

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

BaraMul™ IE-672

Revision Date: 23-Sep-2015

Revision Number: 4

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name BaraMul™ IE-672
Internal ID Code HM007975

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Emulsifier
Sector of use Refer to the Annex for a listing of uses.

1.3. Details of the supplier of the safety data sheet

Halliburton Manufacturing Services, Ltd.
Halliburton House, Howemoss Crescent
Kirkhill Industrial Estate
Dyce
Aberdeen, AB21 0GN
United Kingdom

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961

Emergency telephone - §45 - (EC)1272/2008

Europe	112
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	+210 7793777
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): + 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Romania	+40 21 318 36 06
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Serious Eye Damage / Eye Irritation	Category 2 - (H319)
Skin Sensitization	Category 1 - (H317)
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - (H336)

2.2. Label Elements

Hazard Pictograms



Signal Word

Warning

Hazard Statements

- H317 - May cause an allergic skin reaction
- H319 - Causes serious eye irritation
- H336 - May cause drowsiness or dizziness

Precautionary Statements - EU (§28, 1272/2008)

P280 - Wear protective gloves/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention

Contains

Contains Substances

Substances
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine

CAS Number
68990-47-6

1,4-*Diisopropylbenzene*
Hydrotreated light petroleum distillate

64742-47-8

Hydrotreated light petroleum distillate
Ethylene glycol monobutyl ether

Ethylenic glycol monobutyl ether 111-70-2
Diethylene glycol monobutyl ether 112-34-5

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).

SECTION 3: Composition/information on Ingredients

3.2. Mixtures

Mixture

Substances	EINECS	CAS Number	PERCENT (w/w)	EU - CLP Substance Classification	REACH No.
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	273-601-0	68990-47-6	60 - 100%	Skin Sens. 1 (H317)	01-2119496070-42
Hydrotreated light petroleum distillate	265-149-8	64742-47-8	10 - 30%	STOT SE 3 (H336) Asp. Tox. 1 (H304)	01-2119484819-18
Ethylene glycol monobutyl ether	203-905-0	111-76-2	5 - 10%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	01-2119475108-36
Diethylene glycol monobutyl ether	203-961-6	112-34-5	5 - 10%	Eye Irrit. 2A (H319)	01-2119475104-44

For the full text of the H-phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	If inhaled, move victim to fresh air and seek medical attention.
Eyes	In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.
Skin	In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention.
Ingestion	Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration. Rinse mouth. Never give anything by mouth to an unconscious person.

4.2. Most Important symptoms and effects, both acute and delayed

Causes eye irritation. May cause allergic skin reaction. May cause drowsiness and dizziness.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

SECTION 5: Firefighting Measures**5.1. Extinguishing media****Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

Do NOT spray pool fires directly with water. A solid stream of water directed into hot burning liquid can cause splattering.

5.2. Special hazards arising from the substance or mixture**Special Exposure Hazards**

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

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases
Combustible material

5.3. Advice for firefighters**Special Protective Equipment for Fire-Fighters**

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

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

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.

SECTION 7: Handling and Storage**7.1. Precautions for Safe Handling**

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

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

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 cool, dry location. Keep Away From Food

Product has a shelf life of 36 months.

7.3. Specific End Use(s)

Exposure Scenario
Other Guidelines

Please refer to the attached Annex for a listing of exposure scenarios.
No information available

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	Not applicable	TWA: 25 ppm TWA: 123 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³	TWA: 100 mg/m ³ STEL: 246 mg/m ³	2 ppm
Diethylene glycol monobutyl ether	112-34-5	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL: 15 ppm STEL: 101.2 mg/m ³	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL: 15 ppm STEL: 101.2 mg/m ³	TWA: 50 mg/m ³ STEL: 100 mg/m ³	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL: 15 ppm STEL: 101.2 mg/m ³

