

SAFETY DATA SHEET

MUSOL A SOLVENT

Revision Date: 21-Jan-2016

Revision Number: 32

1. Product and Company Identification

Product Name

Product Trade Name: MUSOL A SOLVENT

Other Names

Synonyms: None

Product Code: HM001095

Recommended Use

Recommended Use Solvent

Uses Advised Against No information available

Company Name, Address and Contact Details

Manufacturer/Supplier Halliburton New Zealand
1 Paraite Rd,
Bell Block, New Plymouth
New Zealand Registration No.: 824207

E-Mail address: fdunexchem@halliburton.com

Emergency Telephone Number +64 800 451719

**New Zealand National Poisons
Centre** 0800 764 766 (24 hours)

2. Hazard(s) Identification

Statement of Hazardous Nature

Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulation 2001;
Not Classified as dangerous good according to NZS 5433:2012, UN, IMDG or IATA

Classification

3.1D Flammable Liquids - Low hazard
6.1D (Oral) Acutely Toxic Substances
6.1E (Dermal) Acutely Toxic Substances
6.1D (Inhalation) Acutely Toxic Substances
6.3A Irritating to the skin
8.3A Corrosive to ocular tissue
9.3C Harmful to terrestrial vertebrates

Hazard and Precautionary Statements

Hazard Pictograms

**Signal Word**

Danger

Hazard Statements

H227 - Combustible liquid
 H318 - Causes serious eye damage
 H302 - Harmful if swallowed
 H332 - Harmful if inhaled
 H313 - May be harmful in contact with skin
 H315 - Causes skin irritation
 H433 - Harmful to the terrestrial vertebrates.

Precautionary Statements**Prevention**

P101 - If medical advice is needed, have product container or label at hand
 P102 - Keep out of reach of children
 P103 - Read label before use
 P104 - Read Safety Data Sheet before use.
 P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
 P264 - Wash face, hands and any exposed skin thoroughly after handling
 P270 - Do not eat, drink or smoke when using this product
 P271 - Use only outdoors or in a well-ventilated area
 P280 - Wear protective gloves/eye protection/face protection

Response

P370 + P378 - In case of fire: Use water spray for extinction
 P301+ P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 P330 - Rinse mouth
 P331 - Do NOT induce vomiting
 P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 P312 - Call a POISON CENTER or doctor/physician if you feel unwell
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P332 + P313 - If skin irritation occurs: Get medical advice/attention
 P362 - Take off contaminated clothing and wash before reuse
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P310 - Immediately call a POISON CENTER or doctor/physician

Storage

P403 + P235 - Store in a well-ventilated place. Keep cool

Disposal

P501 - Dispose of contents/container to an approved incineration plant

Contains

Substances	CAS Number	Substance HSNO Classification
Ethylene glycol monobutyl ether	111-76-2	3.1D 6.1D (Oral) 6.1E (Dermal) 6.1D (Inhalation) 6.3B 6.4A 9.3C
Ethoxylated hexanol	68439-45-2	6.1D (Oral) 6.3A

		8.3A 9.1D (Fish, Crustacean, Algae) 9.3C
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2.3. Other Hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

3. Composition and Information on Ingredients

Substances	CAS Number	PERCENT (w/w)
Ethylene glycol monobutyl ether	111-76-2	60 - 100%
Ethoxylated hexanol	68439-45-2	10 - 30%

4. First-Aid Measures**Requirements for First Aid or Medical Care**

Inhalation	If inhaled, move victim to fresh air and seek medical attention.
Eyes	Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.
Skin	In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.
Ingestion	Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

Workplace Facilities Required

None

Relation to Health Effect**Most Important Symptoms/Effects**

Causes serious eye damage. Causes skin irritation. Harmful if inhaled. Harmful if swallowed. Harmful in contact with skin. Causes severe eye irritation which may damage tissue.

