogenicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Extremely flammable aerosol. Harmful if swallowed. Causes skin irritation. Causes eye irritation. May cause drowsiness or dizziness. May cause cancer. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response	If swallowed: Call a poison center/doctor if you feel unwell. If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. Rinse mouth. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	67.77% of the mixture consists of component(s) of unknown acute oral toxicity. 40.15% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 40.15% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Heptane		142-82-5	50 - < 60
ETHANE, 1,1'-OXYBIS-		60-29-7	30 - < 40
Carbon Dioxide		124-38-9	5 - < 10
Distillates (petroleum), Hydrotreated Light Naphthenic		64742-53-6	< 1
Hydrotreated Heavy Naphthenic Distillate (petroleum)		64742-52-5	< 1

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Powder. Alcohol resistant foam. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In the event of fire and/or explosion do not breathe fumes.

General fire hazards Extremely flammable aerosol.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Level 2 Aerosol.

Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Carbon Dioxide (CAS 124-38-9)	PEL	9000 mg/m3	
		5000 ppm	
Distillates (petroleum), Hydrotreated Light Naphthenic (CAS 64742-53-6)	PEL	5 mg/m3	Mist.
		2000 mg/m3	
		500 ppm	
ETHANE, 1,1'-OXYBIS- (CAS 60-29-7)	PEL	1200 mg/m3	
		400 ppm	
Heptane (CAS 142-82-5)	PEL	2000 mg/m3	
		500 ppm	

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Hydrotreated Heavy Naphthenic Distillate (petroleum) (CAS 64742-52-5)	PEL	5 mg/m3	Mist.
		2000 mg/m3	
		500 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Carbon Dioxide (CAS 124-38-9)	STEL	30000 ppm	
	TWA	5000 ppm	
Distillates (petroleum), Hydrotreated Light Naphthenic (CAS 64742-53-6)	TWA	5 mg/m3	Inhalable fraction.
ETHANE, 1,1'-OXYBIS- (CAS 60-29-7)	STEL	500 ppm	
	TWA	400 ppm	
Heptane (CAS 142-82-5)	STEL	500 ppm	
	TWA	400 ppm	
Hydrotreated Heavy Naphthenic Distillate (petroleum) (CAS 64742-52-5)	TWA	5 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Carbon Dioxide (CAS 124-38-9)	STEL	54000 mg/m3	
		30000 ppm	
	TWA	9000 mg/m3	
		5000 ppm	
Distillates (petroleum), Hydrotreated Light Naphthenic (CAS 64742-53-6)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
Heptane (CAS 142-82-5)	Ceiling	1800 mg/m3	
		440 ppm	
	TWA	350 mg/m3	
		85 ppm	
Hydrotreated Heavy Naphthenic Distillate (petroleum) (CAS 64742-52-5)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	Chemical respirator with organic vapor cartridge and full facepiece.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Liquid. Clear.
Physical state	Liquid.
Form	Aerosol.
Color	Colorless
Odor	Ether-like.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-189.94 °F (-123.3 °C) estimated
Initial boiling point and boiling range	-109.3 °F (-78.5 °C) estimated
Flash point	-1.0 °F (-18.3 °C) Tag Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.9 % estimated
Flammability limit - upper (%)	36.5 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	4175.98 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	320 °F (160 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	6.09 lbs/gal
Explosive properties	Not explosive.
Flammability class	Flammable IA estimated
Heat of combustion (NFPA 30B)	25.16 kJ/g estimated
Oxidizing properties	Not oxidizing.
Percent volatile	32.23 % estimated
Specific gravity	0.73
VOC (Weight %)	93 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Aluminum.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes eye irritation.
Ingestion	Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Headache. May cause drowsiness and dizziness. Nausea, vomiting. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Harmful if swallowed. Narcotic effects.

Components	Species	Test Results
ETHANE, 1,1'-OXYBIS- (CAS 60-29-7)		
Acute		
Inhalation		
LC50	Rat	32000 ppm, 4 Hours
Oral		
LD50	Rat	3230 - 3920 mg/kg
Heptane (CAS 142-82-5)		
Acute		
Inhalation		
LC50	Rat	103 mg/l, 4 Hours
LD50	Mouse	75 mg/l, 2 Hours

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

ETHANE, 1,1'-OXYBIS- (CAS 60-29-7) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Distillates (petroleum), Hydrotreated Light Naphthenic (CAS 64742-53-6) Known To Be Human Carcinogen.

Hydrotreated Heavy Naphthenic Distillate (petroleum) (CAS 64742-52-5) Known To Be Human Carcinogen.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Components		Species	Test Results
ETHANE, 1,1'-OXYBIS- (CAS 60-29-7)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2560 mg/l, 96 hours
Heptane (CAS 142-82-5)			
Aquatic			
Fish	LC50	Mozambique tilapia (Tilapia mossambica)	375 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)	
ETHANE, 1,1'-OXYBIS-	0.89
Heptane	4.66

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. Transport information

DOT

UN number Not available.

UN proper shipping name Consumer Commodity

Transport hazard class(es)

Class ORM-D

Subsidiary risk -

Packing group Not applicable.

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Packaging exceptions 306

Packaging non bulk 302, 304

Packaging bulk 302, 314, 315

IATA

UN number UN1950

UN proper shipping name Aerosols, Flammable (Starting Fluid)

Transport hazard class(es)

Class	2.1
Subsidiary risk	-

Packing group Not applicable.

Environmental hazards Yes

ERG Code 2L

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number UN1950

UN proper shipping name Aerosols

Transport hazard class(es)

Class	2.1
Subsidiary risk	-

Packing group Not applicable.

Environmental hazards

Marine pollutant No.

EmS F-D, S-U

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

IATA; IMDG

Marine pollutant

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

ETHANE, 1,1'-OXYBIS- (CAS 60-29-7)	Listed.
Heptane (CAS 142-82-5)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

ETHANE, 1,1'-OXYBIS- (CAS 60-29-7)

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

ETHANE, 1,1'-OXYBIS- (CAS 60-29-7) 6584

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

ETHANE, 1,1'-OXYBIS- (CAS 60-29-7) 35 %WV

DEA Exempt Chemical Mixtures Code Number

ETHANE, 1,1'-OXYBIS- (CAS 60-29-7) 6584

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Distillates (petroleum), Hydrotreated Light Naphthenic (CAS 64742-53-6)
Hydrotreated Heavy Naphthenic Distillate (petroleum) (CAS 64742-52-5)

US. Massachusetts RTK - Substance List

Carbon Dioxide (CAS 124-38-9)
Distillates (petroleum), Hydrotreated Light Naphthenic (CAS 64742-53-6)
ETHANE, 1,1'-OXYBIS- (CAS 60-29-7)
Heptane (CAS 142-82-5)
Hydrotreated Heavy Naphthenic Distillate (petroleum) (CAS 64742-52-5)

US. New Jersey Worker and Community Right-to-Know Act

Carbon Dioxide (CAS 124-38-9)
ETHANE, 1,1'-OXYBIS- (CAS 60-29-7)
Heptane (CAS 142-82-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Carbon Dioxide (CAS 124-38-9)
ETHANE, 1,1'-OXYBIS- (CAS 60-29-7)
Heptane (CAS 142-82-5)

US. Rhode Island RTK

ETHANE, 1,1'-OXYBIS- (CAS 60-29-7)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-07-2015

Revision date 10-13-2015

Version # 03

HMIS® ratings
Health: 2*
Flammability: 4
Physical hazard: 0

NFPA ratings
Health: 2
Flammability: 4
Instability: 0

NFPA ratings

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision Information
Hazard(s) identification: Storage
Hazard(s) identification: GHS Signal Words
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Stability and reactivity: Possibility of hazardous reactions
Transport Information: Material Transportation Information
GHS: Classification

SAFETY DATA SHEET

Stihl 2T Premium

Section 1. Identification

GHS product identifier	Stihl 2T Premium
Product code	464042-CA01
SDS #	464042

Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/ mixture	Small engine oil For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Manufacturer	BP Lubricants USA, Inc 1500 Valley Road Wayne, NJ USA 07470
Supplier	Wakefield Canada Inc. 3620 Lakeshore Blvd West Toronto, Ontario, Canada M8W 1P2 Phone Number - 416-252-5511 Fax Number - 416-252-7315 BP Lubricants USA, Inc 1500 Valley Road Wayne, NJ USA 07470 Phone Number - 973-633-2296 Fax Number - 973-633-7475
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY TELEPHONE NUMBER	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

Section 2. Hazard identification

Classification of the substance or mixture	FLAMMABLE LIQUIDS - Category 4

GHS label elements

Signal word	Warning
Hazard statements	H227 - Combustible liquid.

