

Montana X-Treme Rimfire Solvent

Western Powders, Inc.

Issue Date: 12/01/15

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 Cowboy Blend, Blackhorn 209, Rimfire Solvent

Trade Names and Synonyms: Lead and Powder Solvent, Competition Formula, Cleaning Solvent

Relevant Identified Uses

Consumer product, proprietary liquid mixtures of 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: Flammable Liquid Category 4, STOT - SE (Narcosis) Category 3, Aspiration Hazard Category 1



Signal Word: **Danger**

Hazard Statements:

H227 **Combustible Liquid**
H336 **May cause drowsiness or dizziness.**
H304 **May be fatal if swallowed and enters airways.**

Precautionary Statements

Prevention P210 **Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**
P271 **Use only outdoors or in a well-ventilated area**
P261 **Avoid breathing dust/fumes/gas/mist/vapors/spray.**
P280 **Wear protective gloves/protective clothing/eye protection/face protection.**

Response P301+P310 **If Swallowed: Immediately call a Poison Center or doctor.**
P331 **DO NOT induce vomiting.**
P370+P378 **In case of fire: Use alcohol resistant foam or normal protein foam for extinction.**
P312 **Call a poison center or Doctor if you feel unwell.**
P304+P340 **IF INHALED: Remove person to fresh air and keep comfortable for breathing.**

Storage	P403+P235	Store in a well-ventilated place. Keep cool.
	P405	Store locked up.
	P403+P233	Store in a well-ventilated place. Keep container tightly closed.
Disposal	P501	Dispose of contents/container to authorized chemical landfill.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS Number	%[Weight]	Name
64741-91-9.	<=60	C14-20 aliphatics (<=2% aromatics)
8042-47-5	10-<30	white mineral oil (petroleum)
111-76-2	10-<15	ethylene glycol monobutyl ether
112-80-1	1-<10	oleic acid

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:

- Immediately remove all contaminated clothing, including footwear.
- 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:

For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

- Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
- Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO₂ 50 mm Hg) should be intubated.
- Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- A chest x-ray should be taken immediately after stabilization of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitization to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients.

[Ellenhorn and Barceloux: Medical Toxicology]

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.

- Followed acute or short term repeated exposures to ethylene glycol monoalkyl ethers and their acetates:
- Hepatic metabolism produces ethylene glycol as a metabolite.
- Clinical presentation, following severe intoxication, resembles that of ethylene glycol exposures.
- Monitoring the urinary excretion of the alkoxyacetic acid metabolites may be a useful indication of exposure.

[Ellenhorn and Barceloux: Medical Toxicology]

For acute or short term repeated exposures to ethylene glycol:

- Early treatment of ingestion is important. Ensure emesis is satisfactory.
- Test and correct for metabolic acidosis and hypocalcaemia.
- Apply sustained diuresis when possible with hypertonic mannitol.
- Evaluate renal status and begin hemodialysis if indicated. [LL.O]
- Rapid absorption is an indication that emesis or lavage is effective only in the first few hours. Cathartics and charcoal are generally not effective.
- Correct acidosis, fluid/electrolyte balance and respiratory depression in the usual manner. Systemic acidosis (below 7.2) can be treated with intravenous sodium bicarbonate solution.
- Ethanol therapy prolongs the half-life of ethylene glycol and reduces the formation of toxic metabolites.
- Pyridoxine and thiamine are cofactors for ethylene glycol metabolism and should be given (50 to 100 mg respectively) intramuscularly, four times per day for 2 days.
- Magnesium is also a cofactor and should be replenished. The status of 4-methylpyrazole, in the treatment regime, is still uncertain. For clearance of the material and its metabolites, hemodialysis is much superior to peritoneal dialysis.

[Ellenhorn and Barceloux: Medical Toxicology]

It has been suggested that there is a need for establishing a new biological exposure limit before a workshift that is clearly below 100 mmol ethoxy-acetic acids per mole creatinine in morning urine of people occupationally exposed to ethylene glycol ethers. This arises from the finding that an increase in urinary stones may be associated with such exposures.

Laitinen J., et al: Occupational & Environmental Medicine 1996; 53, 595-600

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 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 combustion, may emit toxic fumes of carbon monoxide (CO).
- May emit acrid smoke.
- Mists containing combustible materials may be explosive.

Section 6 - ACCIDENTAL RELEASE MEASURES

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.

