

# Montana X-Treme Copper Killer

Western Powders, Inc.

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Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

## Section 1 - Identification of the Mixture and of the Company

**Product Name:** Montana X-Treme Copper Killer

**Trade Names and Synonyms:** 50 B.M.G. Special Formula, Copper Remover

### **Relevant Identified Uses**

Consumer product, proprietary liquid mixtures of ammoniated hydrocarbon oils and specialized active cleaning solvents. Packaged in 2, 6 and 20 ounce epoxy-lined aluminum bottles, these specialized gun cleaning products are intended solely for use by adult persons experienced in the cleaning and maintenance of firearms.

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## Section 2 - HAZARD IDENTIFICATION

### **Classification of the Mixture:**



**GHS Classification:** STOT - SE (Narcosis) Category 3, Aspiration Hazard Category 1



**Signal Word:** **Danger**

### **Hazard Statements:**

H336 - May cause drowsiness or dizziness.

H304 - May be fatal if swallowed and enters airways.

### **Precautionary Statements**

<b>Prevention</b>	<b>P271</b> <b>P261</b>	<b>Use only outdoors or in a well-ventilated area</b> <b>Avoid breathing dust/fumes/gas/mist/vapors/spray.</b>
<b>Response</b>	<b>P301+P310</b> <b>P331</b> <b>P312</b> <b>P304+P340</b>	<b>If Swallowed: Immediately call a Poison Center or doctor.</b> <b>Do Not induce vomiting.</b> <b>Call a poison center or Doctor if you feel unwell.</b> <b>If inhaled: Remove person to fresh air and keep comfortable for breathing.</b>
<b>Storage</b>	<b>P405</b> <b>P403+P233</b>	<b>Store locked up.</b> <b>Store in a well-ventilated place. Keep container tightly closed.</b>
<b>Disposal</b>	<b>P501</b>	<b>Dispose of contents/container to authorized chemical landfill.</b>

### Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS. No.	%(Weight)	Name
Trade Secret	30-<60	Proprietary Chemical #1
Trade Secret	10-<15	Proprietary Chemical #2
Trade Secret	<10	Proprietary Chemical #3
Trade Secret	<10	Proprietary Chemical #4
Trade Secret	<5	Proprietary Chemical #5
7732-18-5	10-30	water

Trade and Proprietary Chemicals available upon legitimate request by approved authorities.

### Section 4 - FIRST AID MEASURES

#### Eye Contact

If this product comes in contact with the eyes:

- Wash out immediately with fresh running water
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lid.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

#### Skin Contact

If skin or hair contact occurs:

- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

#### Inhalation

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag mask device Or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital or doctor.

#### Ingestion

- **If swallowed do not induce vomiting.**
- If vomiting occurs, lean patient forward or place on left side (head-down position if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquids to person showing signs of being sleepy or with reduced awareness.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.
- Avoid giving milk or oils.
- Avoid giving alcohol.
- If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Most important symptoms and effects, both acute and delayed.

See Section 11

#### **Indications of any immediate medical attention and special treatment needed.**

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours. Treat symptomatically.

### Section 5 - FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA:**

- Foam.
- Dry chemical powder.
- BCF (Where regulations permit).
- Carbon Dioxide.
- Water, spray or fog, large fires only.

**Special Hazards arising from the substrate or mixture.****Fire Incompatibility**

- Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result

**Advice for Firefighters****Firefighting**

- Alert fire brigade and tell them location and nature of hazard
- Wear full-body protective clothing and breathing apparatus.
- Prevent, by any means available, spillage from entering drains or watercourse.
- Use water delivered as a fine spray to control fire and cool adjacent areas.
- Avoid spraying water into liquid pools.
- Do not approach containers suspected to be hot.

**Fire Explosion Hazard**

- Combustible
- Slight fire hazard when exposed to heat or flame
- Heating may cause expansion or decomposition leading to violent rupture of containers
- On ignition may emit toxic fumes of Carbon Monoxide (CO).
- May emit acrid smoke
- Mists containing combustible materials may be explosive.

<b>Section 6 - ACCIDENTAL RELEASE MEASURES</b>
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**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES****Minor Spills**

- Remove all ignition sources
- Clean up all spills immediately
- Avoid breathing vapors and contact with skin and eyes
- Control personal contact with the substance by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.
- Wipe up

**Major Spills - Moderate Hazard**

- Clear area of personnel and move upwind.
- Alert fire brigade and tell them the location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or watercourse.
- No smoking, naked lights or ignition sources.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

<b>Section 7 - HANDLING AND STORAGE</b>
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**Precautions for Safe Handling****Safe Handling**

- Avoid all personal contact including inhalation.
- Wear protective clothing when risk of exposure occurs.