Precautionary statements

General	P103 - Read label before use. P102 - Keep out of reach of children. P101 - If medical advice is needed, have product container or label at hand.

Section 2. Hazard identification

Prevention	P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Response	Not applicable.
Storage	Not applicable.
Disposal	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Other hazards which do not result in classification	Defatting to the skin. NOTE: Product diluted with gasoline must be handled with the same precautions used for gasoline. Before mixing, the Safety Data Sheet for gasoline should be consulted for any precautionary measures necessary.

Section 3. Composition/information on ingredients

Substance/mixture Mixture

Highly refined base oil (IP 346 DMSO extract < 3%). Solvent. Proprietary performance additives.

Ingredient name	CAS number	% (w/w)
Paraffin oils (petroleum), catalytic dewaxed heavy	64742-70-7	30 - 60 **
Distillates (petroleum), hydrotreated light	64742-47-8	10 - 30 **
Base oil - highly refined	Varies - See Key to abbreviations	10 - 30 **
Calcium long chain alkaryl sulphonate	Proprietary	0.1 - 1 **

**** Any concentration shown as a range is to protect confidentiality or is due to batch variation.**

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.
Skin contact	Wash skin thoroughly with soap and water or use recognized skin cleanser. Drench contaminated clothing with water before removing. This is necessary to avoid the risk of sparks from static electricity that could ignite contaminated clothing. Contaminated clothing is a fire hazard. Contaminated leather, particularly footwear, must be discarded. Remove contaminated clothing and shoes. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
Inhalation	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
Ingestion	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Get medical attention if adverse health effects persist or are severe.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treatment should in general be symptomatic and directed to relieving any effects.
Specific treatments	No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	In case of fire, use water fog, alcohol resistant foam, dry chemical or carbon dioxide extinguisher or spray.
Unsuitable extinguishing media	Do not use water jet.
Specific hazards arising from the chemical	Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
Hazardous thermal decomposition products	Combustion products may include the following: carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)
Special protective actions for fire-fighters	No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Immediately contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. Eliminate all ignition sources.
For emergency responders	Entry into a confined space or poorly ventilated area contaminated with vapor, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres.
Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container. NOTE: Product diluted with gasoline must be handled with the same precautions used for gasoline. Before mixing, the Safety Data Sheet for gasoline should be consulted for any precautionary measures necessary.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
Not suitable	Prolonged exposure to elevated temperature

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Paraffin oils (petroleum), catalytic dewaxed heavy	**CA Alberta Provincial (Canada).** 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004 Form: Mist 15 min OEL: 10 mg/m³ 15 minutes. Issued/Revised: 7/2009 Form: Mist **CA Quebec Provincial (Canada).** TWAEV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: mist STEV: 10 mg/m³ 15 minutes. Issued/Revised: 1/2000 Form: mist
Distillates (petroleum), hydrotreated light	**CA British Columbia Provincial (Canada). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapour) 8 hours. Issued/Revised: 8/2004 **CA Alberta Provincial (Canada). Absorbed through skin.** 8 hrs OEL: 200 mg/m³, (as total hydrocarbon vapour) 8 hours. Issued/Revised: 7/2009 **CA Ontario Provincial (Canada). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapour) 8 hours. Issued/Revised: 6/2015
Base oil - highly refined	**CA Alberta Provincial (Canada).** 15 min OEL: 10 mg/m³ 15 minutes. Issued/Revised: 7/2009 Form: Mist 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004

Section 8. Exposure controls/personal protection

	Form: Mist **CA Quebec Provincial (Canada).** STEV: 10 mg/m³ 15 minutes. Issued/Revised: 1/2000 Form: mist TWAEV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: mist

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.
Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.
Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.
The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety glasses with side shields.

Skin protection

Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Body protection

Use of protective clothing is good industrial practice.
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure controls/personal protection

Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Color	Blue.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Closed cup: >61°C (>141.8°F) [Pensky-Martens.]
Pour point	-45 °C
Drop Point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable. Based on - Physical state
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Density	<1000 kg/m^3 (<1 g/cm^3) at 15°C
Relative density	Not available.
Solubility	insoluble in water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Kinematic: 26.74 mm^2/s (26.74 cSt) at 40°C Kinematic: 5.45 mm^2/s (5.45 cSt) at 100°C

Section 10. Stability and reactivity

Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Aspiration hazard

Name	Result
Distillates (petroleum), hydrotreated light	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Skin contact Defatting to the skin. May cause skin dryness and irritation.

Inhalation Vapor inhalation under ambient conditions is not normally a problem due to low vapor pressure.

Ingestion No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data.

Inhalation No specific data.

Skin contact Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects

General No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

No testing has been performed by the manufacturer.

Persistence and degradability

Partially biodegradable.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Section 12. Ecological information

Mobility in soil

Soil/water partition coefficient (K_{OC}) Not available.

Mobility Spillages may penetrate the soil causing ground water contamination.

Other ecological information Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	NA1993	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	COMBUSTIBLE LIQUIDS, N.O.S. (Distillates (petroleum), hydrotreated light)	-	-	-
Transport hazard class(es)	Combustible liquid.	-	-	-
Packing group	III	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials.	-	-	-

Special precautions for user Not available.

Section 14. Transport information

Transport in bulk according to Annex II of MARPOL and the IBC Code	Not available.

Section 15. Regulatory information

Other regulations

Australia inventory (AICS)	All components are listed or exempted.
Canada inventory	All components are listed or exempted.
China inventory (IECSC)	At least one component is not listed.
Japan inventory (ENCS)	At least one component is not listed.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI)	Not determined.
United States inventory (TSCA 8b)	All components are active or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.

Section 16. Other information

History

Date of issue/Date of revision	10/23/2019
Date of previous issue	02/10/2019.
Version	7.01
Prepared by	Product Stewardship
Key to abbreviations	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor CAS Number = Chemical Abstracts Service Registry Number GHS = Globally Harmonized System of Classification and Labelling of Chemicals HPR = Hazardous Products Regulations IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006] UN = United Nations Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1
References	Not available.

Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

STIHL CANADA MEDIUM BAR & CHAIN LUBRICANT

Packaged for Stihl Limited, 1515 Sise Road, Box 5666, London, ON N6A 4L6

Safety Data Sheet

Conforms to HCS 2012 (29 CFR 1910.1200)

Section 1. Identification

Product identifier

Product Name:	**STIHL CANADA MEDIUM BAR & CHAIN LUBRICANT**
Other names:	F-7410
Part/Product Number(s):	**7002-871-1247, 7002-871-0122, 1LM12M**
Material Use:	Bar and chain oil, lubricant
Uses advised against:	Not for internal engine use.
Manufacturer:	Omni Specialty Packaging, LLC 10399 Hwy 1 South Shreveport, LA 71115 1-318-524-1100
Issuing date:	May 8, 2015
Revision date:	April 27, 2021
Revision number:	4
Company contact:	OMNI EHS Department: E-Mail: sds@osp.cc; Contact phone: 318-524-1100 (Monday-Friday, 8:00 AM – 4:00 PM, CST)
In case of emergency:	CHEMTREC: Within USA and Canada: 1 (800) 424-9300 (24/7) CHEMTREC: Outside USA and Canada: +1 703-527-3887 (24/7

Section 2. Hazards Identification

OSHA/HCS Status:	This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).
GHS Classification of the Substance or Mixture:	Not classified

GHS Label Elements

Hazard pictograms:	None
Signal word:	None
Hazard statement:	None

Precautionary statements

General:	Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Prevention:	Not applicable
Response:	Not applicable
Storage:	Not applicable
Disposal:	Not applicable

Hazards not otherwise classified (HNOC): Defatting to the skin.

Section 3. Composition/Information on Ingredients

Petroleum mineral oil lubricant base stock with proprietary performance additives mixture.

Substance/Mixture: Mixture

Components Name	CAS number	Weight %*
Distillates, petroleum, hydrotreated heavy naphthenic	Various	95 – 100

This product does not contain known hazardous materials at the ≥ 1% level or known carcinogens at the ≥ 0.1% level as defined by 29 CFR 1910.1200.