Section 7 - HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Safe Handling

- Containers, even those that have been emptied, may contain explosive vapors.
- Do NOT cut, drill, grind, weld or perform similar operations on or near containers.
- **DO NOT allow clothing wet with material to stay in contact with skin**
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

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	C14-20 aliphatics (<=2% aromatics)	Oil mist, mineral	5 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	C14-20 aliphatics (<=2% aromatics)	Mineral oil, excluding metal working fluids - Pure, highly and severely refined / Mineral oil, excluding metal working fluids Poorly and mildly refined	5 mg/m3	Not Available	Not Available	TLV@ Basis: URT irr
US NIOSH Recommended Exposure Limits (RELs)	C14-20 aliphatics (<=2% aromatics)	Heavy mineral oil mist, Paraffin oil mist, White mineral oil mist	5 mg/m3	10 mg/m3	Not Available	Not Available
US OSHA Permissible Exposure Levels (PELs) - Table Z1	ethylene glycol monobutyl ether	2-Butoxyethanol	240 g/m3 / 50 ppm	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	ethylene glycol monobutyl ether	2-Butoxyethanol	20 ppm	Not Available	Not Available	TLV@ Basis: Eye & URT irr; BE
US NIOSH Recommended Exposure Limits (RELs)	ethylene glycol monobutyl ether	Butyl Cellosolve®, Butyl oxitol, Dowanol® EB, EGBE, Ektasolve EB®, Ethylene glycol monobutyl ether, Jeffersol EB	24 mg/m3 / 5 ppm	Not Available	Not Available	[skin]
US OSHA Permissible Exposure Levels (PELs) - Table Z1	white mineral oil (petroleum)	Oil mist, mineral	5 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	white mineral oil (petroleum)	Mineral oil, excluding metal working fluids - Pure, highly and severely refined / Mineral oil, excluding metal working fluids - Poorly and mildly refined	5 mg/m3	Not Available	Not Available	TLV@ Basis: URT irr
US NIOSH Recommended Exposure Limits (RELs)	white mineral oil (petroleum)	Heavy mineral oil mist, Paraffin oil mist, White mineral oil mist	5 mg/m3	10 mg/m3	Not Available	Not Available

Emergency Limits

Ingredient	Material Name	TEEL-1	TEEL-2	TEEL-3
C14-20 aliphatics (<=2% aromatics)	Hydrotreated middle distillate (Petroleum base oil)	0.23 mg/m3	2.5 mg/m3	15 mg/m3
ethylene glycol monobutyl ether	Butoxyethanol, 2-; (Glycol ether EB)	20 ppm	20 ppm	700 ppm
white mineral oil (petroleum)	Mineral oil, white	15 mg/m3	82 mg/m3	490 mg/m3
oleic acid	Octadecenoic acid, 9-; (Oleic acid)	220 mg/m3	2400 mg/m3	15000 mg/m3

Ingredient	Original IDLH	Revised IDLH
C14-20 aliphatics (<=2% aromatics)	Not Available	Not Available
ethylene glycol monobutyl ether	700 ppm	700 [Unch] ppm
white mineral oil (petroleum)	Not Available	Not Available
oleic acid	Not Available	Not Available

EXPOSURE CONTROLS

Appropriate engineering controls	<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. The basic types of engineering controls are:</p> <ul style="list-style-type: none"> • Process controls which involve changing the way a job activity or process is done to reduce the risk. • 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.
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> • Safety glasses with side shields. • Chemical goggles. • 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.
Skin protection	See Hand protection below
Hands/feet protection	<ul style="list-style-type: none"> • Wear chemical protective gloves, e.g. PVC. • Wear safety footwear or safety gumboots, e.g. Rubber <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>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p>

	<ul style="list-style-type: none"> • Frequency and duration of contact, • Chemical resistance of glove material, • Glove thickness and dexterity Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).
Body protection	See Other protection below

Other Protection	<ul style="list-style-type: none"> • Overalls. • P.V.C. apron. • Barrier cream. • Skin cleansing cream. • Eye wash unit.
Thermal hazards	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 Cowboy Blend, Blackhorn 209 Cleaning Solvent, Rimfire Solvent

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

* 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(SO2), G = Agricultural chemicals, K = Ammonia (NH3), 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:

Cowboy Blend is a clear light yellow liquid with an oil-like odor; does not mix with water.
Rimfire Solvent is a clear light orange liquid with an oil-like odor; does not mix with water.
Blackhorn 209 Cleaning Solvent is a clear liquid with an oil-like odor; does not mix with water.

Physical state	Liquid	Relative density (Water = 1)	0.85-0.95
Odor	Not Available	Partition coefficient n-octanol / water	Not Available
odor threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	<0	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)	68	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Combustible.	Oxidizing properties	Not Available
Upper Explosive Limit (%)	10.6 (glycol ether)	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	1.1 (glycol ether)	Volatile Component (%vol)	~90
Vapor pressure (kPa)	<100	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution (1%)	Not Available
Vapor density	>1	VOC g/L	Not Available

Section 10 - STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerization will not occur.
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

Inhaled	<ul style="list-style-type: none"> Inhalation of vapors may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of coordination and vertigo. 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. 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.
Ingestion	<ul style="list-style-type: none"> Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. ICSC13733) Accidental ingestion of the material may be damaging to the health of the individual.
Skin Contact	<ul style="list-style-type: none"> Repeated exposure may cause skin cracking, flaking or drying following normal handling and use. Open cuts, abraded or irritated skin should not be exposed to this material The material may accentuate any pre-existing dermatitis condition 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.
Eye	There is some evidence to suggest that this material can cause eye irritation and damage in some persons.
Chronic	<ul style="list-style-type: none"> Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is some evidence from animal testing that exposure to this material may result in toxic effects to the unborn baby. 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. There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.