Substances	CAS Number	Germany	Spain	Portugal	Finland
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	TWA: 20 ppm TWA: 140 mg/m ³	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 10 ppm TWA: 49 mg/m ³	TWA: 20 ppm TWA: 98 mg/m ³ 50 ppm STEL [VLA-EC]; 245 mg/m ³ STEL [VLA-EC]	TWA: 20 ppm TWA: 98 mg/m ³ 50 ppm STEL [VLA-EC]; 246 mg/m ³	TWA: 20 ppm TWA: 98 mg/m ³ 50 ppm STEL [VLA-EC]; 250 mg/m ³
Diethylene glycol monobutyl ether	112-34-5	TWA: 10 ppm TWA: 67 mg/m ³	TWA: 10 ppm TWA: 67.5 mg/m ³ 15 ppm STEL [VLA-EC]; 101.2 mg/m ³ STEL [VLA-EC]	TWA: 10 ppm TWA: 67.5 mg/m ³ 15 ppm STEL [VLA-EC]; 101.2 mg/m ³ STEL [VLA-EC]	TWA: 10 ppm TWA: 68 mg/m ³

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 98 mg/m ³ STEL" 40 ppm STEL" 200 mg/m ³	20 ppm TWA: 98 mg/m ³ TWA 50 ppm STEL; 246 mg/m ³ STEL	TWA: 10 ppm TWA: 49 mg/m ³ STEL: 20 ppm STEL: 98 mg/m ³	TWA: 10 ppm TWA: 50 mg/m ³ STEL: 20 ppm STEL: 75 mg/m ³
Diethylene glycol monobutyl ether	112-34-5	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL" 15 ppm STEL" 101.2 mg/m ³	10 ppm TWA: 67.5 mg/m ³ TWA 15 ppm STEL; 101.2 mg/m ³ STEL	TWA: 10 ppm TWA: 67 mg/m ³ STEL: 15 ppm STEL: 101 mg/m ³	TWA: 10 ppm TWA: 68 mg/m ³ STEL: 20 ppm STEL: 102 mg/m ³

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable

Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 98 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³	TWA: 98 mg/m ³ STEL: 200 mg/m ³	TWA: 98 mg/m ³ STEL: 246 mg/m ³	TWA: 100 mg/m ³
Diethylene glycol monobutyl ether	112-34-5	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL: 15 ppm STEL: 101.2 mg/m ³	TWA: 67 mg/m ³ STEL: 100 mg/m ³	TWA: 67.5 mg/m ³ STEL: 101.2 mg/m ³	TWA: 100 mg/m ³

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 98 mg/m ³	TWA: 30 ppm TWA: 150 mg/m ³ STEL: 50 ppm STEL: 250 mg/m ³ STEL: 246 mg/m ³	TWA: 20 ppm TWA: 98 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³	TWA: 20 ppm TWA: 98 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³
Diethylene glycol monobutyl ether	112-34-5	TWA: 10 ppm TWA: 68 mg/m ³	TWA: 150 mg/m ³ STEL: 250 mg/m ³	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL: 15 ppm STEL: 101.2 mg/m ³	TWA: 10 ppm TWA: 67.5 mg/m ³ STEL: 15 ppm STEL: 101.2 mg/m ³

Derived No Effect Level (DNEL)

No information available.

Worker

Substances	Long-term exposure - systemic effects, Inhalation	Acute / short term exposure - systemic effects, Inhalation	Long-term exposure - local effects, Inhalation	Acute / short term exposure - local effects, Inhalation	Long-term exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	Long-term exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Hazards for the eyes - local effects
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	14693 µg/m ³	29386 µg/m ³	14693 µg/m ³	14693 µg/m ³	16666 µg/kg bw/day	33332 µg/kg bw/day	1388 µg/cm ²	1388 µg/cm ²	Not available
Ethylene glycol monobutyl ether	98 mg/m ³	663 mg/m ³	Not available	246 mg/m ³	75 mg/kg bw/day	89 mg/kg bw/day	Not available	Not available	Not available
Diethylene glycol monobutyl ether	67.5 mg/m ³	Not available	67.5 mg/m ³	101.2 mg/m ³	20 mg/kg bw/day	Not available	Not available	Not available	Not available