* The exact percentage of composition has been withheld as a trade secret.

Section 4. First Aid Measures

Description of necessary first aid measures

General Advice: No specific first aid measures are required. Get medical attention if irritation develops and persists.

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation or allergic reaction develops and persists.

Inhalation: In case of inhalation of decomposition products in a fire, symptoms may be delayed. If inhaled, remove to fresh air. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if symptoms occur.

Ingestion: Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Most Important Symptoms and Effects: Personnel with pre-existing skin disorders should avoid contact with this product. Under normal use conditions, no adverse effects to health are known.

Eye contact: Not expected to cause prolonged or significant eye irritation.

Skin contact: Contact with skin is not expected to cause prolonged or significant irritation. Contact with skin is not expected to cause an allergic skin response.

Inhalation: Contains petroleum-based mineral oil. Inhalation of oil mist or vapors generated at elevated temperatures may cause respiratory irritation.

Ingestion: Accidental ingestion can result in minor irritation of the digestive tract, nausea, and diarrhea.

Note to physician: Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

Section 5. Fire-Fighting Measures

Uniform Fire Code: Class IIIB

Flash Point: >168.3°C (>335°F)

Extinguishing Media

Suitable Media: In case of fire, use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water fog, alcohol resistant foam, dry chemical, carbon dioxide (CO2) extinguisher or spray.

Unsuitable Media: CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical: This material may burn but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

Hazardous Combustion Products: Combustion products may include the following: Carbon dioxide (CO2) Carbon monoxide (CO), and Nitrogen oxides.

Protection of Fire Fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Keep unnecessary and unprotected personnel from entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8). Floors may be slippery; use care to avoid falling.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. Ensure adequate ventilation. See also the information in "For non-emergency personnel".

Environmental precautions: Avoid dispersal of spilled material onto soil or into waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). See Section 12 for ecological information.

Methods and materials for containment and cleaning up

Small Spills: Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large Spills: Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material (e.g. sand, earth, vermiculite or diatomaceous earth) and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures: Safety glasses with side shields. Eye protection and face shield should be used if material is used under conditions that increase the chances of splattering. Put on appropriate personal protective equipment (see Section 8). Keep out of reach of children.

Advice on general occupational hygiene: Do not get in eyes, on skin or on clothing. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas.
See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, Including any incompatibilities: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials, strong oxidizing agents (see Section 10) and food and drink. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static

electricity). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Use appropriate containment to avoid environmental contamination. Avoid contaminating soil or releases into sewage or drainage systems and bodies of water.

Section 8. Exposure Controls/Personal Protection

Control parameters

Occupational Exposure Limits

Chemical name	ACGIH		OSHA		NIOSH	
	TLV	STEL	PEL	STEL	TWA	Ceiling
Lubricant Base Oil (Petroleum) Highly refined mineral oils (C15-C50)	5 mg/m3 (mist)	10 mg/m3 (mist)	5 mg/m3 (mist)	–	–	–

Appropriate engineering controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Emergency shower and eyewash station.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Eye/Face Protection: Wear safety glasses with side shields. A face shield may be necessary under some conditions.

Skin and Body Protection

Hand protection: Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. Consult your supervisor or Standard Operating Procedure (SOP) for special handling instructions.

Body protection: No protective equipment is needed under normal use conditions. For non-routine tasks, personal protection equipment for the body should be selected based on the task being performed and the risks involved.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

Respiratory protection: No respiratory protection is normally required. Emergencies or conditions that could result in significant airborne exposures may require the use of NIOSH approved respiratory protection.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

Section 9. Physical and Chemical Properties

Appearance	**(Typical or Target)**
Physical State:	Liquid
Color:	Straw colored
Odor:	Petroleum like
Odor threshold:	Not available

pH:	Not applicable
Boiling Point:	Not available
Flash Point (Closed cup):	>168.3°C (>335°F) (Typical)
Evaporation rate (Butyl acetate = 1):	Not available
Flammability (solid, gas):	Not applicable. Based on - Physical state
Flammable) Limit in Air	Not available
Vapor pressure:	Not available
Vapor density (Air = 1):	>1
Specific Gravity (water = 1):	0.90 - 0.94 at 15°C (Typical)
Solubility:	In soluble in water
Partition coefficient (n-Octanol/water):	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity – Kinematic (cSt (mm2/s)@ 40°C):	65 – 173.5
Viscosity – Kinematic (cSt (mm2/s) @ 100°C):	8.3 – 12.4
VOC %:	0 %

Section 10. Stability and Reactivity

Reactivity:	Not reactive under normal storage conditions
Chemical stability:	Stable under normal storage conditions
Possibility of hazardous reactions:	None under normal processing.
Hazardous polymerization:	Hazardous polymerization does not occur.
Conditions to avoid:	Heat, flames and sparks.
Incompatible materials:	Oxidizing agents and open flames.
Hazardous decomposition products:	May include: Fumes, Oil vapors, Smoke, Carbon Oxides (including carbon monoxide and carbon dioxide), Aldehydes, Nitrogen oxides, and incomplete combustion products.

Section 11. Toxicological Information

Information on toxicological effects

Basis for Assessment: Information given is based on product data, a knowledge of the components and the toxicity of similar products.

Likely Routs of Exposure: Exposure may occur via skin absorption, skin or eye contact, inhalation, ingestion.

Substance/Mixture

Acute Toxicity	Oral LD50	Dermal LD50	Inhalation LC50
Distillates, petroleum, hydrotreated heavy naphthenic	>2000 mg/Kg (rat)	>2000 mg/Kg (rabbit)	>2.18 mg/L (rat) 4h (mist)

Aspiration hazard:	Not expected to be an aspiration hazard.
Skin Corrosion/Irritation:	No known significant effects or critical hazards.
Serious Eye Damage/Irritation:	No known significant effects or critical hazards.
Skin Sensitization:	No known significant effects or critical hazards.
Respiratory Sensitization:	No known significant effects or critical hazards.
Specific Target Organ Toxicity (Single Exposure) - STOT-SE:	No known significant effects or critical hazards.
Specific Target Organ Toxicity (Repeated Exposure) – STOT-RE:	No known significant effects or critical hazards.
Carcinogenicity:	No known significant effects or critical hazards.
Germ Cell Mutagenicity:	No known significant effects or critical hazards.
Reproductive Toxicity:	No known significant effects or critical hazards.

Information on Toxicity Effects of Compounds

Lubricant Base Mineral Oil (Petroleum)

Mineral oils are known to cause cancer because of carcinogenic components (e.g. Benzene). The lubricant base mineral oils in this product have been highly refined by a variety of processes including severe solvent extraction, severe hydro cracking or severe hydro treating to reduce aromatics and improve performance characteristics. The oils in this product meet the IP-346 criteria of less than 3 percent PHA's and are not considered to be a carcinogen by the International Agency for Research on Cancer.

Section 12. Ecological Information

The information is based on data available for the material, the components of the material, and similar materials.

Ecotoxicity: No testing has been performed by the manufacturer. Ecotoxicity hazard is based on an evaluation of data for the components or a similar material. Not expected to be harmful to aquatic organisms.

Mobility: Base oil component – Low solubility and floats on water and is expected to migrate from water to land. Expected to partition to sediment and wastewater solids.

Persistence and degradation
Biodegradation: The material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

Bioaccumulative potential
Bioaccumulation: This product is not expected to bioaccumulate through food chain in the environment.

Other adverse effects: No known significant effects or critical hazards.

Other ecological information: Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal Considerations

Disposal recommendations based on material supplied.

Waste treatment methods: This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). Consult the appropriate state, regional, or local regulations for additional requirements. The generation of waste should be avoided or minimized wherever possible.

Product waste: Significant quantities of waste product residues should not be disposed of via the sanitary sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Incineration or landfill should only be considered when recycling is not feasible. Oil collection services are available for used oil recycling.

Contaminated packaging: Empty containers or liners may retain some product residues and could pose a potential fire and explosion hazard. Do not cut, puncture, or weld containers.

Other information: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport Information

General information: Petroleum lubricating oil - Not regulated.

	DOT Classification	IMDG	IATA
Petroleum lubrication oil	Not Regulated	Not Regulated	Not Regulated

Special precautions for user: Transport within user's premises: Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an

accident or spillage.

Section 15. Regulatory Information

United States Regulations

United States Inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304: No products were found.