Montana X-Treme Cowboy Blend, Blackhorn 209 Cleaning Solvent, Rimfire Solvent	Toxicity: Not Available	Irritation: Not Available
C14-20 aliphatics (<=2% aromatics)	Toxicity: Dermal (rabbit) LD50: >2000 mg/kg[1] Oral (rat) LD50: >5000 mg/kg[1]	Irritation: Eye : Not irritating (OECD 405) * Skin : Not irritating (OECD 404)*
ethylene glycol monobutyl ether	Toxicity: dermal (rat) LD50: >2000 mg/kg[1] Inhalation (rat) LC50: 450 ppm/4H[2] Oral (rat) LD50: 250 mg/kg[2]	Irritation: * [Union Carbide] Eye (rabbit): 100 mg SEVERE Eye (rabbit): 100 mg/24h-moderate Skin (rabbit): 500 mg, open; mild
white mineral oil (petroleum)	Toxicity: Dermal (rabbit) LD50: >2000 mg/kg[1] Oral (rat) LD50: >5000 mg/kg[1]	Irritation: Not Available
oleic acid	Toxicity: Oral (rat) LD50: 25000 mg/kg[2]	Irritation: Skin (human):15 mg/3d-I- moderate Skin (rabbit):500 mg mild
Legend:	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	

C14-20 ALIPHATICS (<=2%	<ul style="list-style-type: none"> Studies indicate that normal, branched and cyclic paraffins are absorbed from the mammalian gastrointestinal tract and that the
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AROMATICS)	<p>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> <ul style="list-style-type: none"> 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><i>*Exxsol D 100 SDS</i></p>
ETHYLENE GLYCOL MONOBUTYL ETHER	<ul style="list-style-type: none"> 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. <p>For ethylene glycol monoalkyl ethers and their acetates (EGMAEs):</p> <ul style="list-style-type: none"> Typical members of this category are ethylene glycol propylene ether (EGPE), ethylene glycol butyl ether (EGBE) and ethylene glycol hexyl ether (EGHE) and their acetates. EGMAEs are substrates for alcohol dehydrogenase isozyme ADH-3, which catalyzes the conversion of their terminal alcohols to aldehydes (which are transient metabolites). Further, rapid conversion of the aldehydes by aldehyde dehydrogenase produces alkoxyacetic acids, which are the predominant urinary metabolites of mono substituted glycol ethers. <p>NOTE: Changes in kidney, liver, spleen and lungs are observed in animals exposed to high concentrations of this substance by all routes. ** ASCC (NZ) SDS</p>
WHITE MINERAL OIL (PETROLEUM)	<p>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:</p> <ul style="list-style-type: none"> The adverse effects of these materials are associated with undesirable components, and the levels of the undesirable components are inversely related to the degree of processing; Distillate base oils receiving the same degree or extent of processing will have similar toxicities; The potential toxicity of <i>residual base oils</i> is independent of the degree of processing the oil receives. The reproductive and developmental toxicity of the distillate base oils is inversely related to the degree of processing. Unrefined & 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 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)
OLEIC ACID	<ul style="list-style-type: none"> The material may be irritating to the eye, with prolonged contact causing 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, production of vesicles, scaling and thickening of the skin.

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

Section 12 - ECOLOGICAL INFORMATION

AQUATIC TOXICITY: Do not discharge into sewers or waterways.

Persistence and Degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
ethylene glycol monobutyl ether	LOW (Half-life = 56 days)	LOW (Half-life = 1.37 days)
oleic acid	LOW	LOW

Bioaccumulative Potential

Ingredient	Mobility
C14-20 aliphatics (<=2% aromatics)	LOW (BCF = 159)
ethylene glycol monobutyl ether	LOW (BCF = 2.51)
oleic acid	LOW (LogKOW = 7.7294)

Mobility in Soil

Ingredient	Mobility
ethylene glycol monobutyl ether	HIGH (KOC = 1)
oleic acid	LOW (KOC = 11670)

Section 13 - DISPOSAL CONSIDERATIONS

Waste Treatment Methods

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

Section 15 - REGULATORY INFORMATION

C14-20 ALIPHATICS (<=2% AROMATICS)(64741-91-9) 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

ETHYLENE GLYCOL MONOBUTYL ETHER(111-76-2) 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

WHITE MINERAL OIL (PETROLEUM)(8042-47-5) 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

OLEIC ACID (112-80-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (C14-20 aliphatics (<=2% aromatics); ethylene glycol monobutyl ether; white mineral oil (petroleum); oleic acid aromatics);="" ethylene="" glycol="" monobutyl="" ether;="" white="" mineral="" oil="" (petroleum);="" oleic="" >
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (white mineral oil (petroleum))
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
Legend:	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)

Section 16 - OTHER INFORMATION

Other Information

Ingredients with Multiple CAS Numbers

Name	CAS Number
C14-20 aliphatics (<=2% aromatics)	64741-91-9., 64742-46-7., 64742-47-8.

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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