General Population

Substances	Long-term exposure - systemic effects, Inhalation	Acute / short term exposure - systemic effects, Inhalation	Long-term exposure - local effects, Inhalation	Acute / short term exposure - local effects, Inhalation	Long-term exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	Long-term exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Long-term exposure - systemic effects, Oral	Acute / short term exposure - local effects, Oral	Hazards for the eyes - local effects
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	3623 µg/m ³	7246 µg/m ³	3623 µg/m ³	3623 µg/m ³	8333 µg/kg bw/day	16666 µg/kg bw/day	694 µg/cm ²	694 µg/cm ²	8333 µg/kg bw/day	16666 µg/kg bw/day	Not available
Ethylene glycol monobutyl ether	49 mg/m ³	426 mg/m ³	Not available	123 mg/m ³	38 mg/kg bw/day	44.5 mg/kg bw/day	Not available	Not available	3.2 mg/kg bw/day	13.4 mg/kg bw/day	Not available
Diethylene glycol	34 mg/m ³	Not	34 mg/m ³	50.6	10 mg/kg	Not	Not	Not	1.25	Not	Not

monobutyl ether		available		mg/m ³	bw/day	available	available	available	mg/kg bw/day	available	available
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Predicted No Effect Concentration (PNEC)

No information available.

Substances	Freshwater	Marine water	Intermittent release	Sewage treatment plant	Sediment (freshwater)	Sediment (marine water)	Air	Soil	Secondary poisoning
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepenta mine, and triethylenetetramine	0.00217 mg/L	0.000217 mg/L	0.0217 mg/L	1 mg/L	180 mg/kg sediment dw	18 mg/kg sediment dw	Not available	146 mg/kg soil dw	33.34 mg/kg food
Ethylene glycol monobutyl ether	8.8 mg/L	0.88 kg/L	9.1 mg/L	463 mg/L	34.6 mg/kg	3.46 mg/kg	Not available	3.13 mg/kg soil dw	0.02 g/kg food
Diethylene glycol monobutyl ether	1.0 mg/L	0.1 mg/L	3.9 mg/L	200 mg/L	4.0 mg/kg	0.4 mg/kg	Not available	0.4 mg/kg	56 mg/kg food

8.2. Exposure controls**Engineering Controls**

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

Personal protective equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

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 with a dust/mist filter. (A2P2/P3) In high concentrations, supplied air respirator or a self-contained breathing apparatus.

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. (>= 0.35 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.

Rubber apron.

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

Eyewash fountains and safety showers must be easily accessible.

Skin Protection**Eye Protection****Other Precautions****Environmental Exposure Controls** Do not allow material to contaminate ground water system**SECTION 9: Physical and Chemical Properties****9.1. Information on basic physical and chemical properties****Physical State:** Liquid**Color:** Dark amber**Odor:** Mild hydrocarbon**Odor Threshold:** No information available**Property****Values****Remarks/ - Method****pH:**

4-7

Freezing Point/Range

-20 °C

Melting Point/Range

No data available

Boiling Point/Range

150 °C / 304 °F

Flash Point

> 65 °C / 149 °F PMCC

Flammability (solid, gas)

No data available

upper flammability limit

4.7

lower flammability limit

0.6

Evaporation rate

No data available

Vapor Pressure	0.2
Vapor Density	No data available
Specific Gravity	0.94 - 0.97
Water Solubility	Insoluble in 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	> 20.5 cSt @ 40C
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

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

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical Stability

Stable

10.3. Possibility of Hazardous Reactions

Will Not Occur

10.4. Conditions to Avoid

Keep away from heat, sparks and flame.

10.5. Incompatible Materials

Strong oxidizers.

10.6. Hazardous Decomposition Products

Oxides of nitrogen. Hydrocarbons. Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity

Inhalation

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 eye irritation.