SARA 311/312:

Immediate (Acute) Health Effects:	No
Delayed (Chronic) Health Effects:	No
Fire Hazard:	No
Sudden Release of Pressure Hazard:	No
Reactivity Hazard:	No

SARA 313:

The following components of this material are found on the EPCRA 313 list:
None

Supplier notification: This product does not contain any hazardous ingredients at or above regulated thresholds.

CWA (Clean Water Act): This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA: This material, as supplied, does not contain any substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

State Regulations

Massachusetts:	None of the components are at or above regulated thresholds.
New Jersey:	None of the components are at or above regulated thresholds.
Pennsylvania:	None of the components are at or above regulated thresholds.
California Proposition 65:	This product does not contain any chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

NOTE: For additional information on California Proposition 65 go to www.P65Warnings.ca.gov.

Canada

WHMIS Hazard Class: Not classified. This Product Is Not Controlled Under WHMIS (Canada)

International Chemical Inventories:
All components comply with the following chemical inventory requirements: DSL (Canada)

Section 16. Other Information

NFPA Rating:	**Health Hazard – 0**	**Flammability – 1**	**Instability/Reactivity – 0**
HMIS Rating:	**Health Hazard – 0**	**Flammability – 1**	**Physical Hazards – 0**

(NFPA & HMIS Hazard Rating Key: 0 - Minimum Hazard; 1 - Slight Hazard; 2 - Moderate Hazard; 3 - High Hazard; 4 - Extreme Hazard; * - Chronic Hazard Indicator, & PPE - Personal Protective Equipment Index A to L. These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS or Hazardous Material Identification System).

Key to abbreviations:
ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

Prepared By: **OMNI Specialty Packaging EH&S Department**

Revision Date: **April 27, 2021**

Status: **Final**

Revision Note: **Revision 4. SDS Reviewed and updated.**

Disclaimer

All reasonably practicable steps have been taken to ensure the information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This information is furnished upon condition that the person receiving it shall make their own determination of the suitability of the material for their particular purpose.

End of Safety Data Sheet

Safety Data Sheet
California CARB Compliant

1 - Identification

Product Name: WD-40 Multi-Use Product Aerosol **Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion** **Restrictions on Use: None identified** **SDS Date Of Preparation: March 5, 2019**	**Manufacturer: WD-40 Company** **Address: 9715 Businesspark Avenue San Diego, California, USA 92131** **Telephone:** **Emergency: 1-888-324-7596** **Information: 1-888-324-7596** **Chemical Spills: 1-800-424-9300 (Chemtrec)** **1-703-527-3887 (International Calls)**

2 – Hazards Identification

Hazcom 2012/GHS Classification:
Flammable Aerosol Category 1
Gas Under Pressure: Compressed Gas
Aspiration Toxicity Category 1
Specific Target Organ Toxicity Single Exposure Category 3 (nervous system effects)

Note: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to industrial/professional products.

Label Elements:

DANGER!
Extremely Flammable Aerosol.
Contains gas under pressure; may explode if heated.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.

Prevention
Keep away from heat, sparks, open flames, hot surfaces. – No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Avoid breathing vapors or mists.
Use only outdoors or in a well-ventilated area.

Response
IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

Storage
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place.

Disposal
Dispose of contents and container in accordance with local and national regulations.

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent	US Hazcom 2012/ GHS Classification
LVP Aliphatic Hydrocarbon	64742-47-8	45-50%	Aspiration Toxicity Category 1
Petroleum Base Oil	64742-56-9 64742-65-0 64742-53-6 64742-54-7 64742-71-8	<35%	Not Hazardous
Aliphatic Hydrocarbon	64742-47-8	<25%	Flammable Liquid Category 3 Aspiration Toxicity Category 1 Specific Target Organ Toxicity Single Exposure Category 3 (nervous system effects)
Carbon Dioxide	124-38-9	2-3%	Simple Asphyxiant Gas Under Pressure, Compressed Gas

Note: The specific chemical identity and exact percentages are a trade secret.

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.
Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.
Signs and Symptoms of Exposure: Harmful or fatal if swallowed. Aspiration of liquid into the lungs during swallowing or vomiting may cause lung damage. May cause eye and respiratory irritation. Inhalation of mists or vapors may cause drowsiness, dizziness and other nervous system effects. Skin contact may cause drying of the skin.
Indication of Immediate Medical Attention/Special Treatment Needed: Immediate medical attention is needed for ingestion.

5 – Fire Fighting Measures

Suitable (and unsuitable) Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
Specific Hazards Arising from the Chemical: Extremely flammable aerosol. Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Combustion will produce oxides of carbon and hydrocarbons.
Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shielding to protect against bursting containers.

6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area.
Methods and Materials for Containment/Cleanup: Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use only with adequate ventilation. Keep away from heat, sparks, pilot lights, hot surfaces and open flames. Unplug electrical tools, motors and appliances before spraying or bringing the can near any source of electricity. Electricity can burn a hole in the can and cause contents to burst into flames. To avoid serious burn injury, do not let the can touch battery terminals, electrical connections on motors or appliances or any other source of electricity. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture, crush or incinerate containers, even when empty.

Conditions for Safe Storage: Store in a cool, well-ventilated area, away from incompatible materials. Do not store above 120°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol. Store away from oxidizers.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
LVP Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m3 TWA (Inhalable) ACGIH TLV (as Mineral oil) 5 mg/m3 TWA OSHA PEL (as Oil mist, mineral)
Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Carbon Dioxide	5000 ppm TWA, 30,000 ppm STEL ACGIH TLV 5000 ppm TWA OSHA PEL

The Following Controls are Recommended for Normal Consumer Use of this Product

Appropriate Engineering Controls: Use in a well-ventilated area.

Personal Protection:

Eye Protection: Avoid eye contact. Always spray away from your face.

Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.

Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended

Appropriate Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.

Personal Protection:

Eye Protection: Safety goggles recommended where eye contact is possible.

Skin Protection: Wear chemical resistant gloves.

Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Appearance:	Light amber liquid	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8%
Odor:	Mild petroleum odor	Vapor Pressure:	95-115 PSI @ 70°F
Odor Threshold:	Not established	Vapor Density:	Greater than 1 (air=1)
pH:	Not Applicable	Relative Density:	0.8 – 0.82 @ 60°F
Melting/Freezing Point:	Not established	Solubilities:	Insoluble in water
Boiling Point/Range:	361 - 369°F (183 - 187°C)	Partition Coefficient; n-octanol/water:	Not established
Flash Point:	138°F (59°C) Tag Closed Cup (liquid)	Autoignition Temperature:	Not established

Evaporation Rate:	Not established	Decomposition Temperature:	Not established
Flammability (solid, gas):	Flammable Aerosol	Viscosity:	2.79-2.96 cSt @ 100°F
VOC:	24.1% MIR=0.43gO3/gVOC	Pour Point:	-63°C (-81.4°F) ASTM D-97

10 – Stability and Reactivity

Reactivity: Not reactive under normal conditions
Chemical Stability: Stable
Possibility of Hazardous Reactions: May react with strong oxidizers generating heat.
Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition. Do not puncture or incinerate containers.
Incompatible Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

Symptoms of Overexposure:
Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.
Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.
Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Chronic Effects: None expected.
Carcinogen Status: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP, ACGIH or OSHA.
Reproductive Toxicity: None of the components is considered a reproductive hazard.
Numerical Measures of Toxicity:
Acute Toxicity Estimates: Oral > 5,000 mg/kg; Dermal >2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

12 – Ecological Information

Ecotoxicity: No specific aquatic toxicity data is currently available; however components of this product are not expected to be harmful to aquatic organisms
Persistence and Degradability: Components are readily biodegradable.
Bioaccumulative Potential: Bioaccumulation is not expected based on an assessment of the ingredients.
Mobility in Soil: No data available
Other Adverse Effects: None known

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Do not puncture or incinerate containers, even empty. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information

DOT Surface Shipping Description: UN1950, Aerosols, 2.1 Ltd. Qty
(Note: Shipping Papers are not required for Limited Quantities unless transported by air or vessel – each package must be marked with the Limited Quantity Mark)
IMDG Shipping Description: UN1950, Aerosols, 2.1, LTD QTY
ICAO Shipping Description: UN1950, Aerosols, flammable, 2.1

NOTE: WD-40 Company does not test aerosol cans to assure that they meet the pressure and other requirements for transport by air. We do not recommend that our aerosol products be transported by air.