- Use in well-ventilated areas.
- Prevent concentration in hollows and sumps.
- Do not enter confined spaces until atmosphere has been checked.
- Do not allow material to contact humans, exposed food or food utensils.

#### Other Information

- Store in original containers
- Keep containers securely sealed
- No smoking, naked lights or ignition sources.
- Store in cool, dry, well-ventilated area
- Store away from incompatible materials and foodstuff containers
- Protect containers against physical damage and check regularly for leaks.
- Store below 20 deg C.

#### Conditions for safe storage

##### Suitable Container

- Metal can or drum.
- Packaging as recommended by manufacturer
- Check all containers are clearly labelled and free from leaks.

##### Storage Incompatibility

- Avoid strong acids or bases
- Avoid reaction with oxidizing agents
- Avoid Aluminum. Manufacturer's containers are Aluminum lined with epoxy.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control Parameters

#### Occupation Exposure Limits (OEL)

Source	Ingredient	Material Name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Levels (PELs) - Table Z1	Proprietary Chemical #1	Trade Secret	5 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	Proprietary Chemical #1	Trade Secret	5 mg/m3	Not Available	Not Available	TLV® Basis: URT irr
US NIOSH Recommended Exposure Limits (RELs)	Proprietary Chemical #1	Trade Secret	5 mg/m3	10 mg/m3	Not Available	Not Available
US OSHA Permissible Exposure Levels (PELs) - Table Z1	Proprietary Chemical #2	Trade Secret	240 mg/m3 / 50 ppm	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	Proprietary Chemical #2	Trade Secret	20 ppm	Not Available	Not Available	TLV® Basis: Eye & URT irr; BEI
US NIOSH Recommended Exposure Limits (RELs)	Proprietary Chemical #2	Trade Secret	24 mg/m3 / 5 ppm	Not Available	Not Available	[skin]
US OSHA Permissible Exposure Levels (PELs) - Table Z1	Proprietary Chemical #4	Trade Secret	5 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	Proprietary Chemical #2	Trade Secret	5 mg/m3	Not Available	Not Available	TLV® Basis: URT irr
US NIOSH Recommended Exposure Limits (RELs)	Proprietary Chemical #2	Trade Secret	5 mg/m3	10 mg/m3	Not Available	Not Available

### Emergency Limits

Ingredient	Material Name	TEEL-1	TEEL-2	TEEL-3
Proprietary Chemical #1	Trade Secret	0.23 mg/m3	2.5 mg/m3	15 mg/m3
Proprietary Chemical #2	Trade Secret	20 ppm	20 ppm	700 ppm
Proprietary Chemical #4	Trade Secret	15 mg/m3	82 mg/m3	490 mg/m3
Proprietary Chemical #5	Trade Secret	220 mg/m3	2400 mg/m3	15000 mg/m3

Ingredient	Original IDLH	Revised IDLH
Proprietary Chemical #1	Not Available	Not Available
Proprietary Chemical #2	700 ppm	700 [Unch] ppm
Proprietary Chemical #3	Not Available	Not Available
Proprietary Chemical #4	Not Available	Not Available
Proprietary Chemical #5	Not Available	Not Available
water	Not Available	Not Available

## Exposure Controls

<b>Appropriate engineering controls</b>	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <ul style="list-style-type: none"> <li>• Process controls which involve changing the way a job activity or process is done to reduce the risk.</li> <li>• Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</li> </ul>
<b>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>• Safety glasses with side shields.</li> <li>• Chemical goggles.</li> <li>• Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available.</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p><b>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</b></p> <ul style="list-style-type: none"> <li>• Frequency and duration of contact,</li> <li>• Chemical resistance of glove material, glove thickness and dexterity.</li> </ul> <p><i>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</i></p> <p><i>When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.</i></p>
<b>Body protection</b>	See Other protection below
<b>Other Protection</b>	<ul style="list-style-type: none"> <li>• Overalls.</li> <li>• P.V.C. apron.</li> <li>• Barrier cream.</li> <li>• Skin cleansing cream.</li> <li>• Eye wash unit.</li> </ul>
<b>Thermal hazards</b>	Not Available

### Recommended material(s)

#### GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the *computer-generated*

selection: Montana X-Treme Copper Killer

Material	CPI
#oleic	acid
BUTYL	C
NAT+NEOPR+NITRILE	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
PE/EVAL/PE	C
PVA	C
PVC	C
SARANEX-23	C
VITON	C

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

**Respiratory protection**

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS / Class 1 P2	-	A-PAPR-AUS / Class 1 P2
up to 50 x ES	Air-line*	-	-
up to 100 x ES	-	A-3 P2	-
100+ x ES	-	Air-line**	-

\* - Continuous-flow; \*\* - Continuous-flow or positive pressure demand

A (All classes) = Organic vapors, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen Cyanide (HCN), B3 = Acid gas or hydrogen cyanide (HCN), E = Sulfur dioxide (SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia (NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds (below 65 deg C)

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:**

Clear red liquid with pungent ammonia odor: mixes with water.