Medical Attention and Special Treatment**Notes to Physician**

Treat symptomatically

5. Fire-fighting measures**Type of Hazard****Flammability Hazard**

Combustible liquid

5.1. Extinguishing media**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

HAZCHEM Code

Hazchem Code: 2X

Special Protective Equipment and Precautions for Fire Fighters**Special Protective Equipment for Fire-Fighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

Special Exposure Hazards

Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce harmful gases.

6. Spillage, Accidental Release Measures**6.1. Personal precautions, protective equipment and emergency procedures**

Remove sources of ignition. Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed

areas. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation. Evacuate all persons from the area.

See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. Contain spill with sand or other inert materials. Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

7. Handling and storage

7.1. Precautions for Safe Handling

Handling Precautions

Remove sources of ignition. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment. Ground and bond containers when transferring from one container to another.

Handling Practices

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Approved Handlers

This product does NOT require an approved handler.

7.2. Conditions for safe storage, including any incompatibilities

Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use. Store in a well ventilated area. Store locked up. Product has a shelf life of 60 months.

Product is incompatible with:

Class 1 (explosives)
Class 2 (flammable gases, aerosols)
Class 3.2 (liquid desensitised explosives)
Class 4 (readily combustible, self-reactive, solid desensitised explosives, spontaneously combustible, dangerous when wet)
Class 5 (oxidisers, organic peroxides)

Store Site Requirements

No special controls required

Packaging

No special packaging required

8. Exposure Controls and Personal Protection

Workplace Exposure Standards

Exposure Limits

Substances	CAS Number	New Zealand WES	ACGIH TLV-TWA
Ethylene glycol monobutyl ether	111-76-2	TWA: 25 ppm TWA: 121 mg/m ³	TWA: 20 ppm Skin
Ethoxylated hexanol	68439-45-2	Not applicable	Not applicable

Engineering Controls

Engineering Controls

Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Personal Protective Equipment (PPE)

Respiratory Protection

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Organic vapor respirator.

Hand Protection

Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Nitrile gloves. (>= 0.4 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types. Neoprene gloves.

Skin Protection

Rubber apron.

Eye Protection

Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions

Eyewash fountains and safety showers must be easily accessible.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State:	Liquid	Color:	Clear colorless
Odor:	Musty Mild ether	Odor Threshold:	No information available
<u>Property</u>	<u>Values</u>		
<u>Remarks/ - Method</u>			
pH:	No data available		
Freezing Point/Range	No data available		
Melting Point/Range	No data available		
Boiling Point/Range	171 °C / 340 °F		
Flash Point	66 °C / 152 °F PMCC		
upper flammability limit	10.6%		
lower flammability limit	1.1%		
Evaporation rate	No data available		
Vapor Pressure	5 mmHg		
Vapor Density	< 1 (air = 1)		
Specific Gravity	0.9		
Water Solubility	Miscible with water		
Solubility in other solvents	No data available		
Partition coefficient: n-octanol/water	No data available		
Autoignition Temperature	No data available		
Decomposition Temperature	No data available		
Viscosity	No data available		
Explosive Properties	No information available		
Oxidizing Properties	No information available		

9.2. Other information

VOC Content (%)	No data available
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10. Stability and Reactivity

10.2. Chemical Stability

Stable

10.4. Conditions to Avoid

Keep away from heat, sparks and flame.

10.5. Incompatible Materials

Strong oxidizers.

Product is incompatible with:

Class 1 (explosives)
 Class 2 (flammable gases, aerosols)
 Class 3.2 (liquid desensitised explosives)
 Class 4 (readily combustible, self-reactive, solid desensitised explosives, spontaneously combustible, dangerous when wet)
 Class 5 (oxidisers, organic peroxides)

10.6. Hazardous Decomposition Products

Carbon monoxide and carbon dioxide.