15 – Regulatory Information

U.S. Federal Regulations:
CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
SARA TITLE III:
Hazard Category For Section 311/312: Acute Health, Fire Hazard, Sudden Release of Pressure
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None
EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not require a California Proposition 65 warning.
VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.
Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian Domestic Substances List or exempt from notification

16 – Other Information

HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Physical Hazard – 0 (minimal hazard)

Revision Date: March 5, 2019 Supersedes: July 19, 2018

Revision Summary: Section 9 update VOC data

Prepared by: Industrial Health & Safety Consultants, Inc. Shelton, CT, USA

Reviewed by: I. Kowalski Regulatory Affairs Dept.

1012200/No.0084704

Safety Data Sheet

1 - Identification

Product Name: WD-40 Specialist Rust Release Penetrant Spray **Product Use: Cleaner, Lubricant** **Restrictions on Use: None identified** **SDS Date Of Preparation: July 19, 2018**	**Manufacturer: WD-40 Company** **Address: 9715 Businesspark Avenue San Diego, California, USA 92131** **Telephone:** **Emergency: 1-888-324-7596** **Information: 1-888-324-7596** **Chemical Spills: 1-800-424-9300 (Chemtrec)** **1-703-527-3887 (International Calls)**

2 – Hazards Identification

Hazcom 2012/GHS Classification:
Flammable Aerosol Category 1
Gas Under Pressure: Compressed Gas
Aspiration Toxicity Category 1

Note: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to industrial/professional products.

Label Elements:

DANGER!
Extremely Flammable Aerosol.
Contains gas under pressure; may explode if heated.
May be fatal if swallowed and enters airways.
Prevention
Keep away from heat, sparks, open flames, hot surfaces – No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Response
IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
Storage
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place.
Disposal
Dispose of contents and container in accordance with local and national regulations.

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent	US Hazcom 2012/ GHS Classification
LVP Petroleum Solvent	64742-47-8	50-70	Aspiration Toxicity Category 1
Petroleum Solvent	64742-47-8	20-40	Flammable Liquid Category 3 Aspiration Toxicity Category 1

Petroleum Base Oil	Mixture	<10	Not Hazardous
Carbon Dioxide	124-38-9	2-3	Simple Asphyxiant Gas Under Pressure, Compressed Gas

Note: The exact percentages are a trade secret.

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.
Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.
Signs and Symptoms of Exposure: Harmful or fatal is swallowed. If swallowed, may be aspirated and cause lung damage. May cause mild eye, skin and respiratory tract irritation.
Indication of Immediate Medical Attention/Special Treatment Needed: Immediate medical attention is needed for ingestion.

5 – Fire Fighting Measures

Suitable (and unsuitable) Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
Specific Hazards Arising from the Chemical: Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. A vapor and air mixture can create an explosion hazard in confined spaces. Combustion will produce oxides of carbon oxides, nitrogen and sulfur, smoke fumes, and unburned hydrocarbons.
Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shielding to protect against bursting containers.

6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area.
Methods and Materials for Containment/Cleanup: Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use only with adequate ventilation. Keep away from heat, sparks, pilot lights, hot surfaces and open flames. Unplug electrical tools, motors and appliances before spraying or bringing the can near any source of electricity. Electricity can burn a hole in the can and cause contents to burst into flames. To avoid serious burn injury, do not let the can touch battery terminals, electrical connections on motors or appliances or any other source of electricity. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture, crush or incinerate containers, even when empty.
Conditions for Safe Storage: Store in a cool, well-ventilated area, away from incompatible materials Do not store above 120°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol. Store away from oxidizers.

8 – Exposure Controls/Personal Protection

Chemical	**Occupational Exposure Limits**
LVP Petroleum Solvent	1200 mg/m3 TWA (manufacturer recommended)
Petroleum Solvent	1200 mg/m3 TWA (manufacturer recommended)

Petroleum Base Oil	5 mg/m3 TWA, 10 mg/m3 STEL ACGIH TLV 5 mg/m3 TWA OSHA PEL
Carbon Dioxide	5000 ppm TWA (OSHA/ACGIH), 30,000 ppm STEL (ACGIH)

The Following Controls are Recommended for Normal Consumer Use of this Product
Appropriate Engineering Controls: Use in a well-ventilated area.
Personal Protection:
Eye Protection: Avoid eye contact. Always spray away from your face.
Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended
Appropriate Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.
Personal Protection:
Eye Protection: Safety goggles recommended where eye contact is possible.
Skin Protection: Wear chemical resistant gloves.
Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.
Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Appearance:	Clear liquid	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 5.6%
Odor:	Pleasant odor	Vapor Pressure:	2.03 mmHg @20°C (Petroleum Solvent)
Odor Threshold:	Not established	Vapor Density:	5.3 (Petroleum Solvent)
pH:	Not Applicable	Relative Density:	Not determined
Melting/Freezing Point	Not established	Solubilities:	Insoluble in water
Boiling Point/Range:	221°C (430°F)	Partition Coefficient; n-octanol/water:	Not established
Flash Point:	64°C (147°F) (CC ASTM D3828) (concentrate)	Autoignition Temperature:	Not established
Evaporation Rate:	Not established	Decomposition Temperature:	Not established
Flammability (solid, gas)	Flammable Aerosol	Viscosity:	Not established
VOC:	24.51%	Pour Point:	Not established

10 – Stability and Reactivity

Reactivity: Not reactive under normal conditions
Chemical Stability: Stable
Possibility of Hazardous Reactions: May react with strong oxidizers generating heat.
Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition. Do not puncture or incinerate containers.
Incompatible Materials: Strong acids, alkalis, and oxidizers.
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide, oxides of nitrogen and sulfur, smoke fumes, and unburned hydrocarbons.

11 – Toxicological Information

Symptoms of Overexposure:
Inhalation: Mist or vapor can irritate the throat and lungs. High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.
Skin Contact: May cause skin irritation with short-term exposure with redness, itching and burning of the skin. Prolonged and/or repeated contact may produce defatting and possible dermatitis.
Eye Contact: Contact may be irritating to eyes. May cause redness, stinging, swelling and tearing.
Ingestion: This product has low oral toxicity. If swallowed, this material may cause irritation of the mouth, throat and esophagus. Swallowing may cause gastrointestinal irritation, nausea, vomiting, diarrhea, dizziness, drowsiness and other central nervous system effects. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Chronic Effects: None known.
Carcinogen Status: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP, ACGIH or OSHA.
Reproductive Toxicity: None of the components is considered a reproductive hazard.

Numerical Measures of Toxicity:
The oral toxicity of this product is estimated to be greater than 5,000 mg/kg and the dermal toxicity greater than 2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

12 – Ecological Information

Ecotoxicity: Petroleum Solvent: 96 hr LC50 Fathead minnows – 45 mg/L (flow through)
LVP Petroleum Solvent: No ecotoxicity data available. Not expected to be harmful to aquatic organisms.
Petroleum Base Oil: 96 hr LC50 Rainbow trout - >5000 mg/L
This product is classified as harmful to aquatic life. Releases to the environment should be avoided
Persistence and Degradability: No data available.
Bioaccumulative Potential: No data available.
Mobility in Soil: No data available
Other Adverse Effects: None known

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Do not puncture or incinerate containers, even empty. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information_

DOT Surface Shipping Description:
UN1950, Aerosols, 2.1 Ltd. Qty (Note: Shipping Papers are not required for Limited Quantities unless transported by air or vessel – each package must be marked with the Limited Quantity Mark)
IMDG Shipping Description: Un1950, Aerosols, 2.1, LTD QTY
ICAO Shipping Description: UN1950, Aerosols, flammable, 2.1 NOTE: WD-40 does not test aerosol cans to assure that they meet the pressure and other requirements for transport by air. We do not recommend that our aerosol products be transported by air.

15 – Regulatory Information

U.S. Federal Regulations:
CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many

states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
SARA TITLE III:
Hazard Category For Section 311/312: Acute Health, Fire Hazard, Sudden Release of Pressure
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None
EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.
VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not require a California Proposition 65 warning.
Canadian Environmental Protection Act: Two of the components are listed on the NDSL. All of the other ingredients are listed on the Canadian Domestic Substances List or exempt from notification.
Canadian WHMIS Classification: Class A (Compressed Gas), Class B-5 (Flammable Aerosol), Class D-2-B (Toxic material causing other toxic effects)

This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

16 – Other Information:

HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Reactivity – 0 (minimal hazard)

Revision Date: July 19, 2018 Supersedes: July 17, 2014

Revision Summary: Address and telephone number update in Section 1.