Physical state	Liquid	Relative density (Water = 1)	0.89
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odor threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	>96 (PMCC)	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidizing properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	~90
Vapor pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Not Available	pH as a solution (1%)	Not Available
Vapor density	Not Available	VOC g/L	Not Available

## Section 10 - STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> <li>• Unstable in the presence of incompatible materials.</li> <li>• Product is considered stable.</li> <li>• Hazardous polymerisation will not occur.</li> </ul>
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

## Section 11 - TOXICOLOGICAL INFORMATION

<b>Inhaled</b>	<ul style="list-style-type: none"> <li>Inhalation of vapors may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of coordination, and vertigo.</li> <li>There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</li> <li>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)</li> <li>Accidental ingestion of the material may be damaging to the health of the individual.</li> </ul>
<b>Skin Contact</b>	<ul style="list-style-type: none"> <li>Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.</li> <li>Open cuts, abraded or irritated skin should not be exposed to this material.</li> <li>The material may accentuate any pre-existing dermatitis condition.</li> <li>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</li> </ul>
<b>Eye</b>	There is some evidence to suggest that this material can cause eye irritation and damage in some persons.
<b>Chronic</b>	<ul style="list-style-type: none"> <li>Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.</li> <li>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</li> <li>There is some evidence from animal testing that exposure to this material may result in toxic effects to the unborn baby.</li> <li>Based on experience with similar materials, there is a possibility that exposure to the material may reduce fertility in humans at levels which do not cause other toxic effects.</li> <li>There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.</li> </ul>

<b>Montant X-Treme Copper Killer</b>	<b>Toxicity:</b> Not Available	<b>Irritation:</b> Not Available
<b>Proprietary Chemical #1</b>	<b>Toxicity:</b> Dermal (rabbit) LD50: >2000 mg/kg[1] Oral (rat) LD50: >5000 mg/kg[1]	<b>Irritation:</b> Eye : Not irritating (OECD 405) * Skin : Not irritating (OECD 404)*
<b>Proprietary Chemical #2</b>	<b>Toxicity:</b> dermal (rat) LD50: >2000 mg/kg[1] Inhalation (rat) LC50: 450 ppm/4H[2] Oral (rat) LD50: 250 mg/kg[2]	<b>Irritation:</b> * [Union Carbide] Eye (rabbit): 100 mg SEVERE Eye (rabbit): 100 mg/24h-moderate Skin (rabbit): 500 mg, open, mild
<b>Proprietary Chemical #3</b>	<b>Toxicity:</b> Not Available	<b>Irritation:</b> Not Available
<b>Proprietary Chemical #4</b>	<b>Toxicity:</b> Dermal (rabbit) LD50: >2000 mg/kg[1] Oral (rat) LD50: >5000 mg/kg[1]	<b>Irritation:</b> Not Available
<b>Proprietary Chemical #5</b>	<b>Toxicity:</b> Oral (rat) LD50: 25000 mg/kg[2]	<b>Irritation:</b> Skin (human):15 mg/3d-I- moderate Skin (rabbit):500 mg mild
<b>water</b>	<b>Toxicity:</b> Oral (rat) LD50: >90000 mg/kg[2]	<b>Irritation:</b> Not Available
<b>Legend:</b>	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's msds. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