Hazardous Reactions**Hazardous Polymerization:** Will Not Occur**11. Toxicological Information****Health Effect from Likely Routes of Exposure****Acute Toxicity**

Inhalation	Harmful if inhaled. May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.
Eye Contact	Causes serious eye damage.
Skin Contact	Causes skin irritation. May be absorbed through the skin and contribute to the symptoms listed under ingestion.
Ingestion	Harmful if swallowed. May affect the blood and blood system. Coma, shock and death may occur.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

Toxicity Data**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethylene glycol monobutyl ether	111-76-2	470 mg/kg (Rat) 1414 mg/kg (Guinea pig) 1746 mg/kg (Rat) 320 mg/kg (Rabbit) 530 mg/kg (Rat) 560 mg/kg (Rat) 3000 mg/kg (Rat) 2400 mg/kg (Rat)	220 mg/kg (Rabbit) 2270 mg/kg (Rat) 200 mg/kg (Guinea pig) >2000 mg/kg (Rabbit) 841 mg/kg (Rabbit) 435 mg/kg (Rabbit) >2000 mg/kg (Guinea pig) >2000 mg/kg (Rat) 100 mg/kg (Rabbit) 207 mg/kg (Guinea pig) 400-500 mg/kg (Rabbit)	450 mg/L (Rat) 4h 2.174 mg/L (Rat) 4h 2.21 mg/L (Rat) 4h 450-486 mg/L (Rat) 4h 925 mg/L (Rat) 4h >633 mg/L (Guinea pig) 1h
Ethoxylated hexanol	68439-45-2	500 mg/kg 1400 mg/kg (Rat) (similar substance)	> 2000 mg/kg (Rabbit) (similar substance)	No data available

Substances	CAS Number	Skin corrosion/irritation
Ethylene glycol monobutyl ether	111-76-2	Causes moderate skin irritation. (Rabbit)
Ethoxylated hexanol	68439-45-2	Causes moderate skin irritation. (Rabbit) (similar substances)

Substances	CAS Number	Eye damage/irritation
Ethylene glycol monobutyl ether	111-76-2	Causes moderate eye irritation. (Rabbit)
Ethoxylated hexanol	68439-45-2	Causes severe eye irritation which may damage tissue. (Rabbit) (similar substances)

Substances	CAS Number	Skin Sensitization
Ethylene glycol monobutyl ether	111-76-2	Did not cause sensitization on laboratory animals (guinea pig)
Ethoxylated hexanol	68439-45-2	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)

Substances	CAS Number	Respiratory Sensitization
Ethylene glycol monobutyl ether	111-76-2	No information available
Ethoxylated hexanol	68439-45-2	No information available

Substances	CAS Number	Mutagenic Effects
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Ethylene glycol monobutyl ether	111-76-2	In vivo tests did not show mutagenic effects. In vitro tests did not show mutagenic effects.
Ethoxylated hexanol	68439-45-2	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances)

Substances	CAS Number	Carcinogenic Effects
Ethylene glycol monobutyl ether	111-76-2	Not regarded as carcinogenic.
Ethoxylated hexanol	68439-45-2	Did not show carcinogenic effects in animal experiments (similar substances)

Substances	CAS Number	Reproductive toxicity
Ethylene glycol monobutyl ether	111-76-2	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Ethoxylated hexanol	68439-45-2	Animal testing did not show any effects on fertility. (similar substances)

Substances	CAS Number	STOT - single exposure
Ethylene glycol monobutyl ether	111-76-2	No data of sufficient quality are available.
Ethoxylated hexanol	68439-45-2	No data of sufficient quality are available.