Prepared by: Industrial Health & Safety Consultants, Inc. Shelton, CT, USA
Reviewed By: I. Kowalski Regulatory Affairs Manager

3012100/No.0040804

Safety Data Sheet

1 - Identification

Product Name: WD-40 Specialist Rust Release Penetrant Spray **Product Use: Cleaner, Lubricant** **Restrictions on Use: None identified** **SDS Date Of Preparation: July 19, 2018**	**Manufacturer: WD-40 Company** **Address: 9715 Businesspark Avenue San Diego, California, USA 92131** **Telephone:** **Emergency: 1-888-324-7596** **Information: 1-888-324-7596** **Chemical Spills: 1-800-424-9300 (Chemtrec)** **1-703-527-3887 (International Calls)**

2 – Hazards Identification

Hazcom 2012/GHS Classification:
Flammable Aerosol Category 1
Gas Under Pressure: Compressed Gas
Aspiration Toxicity Category 1

Note: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to industrial/professional products.

Label Elements:

DANGER!
Extremely Flammable Aerosol.
Contains gas under pressure; may explode if heated.
May be fatal if swallowed and enters airways.
Prevention
Keep away from heat, sparks, open flames, hot surfaces – No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Response
IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
Storage
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place.
Disposal
Dispose of contents and container in accordance with local and national regulations.

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent	US Hazcom 2012/ GHS Classification
LVP Petroleum Solvent	64742-47-8	50-70	Aspiration Toxicity Category 1
Petroleum Solvent	64742-47-8	20-40	Flammable Liquid Category 3 Aspiration Toxicity Category 1

Petroleum Base Oil	Mixture	<10	Not Hazardous
Carbon Dioxide	124-38-9	2-3	Simple Asphyxiant Gas Under Pressure, Compressed Gas

Note: The exact percentages are a trade secret.

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.
Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.
Signs and Symptoms of Exposure: Harmful or fatal is swallowed. If swallowed, may be aspirated and cause lung damage. May cause mild eye, skin and respiratory tract irritation.
Indication of Immediate Medical Attention/Special Treatment Needed: Immediate medical attention is needed for ingestion.

5 – Fire Fighting Measures

Suitable (and unsuitable) Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
Specific Hazards Arising from the Chemical: Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. A vapor and air mixture can create an explosion hazard in confined spaces. Combustion will produce oxides of carbon oxides, nitrogen and sulfur, smoke fumes, and unburned hydrocarbons.
Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shielding to protect against bursting containers.

6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area.
Methods and Materials for Containment/Cleanup: Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use only with adequate ventilation. Keep away from heat, sparks, pilot lights, hot surfaces and open flames. Unplug electrical tools, motors and appliances before spraying or bringing the can near any source of electricity. Electricity can burn a hole in the can and cause contents to burst into flames. To avoid serious burn injury, do not let the can touch battery terminals, electrical connections on motors or appliances or any other source of electricity. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture, crush or incinerate containers, even when empty.
Conditions for Safe Storage: Store in a cool, well-ventilated area, away from incompatible materials Do not store above 120°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol. Store away from oxidizers.

8 – Exposure Controls/Personal Protection

Chemical	**Occupational Exposure Limits**
LVP Petroleum Solvent	1200 mg/m3 TWA (manufacturer recommended)
Petroleum Solvent	1200 mg/m3 TWA (manufacturer recommended)

Petroleum Base Oil	5 mg/m3 TWA, 10 mg/m3 STEL ACGIH TLV 5 mg/m3 TWA OSHA PEL
Carbon Dioxide	5000 ppm TWA (OSHA/ACGIH), 30,000 ppm STEL (ACGIH)

The Following Controls are Recommended for Normal Consumer Use of this Product
Appropriate Engineering Controls: Use in a well-ventilated area.
Personal Protection:
Eye Protection: Avoid eye contact. Always spray away from your face.
Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended
Appropriate Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.
Personal Protection:
Eye Protection: Safety goggles recommended where eye contact is possible.
Skin Protection: Wear chemical resistant gloves.
Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.
Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Appearance:	Clear liquid	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 5.6%
Odor:	Pleasant odor	Vapor Pressure:	2.03 mmHg @20°C (Petroleum Solvent)
Odor Threshold:	Not established	Vapor Density:	5.3 (Petroleum Solvent)
pH:	Not Applicable	Relative Density:	Not determined
Melting/Freezing Point	Not established	Solubilities:	Insoluble in water
Boiling Point/Range:	221°C (430°F)	Partition Coefficient; n-octanol/water:	Not established
Flash Point:	64°C (147°F) (CC ASTM D3828) (concentrate)	Autoignition Temperature:	Not established
Evaporation Rate:	Not established	Decomposition Temperature:	Not established
Flammability (solid, gas)	Flammable Aerosol	Viscosity:	Not established
VOC:	24.51%	Pour Point:	Not established

10 – Stability and Reactivity

Reactivity: Not reactive under normal conditions
Chemical Stability: Stable
Possibility of Hazardous Reactions: May react with strong oxidizers generating heat.
Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition. Do not puncture or incinerate containers.
Incompatible Materials: Strong acids, alkalis, and oxidizers.
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide, oxides of nitrogen and sulfur, smoke fumes, and unburned hydrocarbons.

11 – Toxicological Information

Symptoms of Overexposure:
Inhalation: Mist or vapor can irritate the throat and lungs. High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.
Skin Contact: May cause skin irritation with short-term exposure with redness, itching and burning of the skin. Prolonged and/or repeated contact may produce defatting and possible dermatitis.
Eye Contact: Contact may be irritating to eyes. May cause redness, stinging, swelling and tearing.
Ingestion: This product has low oral toxicity. If swallowed, this material may cause irritation of the mouth, throat and esophagus. Swallowing may cause gastrointestinal irritation, nausea, vomiting, diarrhea, dizziness, drowsiness and other central nervous system effects. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Chronic Effects: None known.
Carcinogen Status: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP, ACGIH or OSHA.
Reproductive Toxicity: None of the components is considered a reproductive hazard.

Numerical Measures of Toxicity:
The oral toxicity of this product is estimated to be greater than 5,000 mg/kg and the dermal toxicity greater than 2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

12 – Ecological Information

Ecotoxicity: Petroleum Solvent: 96 hr LC50 Fathead minnows – 45 mg/L (flow through)
LVP Petroleum Solvent: No ecotoxicity data available. Not expected to be harmful to aquatic organisms.
Petroleum Base Oil: 96 hr LC50 Rainbow trout - >5000 mg/L
This product is classified as harmful to aquatic life. Releases to the environment should be avoided
Persistence and Degradability: No data available.
Bioaccumulative Potential: No data available.
Mobility in Soil: No data available
Other Adverse Effects: None known

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Do not puncture or incinerate containers, even empty. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information_

DOT Surface Shipping Description:
UN1950, Aerosols, 2.1 Ltd. Qty (Note: Shipping Papers are not required for Limited Quantities unless transported by air or vessel – each package must be marked with the Limited Quantity Mark)
IMDG Shipping Description: Un1950, Aerosols, 2.1, LTD QTY
ICAO Shipping Description: UN1950, Aerosols, flammable, 2.1 NOTE: WD-40 does not test aerosol cans to assure that they meet the pressure and other requirements for transport by air. We do not recommend that our aerosol products be transported by air.

15 – Regulatory Information

U.S. Federal Regulations:
CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many

states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
SARA TITLE III:
Hazard Category For Section 311/312: Acute Health, Fire Hazard, Sudden Release of Pressure
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None
EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.
VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not require a California Proposition 65 warning.
Canadian Environmental Protection Act: Two of the components are listed on the NDSL. All of the other ingredients are listed on the Canadian Domestic Substances List or exempt from notification.
Canadian WHMIS Classification: Class A (Compressed Gas), Class B-5 (Flammable Aerosol), Class D-2-B (Toxic material causing other toxic effects)

This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

16 – Other Information:

HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Reactivity – 0 (minimal hazard)

Revision Date: July 19, 2018 Supersedes: July 17, 2014

Revision Summary: Address and telephone number update in Section 1.