<b>Proprietary Chemical #1</b>	<p>Studies indicate that normal, branched and cyclic paraffins are absorbed from the mammalian gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cyclo-paraffins.</p> <p>The major classes of hydrocarbons have been shown to be well absorbed by the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with dietary lipids. The dependence of hydrocarbon absorption on concomitant triglyceride digestion and absorption is known as the "hydrocarbon continuum hypothesis", and asserts that a series of solubilizing phases in the intestinal lumen, created by dietary triglycerides and their digestion products, afford hydrocarbons a route to the lipid phase of the intestinal absorptive cell (enterocyte) membrane. While some hydrocarbons may traverse the mucosal epithelium unmetabolised and appear as solutes in lipoprotein particles in intestinal lymph, there is evidence that most hydrocarbons partially separate from nutrient lipids and undergo metabolic transformation in the enterocyte.</p>
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<b>Proprietary Chemical #2</b>	<ul style="list-style-type: none"> <li>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.</li> </ul>
<b>Proprietary Chemical #3</b>	Fatty acid salts of low acute toxicity. Their potential to irritate the skin and eyes is dependent on chain length. No significant acute toxicological data identified in literature search.
<b>Proprietary Chemical #4</b>	<p><b>The materials included in the Lubricating Base Oils category are related from both process and physical-chemical perspectives; The potential toxicity of a specific distillate base oil is inversely related to the severity or extent of processing the oil has undergone, since:</b></p> <ul style="list-style-type: none"> <li>The adverse effects of these materials are associated with undesirable components, and</li> <li>The levels of the undesirable components are inversely related to the degree of processing;</li> <li>Distillate base oils receiving the same degree or extent of processing will have similar toxicities;</li> <li>The potential toxicity of <i>residual base oils</i> is independent of the degree of processing the oil receives.</li> <li>The reproductive and developmental toxicity of the distillate base oils is inversely related to the degree of processing.</li> </ul> <p>Unrefined &amp; mildly refined distillate base oils contain the highest levels of undesirable components, have the largest variation of hydrocarbon molecules and have shown the highest potential carcinogenic and mutagenic activities. Highly and severely refined distillate base oils are produced from unrefined and mildly refined oils by removing or transforming undesirable components. In comparison to unrefined and mildly refined base oils, the highly and severely refined distillate base oils have a smaller range of hydrocarbon molecules and have demonstrated very low mammalian toxicity. Mutagenicity and carcinogenicity testing of residual oils has been negative, supporting the belief that these materials lack biologically active components or</p>

	the components are largely non-bioavailable due to their molecular size. Oral (rat) TC Lo: 92000 mg/kg/92D-Cont. Generally the toxicity and irritation is of low order. White oils and highly/solvent refined oils have not shown the long term risk of skin cancer that follows persistent skin contamination with some other mineral oils, due in all probability to refining that produces low content of both polyaromatics (PAH) and benz-alpha-pyrenes (BaP)
Proprietary Chemical #5	<ul style="list-style-type: none"> <li>The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</li> <li>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.</li> </ul>
WATER	No significant acute toxicological data identified in literature search.

Acute Toxicity	Data Not Available to make classification	Carcinogenicity	Data Not Available to make classification
Skin Irritation/Corrosion	Data Not Available to make classification	Reproductivity	Data Not Available to make classification
Serious Eye Damage/Irritation	Data Not Available to make classification	STOT - Single Exposure	Data required to make classification available
Respiratory or Skin sensitisation	Data Not Available to make classification	STOT - Repeated Exposure	Data Not Available to make classification
Mutagenicity	Data Not Available to make classification	Aspiration Hazard	Data required to make classification available

## Section 12 - ECOLOGICAL INFORMATION

**AQUATIC TOXICITY: Do not discharge into sewers or waterways.**

### Persistence and Degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
Proprietary Chemical #2	LOW (Half-life = 56 days)	LOW (Half-life = 1.37 days)
Proprietary Chemical #5	LOW	LOW
water	LOW	LOW

### Bioaccumulative Potential

Ingredient	Mobility
Proprietary Chemical #1	LOW (BCF = 159)
Proprietary Chemical #2	LOW (BCF = 2.51)
Proprietary Chemical #5	LOW (LogKOW = 7.7294)
water	LOW (LogKOW = -1.38)

### Mobility in Soil

Ingredient	Mobility
Proprietary Chemical #2	HIGH (KOC = 1)
Proprietary Chemical #5	LOW (KOC = 11670)
water	LOW (KOC = 14.3)

## Section 13 - DISPOSAL CONSIDERATIONS

### Waste Treatment Methods

Product / Packaging disposal	<p><b>DO NOT</b> allow wash water from cleaning or process equipment to enter drains.</p> <ul style="list-style-type: none"> <li>It may be necessary to collect all wash water for treatment before disposal.</li> <li>In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>Where in doubt contact the responsible authority.</li> <li>Recycle wherever possible or consult manufacturer for recycling options.</li> <li>Consult State Land Waste Authority for disposal.</li> </ul>
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## Section 14 - TRANSPORT INFORMATION

### Labels Required

**Marine Pollutant: No**

**Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code**

Source	Ingredient	Pollution Category
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	Proprietary Chemical #5	Y