Substances	CAS Number	STOT - repeated exposure
Ethylene glycol monobutyl ether	111-76-2	No data of sufficient quality are available.
Ethoxylated hexanol	68439-45-2	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Substances	CAS Number	Aspiration hazard
Ethylene glycol monobutyl ether	111-76-2	No adverse health effects are expected from swallowing.
Ethoxylated hexanol	68439-45-2	Not applicable

12. Ecological Information

12.1. Toxicity Ecotoxicity Effects

Product Ecotoxicity Data

No data available

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Ethylene glycol monobutyl ether	111-76-2	EC50 839.56 mg/L (Skeletonea costatum) EbC50 (72h) 911 mg/L EC50 > 500 mg/L (Scenedesmus subspicatus) NOEC (72h) 88 mg/L (biomass)(Pseudokirchnerella subcapitata)	LC50 > 1000 mg/L (Scophthalmus maximus, juvenile) LC50 (96h) 1474 mg/L (Oncorhynchus mykiss) NOEC (21d) > 100mg/L (Danio rerio)	TT/EC3 (48h) 463 mg/L (Uronema parduzci) TT/EC3 (72h) 73 mg/L (Entosiphon sulcatum) TT/EC3 (16h) 700 mg/L (Pseudomonas putida)	No information available
Ethoxylated hexanol	68439-45-2	EC50 (96h) 0.26 mg/L (Selenastrum Capricornutum) (similar substance)	LC50 (96h) 1.4 mg/L (Pimephales promelas) (similar substance) NOEC (30d) 0.28 mg/L (Pimephales promelas) (similar substance)	No information available	EC50 (48h) 0.39 mg/L (Ceriodaphnia dubia) (similar substance) NOEC (21d) 1.75 mg/L (Daphnia magna) (similar substance)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Ethylene glycol monobutyl ether	111-76-2	Readily biodegradable (75-88% @ 28d)
Ethoxylated hexanol	68439-45-2	(89% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Ethylene glycol monobutyl ether	111-76-2	0.81
Ethoxylated hexanol	68439-45-2	No data available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Ethylene glycol monobutyl ether	111-76-2	No information available
Ethoxylated hexanol	68439-45-2	No information available

Ecotoxicity Hazard Statements

Harmful to terrestrial invertebrates.

12.6. Other adverse effects**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

13. Disposal Considerations**13.1. Waste treatment methods****Disposal Method**

Disposal should be made in accordance with federal, state, and local regulations. Incineration recommended in approved incinerator according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

Contaminated Packaging

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

14. Transport Information**IMDG/IMO**

UN Number:	Not restricted
UN Proper Shipping Name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

NZ 5433.1999

UN Number:	Not restricted
UN Proper Shipping Name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable

IATA/ICAO

UN Number:	Not restricted
UN Proper Shipping Name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable

Special Precautions for User: None**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable**15. Regulatory Information**

New Zealand Inventory of Chemicals	All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.
HSNO Approval Number	HSR002649
Group Name	Solvents (Combustible, HSR002649)
HSNO Controls	Refer to the NZ EPA website for more information: http://www.epa.govt.nz
Approved Handlers	Not Applicable

Poisons Schedule: S6

16. Other information

The following sections have been revised since the last issue of this SDS

Not applicable

Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms

bw – body weight CAS – Chemical Abstracts Service EC50 – Effective Concentration 50% LC50 – Lethal Concentration 50% LD50 – Lethal Dose 50% LL50 – Lethal Loading 50% MARPOL – International Convention for the Prevention of Pollution from Ships mg/kg – milligram/kilogram mg/L – milligram/liter NOEC – No Observed Effect Concentration OEL – Occupational Exposure Limit ppm – parts per million TWA – Time-Weighted Average VOC – Volatile Organic Carbon C - Celsius IATA/ICAO - International Air Transport Association / International Civil Aviation Organization IMDG/IMO - International Maritime Dangerous Goods / International Maritime Organization mg/m³ - milligram/cubic meter mm - millimeter mmHg - millimeter mercury w/w - weight/weight d - day

Key literature references and sources for data

www.ChemADVISOR.com/

OSHA

ECHA C&L

NZ CCID

Revision Date: 21-Jan-2016

Revision Note

SDS sections updated:

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Disclaimer Statement

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End of Safety Data Sheet