Skin Contact

May cause an allergic skin reaction. May cause skin irritation.

Ingestion

May cause central nervous system depression including headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions.

Chronic Effects/Carcinogenicity

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

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	> 2020 mg/kg (Rat)	> 2000 mg/kg (Rat)	No data available
Hydrotreated light petroleum distillate	64742-47-8	> 5000 mg/kg (Rat) (similar substance)	> 2000 mg/kg (Rabbit) (similar substance)	> 5.28 mg/L (Rat) 4h (similar substance)
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)	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

			400-500 mg/kg (Rabbit)	
Diethylene glycol monobutyl ether	112-34-5	3384 mg/kg (Rat) 6560 mg/kg (Rat) 5660 mg/kg (Rat) 2406 mg/kg (Mouse) 2000 mg/kg (Guinea pig)	2700 mg/kg (Rabbit) 2764 mg/kg (Rabbit)	No data available

Substances	CAS Number	Skin corrosion/irritation
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Non-irritating to the skin
Hydrotreated light petroleum distillate	64742-47-8	Non-irritating to the skin (similar substances)
Ethylene glycol monobutyl ether	111-76-2	Causes moderate skin irritation. (Rabbit)
Diethylene glycol monobutyl ether	112-34-5	Mild skin irritation (Rabbit)

Substances	CAS Number	Eye damage/irritation
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Non-irritating to the eye
Hydrotreated light petroleum distillate	64742-47-8	Non-irritating to rabbit's eye
Ethylene glycol monobutyl ether	111-76-2	Causes moderate eye irritation. (Rabbit)
Diethylene glycol monobutyl ether	112-34-5	Causes moderate eye irritation. (Rabbit)

Substances	CAS Number	Skin Sensitization
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Skin sensitizer in guinea pig.
Hydrotreated light petroleum distillate	64742-47-8	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Ethylene glycol monobutyl ether	111-76-2	Did not cause sensitization on laboratory animals (guinea pig)
Diethylene glycol monobutyl ether	112-34-5	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	No information available
Hydrotreated light petroleum distillate	64742-47-8	No information available
Ethylene glycol monobutyl ether	111-76-2	No information available
Diethylene glycol monobutyl ether	112-34-5	No information available

Substances	CAS Number	Mutagenic Effects
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	In vivo tests did not show mutagenic effects.

Hydrotreated light petroleum distillate	64742-47-8	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances)
Ethylene glycol monobutyl ether	111-76-2	In vivo tests did not show mutagenic effects. In vitro tests did not show mutagenic effects
Diethylene glycol monobutyl ether	112-34-5	In vivo tests did not show mutagenic effects. In vitro tests did not show mutagenic effects

Substances	CAS Number	Carcinogenic Effects
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	No information available.
Hydrotreated light petroleum distillate	64742-47-8	Did not show carcinogenic effects in animal experiments
Ethylene glycol monobutyl ether	111-76-2	Not regarded as carcinogenic.
Diethylene glycol monobutyl ether	112-34-5	No information available.

Substances	CAS Number	Reproductive toxicity
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Animal testing did not show any effects on fertility.
Hydrotreated light petroleum distillate	64742-47-8	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
Ethylene glycol monobutyl ether	111-76-2	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Diethylene glycol monobutyl ether	112-34-5	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	No information available
Hydrotreated light petroleum distillate	64742-47-8	May cause disorder and damage to the Central Nervous System (CNS) (similar substances)
Ethylene glycol monobutyl ether	111-76-2	No data of sufficient quality are available.
Diethylene glycol monobutyl ether	112-34-5	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	No data of sufficient quality are available.
Hydrotreated light petroleum distillate	64742-47-8	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Ethylene glycol monobutyl ether	111-76-2	No data of sufficient quality are available.
Diethylene glycol monobutyl ether	112-34-5	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable

Hydrotreated light petroleum distillate	64742-47-8	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.
Ethylene glycol monobutyl ether	111-76-2	No adverse health effects are expected from swallowing.
Diethylene glycol monobutyl ether	112-34-5	Not applicable