**Section 15 - REGULATORY INFORMATION**

**Proprietary Chemical #1 IS FOUND ON THE FOLLOWING REGULATORY LISTS**

- International Agency for Research on Cancer (IARC) - Agents Classified by the IARC
- Monographs
- US - Alaska Limits for Air Contaminants
- US - California Permissible Exposure Limits for Chemical Contaminants
- US - California Proposition 65 - Carcinogens
- US - Hawaii Air Contaminant Limits
- US - Idaho - Limits for Air Contaminants
- US - Michigan Exposure Limits for Air Contaminants
- US - Minnesota Permissible Exposure Limits (PELs)
- US - Oregon Permissible Exposure Limits (Z-1)
- US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
- US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants
- US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants
- US - Washington Permissible exposure limits of air contaminants
- US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
- US ACGIH Threshold Limit Values (TLV)
- US ACGIH Threshold Limit Values (TLV) - Carcinogens
- US National Toxicology Program (NTP) 13th Report Part A Known to be Human Carcinogens
- US NIOSH Recommended Exposure Limits (RELs)
- US OSHA Permissible Exposure Levels (PELs) - Table Z1
- US Priority List for the Development of Proposition 65 Safe Harbor Levels - No Significant Risk Levels (NSRLs) for Carcinogens and Maximum Allowable Dose Levels (MADLs) for Chemicals Causing Reproductive Toxicity
- US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

**Proprietary Chemical #2 IS FOUND ON THE FOLLOWING REGULATORY LISTS**

- International Agency for Research on Cancer (IARC) - Agents Classified by the IARC
- Monographs
- US - Alaska Limits for Air Contaminants
- US - California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELs)
- US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs)
- US - California Permissible Exposure Limits for Chemical Contaminants
- US - Hawaii Air Contaminant Limits
- US - Idaho - Limits for Air Contaminants
- US - Michigan Exposure Limits for Air Contaminants
- US - Minnesota Permissible Exposure Limits (PELs)
- US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens
- US - Oregon Permissible Exposure Limits (Z-1)
- US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
- US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants
- US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants
- US - Washington Permissible exposure limits of air contaminants
- US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values
- US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
- US ACGIH Threshold Limit Values (TLV)
- US ACGIH Threshold Limit Values (TLV) - Carcinogens
- US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
- US EPA Carcinogens Listing
- US EPCRA Section 313 Chemical List
- US NIOSH Recommended Exposure Limits (RELs)
- US OSHA Permissible Exposure Levels (PELs) - Table Z1
- US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

**Proprietary Chemical #3 IS FOUND ON THE FOLLOWING REGULATORY LISTS**

- US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

**Proprietary Chemical #4 IS FOUND ON THE FOLLOWING REGULATORY LISTS**

- International Agency for Research on Cancer (IARC) - Agents Classified by the IARC
- Monographs
- US - Alaska Limits for Air Contaminants
- US - California Permissible Exposure Limits for Chemical Contaminants
- US - California Proposition 65 - Carcinogens
- US - Hawaii Air Contaminant Limits
- US - Idaho - Limits for Air Contaminants

US - Michigan Exposure Limits for Air Contaminants  
 US - Minnesota Permissible Exposure Limits (PELs)  
 US - Oregon Permissible Exposure Limits (Z-1)  
 US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants  
 US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants  
 US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants  
 US - Washington Permissible exposure limits of air contaminants  
 US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants  
 US ACGIH Threshold Limit Values (TLV)  
 US ACGIH Threshold Limit Values (TLV) - Carcinogens  
 US National Toxicology Program (NTP) 13th Report Part A Known to be Human Carcinogens  
 US NIOSH Recommended Exposure Limits (RELs)  
 US OSHA Permissible Exposure Levels (PELs) - Table Z1  
 US Priority List for the Development of Proposition 65 Safe Harbor Levels - No Significant Risk Levels (NSRLs) for Carcinogens and Maximum Allowable Dose Levels (MADLs) for Chemicals Causing Reproductive Toxicity  
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

**Proprietary Chemical #5 IS FOUND ON THE FOLLOWING REGULATORY LISTS**

US - California Permissible Exposure Limits for Chemical Contaminants US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

**WATER (7732-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	<b>Proprietary Chemical #1</b>
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N ( <b>Proprietary Chemical #3 and Proprietary Chemical #4</b> )
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
<b>Legend:</b>	<i>Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets</i>

**Section 16 - OTHER INFORMATION**

**Other Information**

**Ingredients with Multiple CAS Numbers**

Name	CAS Number
<b>Proprietary Chemical #1</b>	Numbers provided upon legitimate request.

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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