Prepared by: Industrial Health & Safety Consultants, Inc. Shelton, CT, USA
Reviewed By: I. Kowalski Regulatory Affairs Manager

3012100/No.0040804

STIHL HP ULTRA 2-CYCLE ENGINE OIL

Packaged for STIHL Limited, 1515 Sise Road, Box 5666, London, ON N6A 4L6

Safety Data Sheet

Conforms to HCS 2012 (29 CFR 1910.1200)

Section 1. Identification

Product identifier

Product Name: **STIHL HP ULTRA 2-CYCLE ENGINE OIL**

Other names: F-201/F-2020, Stihl High Performance Ultra "Fully Synthetic" Engine Oil

Part/Product Number(s): 700-287-11268

Material Use: 2-cycle engine fuel additive

Uses advised against: Not for use in non-2-cycle engines

Manufacturer: Omni Specialty Packaging, LLC
10399 Hwy 1 South
Shreveport, LA 71115
1-318-524-1100

Issuing date: May 21, 2015

Revision date: June 21, 2021

Revision number: 6

Company contact: OMNI EHS Department: E-Mail: sds@osp.cc; Contact phone: 318-524-1100
(Monday-Friday, 8:00 AM – 4:00 PM, CST)

In case of emergency: CHEMTREC: Within USA and Canada: 1 (800) 424-9300 (24/7)
CHEMTREC: Outside USA and Canada: +1 703-527-3887 (24/7)

Section 2. Hazards Identification

OSHA/HCS Status: This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the Substance or Mixture: Not classified

GHS Label Elements

Hazard pictograms:

Signal word: None

Hazard statement: None

Precautionary statements

General: Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention: Not applicable

Response: Not applicable

Storage: Not applicable

Disposal: Not applicable

Hazards not otherwise classified (HNOC): Defatting to the skin.

Other information: Product diluted with gasoline must be handled with the same precautions used for gasoline. Before mixing, the Safety Data Sheet for gasoline should be consulted for any precautionary measures necessary.

Section 3. Composition/Information on Ingredients

Petroleum mineral oil lubricant base stock with proprietary performance additives mixture.

Substance/Mixture: Mixture

Components Name	CAS number	Weight %*
Base Oil: Trimethylolpropane Complex Ester	Various	80 – 100
2-Cycle Engine Oil Additives Mixture	Proprietary	0 – 20

This product does not contain known hazardous materials at the ≥ 1% level or known carcinogens at the ≥ 0.1% level as defined by 29 CFR 1910.1200.

* The exact percentage of composition has been withheld as a trade secret.

Section 4. First Aid Measures

Description of necessary first aid measures

General Advice: No specific first aid measures are required. Get medical attention if irritation develops and persists.

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention if irritation develops and persists.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation or allergic reaction develops and persists.

Inhalation: In case of inhalation of decomposition products in a fire, symptoms may be delayed. If inhaled, remove to fresh air. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if symptoms occur.

Ingestion: Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Most Important Symptoms and Effects: Personnel with pre-existing skin disorders should avoid contact with this product. Under normal use conditions, no adverse effects to health are known.

Eye contact: Not expected to cause prolonged or significant eye irritation.

Skin contact: Contact with skin is not expected to cause prolonged or significant irritation. Contact with skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Inhalation: Not expected to be harmful if inhaled. Contains petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficult breathing.

Ingestion: Not expected to be harmful if swallowed.

Note to physician: Treat symptomatically.

Section 5. Fire-Fighting Measures

Uniform Fire Code: Class IIIB

Flash Point: 220°C (428°F)

Extinguishing Media

Suitable Media: In case of fire, use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water fog, alcohol resistant foam, dry chemical, carbon dioxide (CO2) extinguisher or spray.

Unsuitable Media: CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical: Keep product and empty container away from heat and sources of ignition as product will burn. Contact with strong oxidizers may cause fire. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be contained, prevented from being discharged to any waterway, sewer or drain and disposed of in accordance with local regulations.

Hazardous Combustion Products: Combustion products may include the following: Carbon dioxide (CO2) Carbon monoxide (CO), and Nitrogen oxides.

Protection of Fire Fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. See also the information in "For non-emergency personnel".

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). See Section 12 for ecological information.

Methods and materials for containment and cleaning up

Small Spills: Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large Spills: Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non- combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

NOTE: If RQ (Reportable Quantity) is exceeded or if spills enter a body of water, report immediately to the USEPA's National Response Center at (800) 424-8802. Check with your local and state regulators regarding their reporting requirements.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures: Eye protection and face shield should be used if material is used under conditions that increase the chances of splattering. Put on appropriate personal protective equipment (see Section 8). Keep out of reach of children.

NOTE: Product diluted with gasoline must be handled with the same precautions used for gasoline. Before mixing, the Safety Data Sheet for gasoline should be consulted for any precautionary measures necessary.

Advice on general occupational hygiene: Do not get in eyes, on skin or on clothing. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas.
See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, Including any incompatibilities: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials, strong oxidizing agents (see Section 10) and food and drink. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Use appropriate containment to avoid environmental contamination. Avoid contaminating soil or releases into sewage or drainage systems and bodies of water.

Section 8. Exposure Controls/Personal Protection

Control parameters

Occupational Exposure Limits

Chemical name	ACGIH		OSHA		NIOSH	
	TLV	STEL	PEL	STEL	TWA	Ceiling
Base Oil: Trimethylolpropane Complex Ester	-	-	-	-	-	-

Appropriate engineering controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Emergency shower and eyewash station.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/Face Protection: Wear safety glasses with side shields. A face shield may be necessary under some conditions.

Skin and Body Protection

Hand protection: Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. Consult your supervisor or Standard Operating Procedure (SOP) for special handling instructions.

Body protection: No protective equipment is needed under normal use conditions. For non-routine tasks, personal protection equipment for the body should be selected based on the task being performed and the risks involved.

Other skin protection:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.
Respiratory protection:	No respiratory protection is normally required. If user operation generates an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from measured concentrations of this material. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Section 9. Physical and Chemical Properties

Appearance	**(Typical or Target)**
Physical State:	Liquid
Color:	Green
Odor:	Petroleum distillates
Odor threshold:	Not available
pH:	Not applicable
Boiling Point:	Not available
Flash Point (Closed cup):	220°C (428°F) (Typical or Target)
Pour Point:	-39°C (-38.2°F) (Typical or Target)
Evaporation rate (Butyl acetate = 1):	Not available
Flammability (solid, gas):	Not applicable. Based on - Physical state
Flammable) Limit in Air	Not available
Vapor pressure:	Not available
Vapor density (Air = 1):	>1
Specific gravity (Water = 1):	0.93 - 0.94
Solubility:	In soluble in water
Partition coefficient (n-Octanol/water):	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity – Kinematic (cSt (mm2/s)@ 40°C):	46.0 to 52.0
Viscosity – Kinematic (cSt (mm2/s) @ 100°C):	7.9 to 8.9
VOC %:	<0.026%

Section 10. Stability and Reactivity

Reactivity:	Not reactive under normal storage conditions
Chemical stability:	Stable under normal storage conditions
Possibility of hazardous reactions:	None under normal processing.
Hazardous polymerization:	Hazardous polymerization does not occur.
Conditions to avoid:	Heat, flames and sparks.
Incompatible materials:	Oxidizing agents, Halogens, Halogenated compounds
Hazardous decomposition products:	May include: Fumes, Oil vapors, Smoke, Carbon Oxides (including carbon monoxide and carbon dioxide), Aldehydes, Nitrogen oxides, and incomplete combustion products.

Section 11. Toxicological Information

Information on toxicological effects

Basis for Assessment:	Information given is based on product data, a knowledge of the components and the toxicity of similar products.
Likely Routs of Exposure:	Exposure may occur via skin absorption, skin or eye contact, inhalation, ingestion.
Substance/Mixture	
Aspiration hazard:	Not expected to be an aspiration hazard.
Skin Corrosion/Irritation:	No known significant effects or critical hazards.

Serious Eye Damage/Irritation: No known significant effects or critical hazards.

Skin Sensitization: No known significant effects or critical hazards.

Respiratory Sensitization: No known significant effects or critical hazards.

Specific Target Organ Toxicity (Single Exposure) - STOT-SE: No known significant effects or critical hazards.

Specific Target Organ Toxicity (Repeated Exposure) – STOT-RE: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Germ Cell Mutagenicity: No known significant effects or critical hazards.

Reproductive Toxicity: No known significant effects or critical hazards.

Information on Toxicity Effects of Compounds

Lubricant Base Mineral Oil (Petroleum)

Mineral oils are known to cause cancer because of carcinogenic components (e.g. Benzene). The lubricant base mineral oils in this product have been highly refined by a variety of processes including severe solvent extraction, severe hydro cracking or severe hydro treating to reduce aromatics and improve performance characteristics. The oils in this product meet the IP-346 criteria of less than 3 percent PHA's and are not considered to be a carcinogen by the International Agency for Research on Cancer.

None of the oils in this product require a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IRAC) as: carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

2-Cycle engine oils mix with gasoline:

2-cycle engine oils diluted with gasoline must be handled with the same precautions used for gasoline. Before mixing, the Safety Data Sheet for gasoline should be consulted for any precautionary measures necessary.

Section 12. Ecological Information

The information is based on data available for the material, the components of the material, and similar materials.

Ecotoxicity: No testing has been performed by the manufacturer. Ecotoxicity hazard is based on an evaluation of data for the components or a similar material. Not expected to be harmful to aquatic organisms.

Mobility: Base oil component – Low solubility and floats and is expected to migrate from water to land. Expected to partition to sediment and wastewater solids.

Soil/water partition coefficient (K_{OC}): Not available.

Persistence and degradation

Biodegradation: The material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

Bioaccumulative potential

Bioaccumulation: This product is not expected to bioaccumulate through food chain in the environment.

Other adverse effects: No known significant effects or critical hazards.

Other ecological information: Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal Considerations

Disposal recommendations based on material supplied.

Waste treatment methods: This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). Consult the appropriate state, regional, or local regulations for additional requirements. The generation of waste should be avoided or minimized wherever possible.

Product waste: Significant quantities of waste product residues should not be disposed of via the sanitary sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Incineration or landfill should only be considered when recycling is not feasible. Oil collection services are available for used oil recycling.

Contaminated packaging: Empty containers or liners may retain some product residues and could pose a potential fire and explosion hazard. Do not cut, puncture, or weld containers.

Other information: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport Information

General information: Petroleum lubricating oil - Not regulated.

	DOT Classification	IMDG	IATA
Stihl HP ULTRA	Not Regulated	Not Regulated	Not Regulated

Special precautions for user: Transport within user's premises: Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory Information

United States Regulations

United States Inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304: No products were found.

SARA 311/312:

Immediate (Acute) Health Effects:	Yes
Delayed (Chronic) Health Effects:	No
Fire Hazard:	No
Sudden Release of Pressure Hazard:	No
Reactivity Hazard:	No

SARA 313:

The following components of this material are found on the EPCRA 313 list:
None

Supplier notification: This product does not contain any hazardous ingredients at or above regulated thresholds.

CWA (Clean Water Act): This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA: This material, as supplied, does not contain any substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

State Regulations

Massachusetts: None of the components are at or above regulated thresholds.
New Jersey: None of the components are at or above regulated thresholds.
Pennsylvania: None of the components are at or above regulated thresholds.

California Proposition 65:

⚠ WARNING: This product can expose you to chemical(s): Ethyl benzene (0.008% by Wt.), which are known to the State of California to cause cancer.

NOTE: For additional information on California Proposition 65 go to www.P65Warnings.ca.gov.

Canada

WHMIS Hazard Class: Not regulated.

International Chemical Inventories:

All components comply with the following chemical inventory requirements: DSL (Canada)

Section 16. Other Information

NFPA Rating:	**Health Hazard – 0**	**Flammability – 1**	**Instability/Reactivity – 0**
HMIS Rating:	**Health Hazard – 0**	**Flammability – 1**	**Physical Hazards – 0**

(NFPA & HMIS Hazard Rating Key: 0 - Minimum Hazard; 1 - Slight Hazard; 2 - Moderate Hazard; 3 - High Hazard; 4 - Extreme Hazard; ***** - Chronic Hazard Indicator, & PPE - Personal Protective Equipment Index A to L. These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS or Hazardous Material Identification System).

Key to abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

Prepared By: **OMNI Specialty Packaging EH&S Department**

Revision Date: **June 21, 2021**

Status: **Final**

Revision Note: **Revision 6 – Review and update.**

Disclaimer

All reasonably practicable steps have been taken to ensure the information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This information is furnished upon condition that the person receiving it shall make their own determination of the suitability of the material for their particular purpose.

End of Safety Data Sheet

MATERIAL SAFETY DATA SHEET

NON CITRUS SKI BASE CLEANER

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: TECHNICHEM CORP
ONE N MAPLE GROVE ROAD
PO BOX 7927
BOISE, ID 83707-1927

INFORMATION PHONE: 208.375.7200
EMERGENCY PHONE: 208.375.7200

HMIS INFORMATION **HEALTH:** 1 **FLAMMABILITY:** 2 **REACTIVITY:** 0 **PROTECTIVE:** B

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: NON CITRUS SKI BASE CLEANER

PRODUCT NUMBER:
UPC NUMBER:
PREPARED BY BRIAN RENCHER
DATE PREPARED: 1/11/2007
LAST REVISION: 8/7/2003
SYNONYMS: WINTERSTEIGER

DOT CLASS: Combustible Liquid N.O.S.
UN NUMBER: NA 1993
PACKING: III
GUIDE NUMBER: 3
SHIPPING NAME: CLEANING COMPOUND

SECTION II - HAZARDOUS INGREDIENTS

Chemical Name	CAS #	OSHA PEL	ACGIH TLV	Weight %
NAPHTHA	8030-30-6	100 ppm(400 mg/m3 /15Mmg/M3)	100ppm	>90%

SECTION III - PHYSCIAL CHARACTERISTICS

BOILING POINT: 320 F
VAPOR PRESSURE: N/A
EVAPORATION: N/A
POUNDS PER GALLON: 7.45

SPECIFIC GRAVITY: .89
MELTING POINT: -50 F
VAPOR DENSITY: Lighter Than Air

SOLUABILITY IN WATER: Not soluble in most cases

APPEARANCE AND ODOR: Clear, colorless liquid with vanilla/naphtha odor

SECTION IV - FIRE/EXPLOSION

FLASH POINT: 115 F **FLASH POINT METHOD USED** Open Cup

LEL: 1 **UEL:** 6.1

EXTINGUISHING MEDIA:

Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

SPECIAL FIRE FIGHTING PROCEDURES

Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece in positive pressure mode. Move containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool.

UNUSUAL FIRE AND EXPLOSION HAZARDS

When heated above the flash point this material emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mist or spray may be flammable at temperatures below the flash point.

SECTION V - REACTIVITY DATA

STABLE:

Stable

INCOMPATIBILITY:

None Reported.

HAZARDOUS DECOMPOSITION OR BY PRODUCTS

None

HAZARDOUS POLYMERIZATION:

Will Not Occur

SECTION VI - HEALTH HAZARD DATA

ACUTE HEALTH EFFECTS

EYE CONTACT:	Can cause severe eye irritation
INHALATION:	May cause headaches and dizziness.
INGESTION:	No hazard in normal industrial use.
SKIN CONTACT:	Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

SIGNS AND SYMPOTOMS OF EXPOSURE

N/A

AGGRAVATED MEDICAL CONDITIONS:

N/A

SUPPLEMENTAL HEALTH INFORMATION

N/A

EMERGENCY FIRST AID PROCEDURES

EYE CONTACT: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

INGESTION: If swallowed, do NOT induce vomitting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SKIN CONTACT: Wash with soap and water. Get medical attention if irritation develops or persists.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED OR RELEASED

Small spills: Mop up, wipe up or soak up immediately. Remove to out of doors. Large spills: Evacuate area. Contain liquid; transfer to closed metal containers. Keep out of water supply.

WASTE DISPOSAL METHOD:

N/A

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and flame.

OTHER PRECAUTIONS:

Empty containers retain product residue and can be dangerous. Do not pressurize, cut weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks static electricity, or other sources of ignition.

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION:

Wear a NIOSH/MSHA-approved (or equivalent) full facepiece airline respirator in the positive pressure mode with emergency escape provisions.

VENTILATION:

Provide exhaust ventilation sufficient to keep the airborne concentration of this product below its exposure limits. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination

PROTECTIVE GLOVES:

Nitrile gloves are recommended.

EYE PROTECTION:

Safety glasses with side shields (or goggles) and a face shield.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT

N/A

WORK / HYGENIC PRACTICES

Use good personal hygiene when handling this product. Wash hands after use, before smoking, or using the toilet.