SECTION 12: Ecological Information

12.1. Toxicity

Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	EC50 (72h) > 100 mg/L (growth rate) (Pseudokirchneriella subcapitata)	LC50 (96h) > 100 mg/L (Danio rerio)	EC50 (3h) > 100 mg/L (Activated sludge) (respiration rate)	IC50 (48h) > 100 mg/L (Daphnia magna)
Hydrotreated light petroleum distillate	64742-47-8	EC50 (72h) > 1,000 mg/L (Skeletonema costatum) ErL50 (72h) > 1000 mg/L (Pseudokirchneriella subcapitata) EbL50 (72h) > 1000 mg/L (Pseudokirchneriella subcapitata) NOELR (72h) 1000 mg/L (Pseudokirchneriella subcapitata)	LC50 (96h) > 10,000 mg/L (Scophthalmus maximus) LL50 (96h) > 1000 mg/L (Oncorhynchus mykiss)	No information available	LC50 (48h) > 10,000 mg/L (Acartia tonsa) EC50 (48h) 1100 mg/L (Daphnia pulex) LC50 (48h) 0.12 mg/L (Daphnia magna) EL50 (48h) > 1000 mg/L (Daphnia magna)
Ethylene glycol monobutyl ether	111-76-2	EC50 839.56 mg/L (Skeletonema costatum) EbC50 (72h) 911 mg/L EC50 > 500 mg/L (Scenedesmus subspicatus) NOEC (72h) 88 mg/L (biomass)(Pseudokirchneriella 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 parducci) TT/EC3 (72h) 73 mg/L (Entosiphon sulcatum) TT/EC3 (16h) 700 mg/L (Pseudomonas putida)	No information available
Diethylene glycol monobutyl ether	112-34-5	EC50 > 100 mg/L (Desmodesmus subspicatus)	LC50 1300 mg/L (Lepomis macrochirus)	EC10 >1995 mg/L (Activated sludge, industrial)	EC50 > 100 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Readily biodegradable (71% @ 28d)
Hydrotreated light petroleum distillate	64742-47-8	Readily biodegradable (40% @ 28d)
Ethylene glycol monobutyl ether	111-76-2	Readily biodegradable (75-88% @ 28d)
Diethylene glycol monobutyl ether	112-34-5	Readily biodegradable (85% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	2.4
Hydrotreated light petroleum distillate	64742-47-8	No information available
Ethylene glycol monobutyl ether	111-76-2	0.81
Diethylene glycol monobutyl ether	112-34-5	1.0

12.4. Mobility in soil

Substances	CAS Number	Mobility
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	No information available
Hydrotreated light petroleum distillate	64742-47-8	No information available
Ethylene glycol monobutyl ether	111-76-2	No information available
Diethylene glycol monobutyl ether	112-34-5	No information available

12.5. Results of PBT and vPvB assessment

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).

Substances	PBT and vPvB assessment
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	Not PBT/vPvB
Hydrotreated light petroleum distillate	Not PBT/vPvB
Ethylene glycol monobutyl ether	Not PBT/vPvB
Diethylene glycol monobutyl ether	Not PBT/vPvB

12.6. Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Disposal Method Disposal should be made in accordance with federal, state, and local regulations.
Contaminated Packaging Follow all applicable national or local regulations.

SECTION 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

RID

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

ADR

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

IATA/ICAO

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

14.1. UN Number: Not restricted

14.2. UN Proper Shipping Name: Not restricted

14.3. Transport Hazard Class(es): Not applicable

14.4. Packing Group: Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User: None

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

EINECS Inventory	This product, and all its components, complies with EINECS
US TSCA Inventory	All components listed on inventory or are exempt.
Canadian DSL Inventory	All components listed on inventory or are exempt.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering Classes (WGK) WGK 1: Low hazard to waters.

List of the carcinogenic, mutagenic and toxic for reproduction substances SZW (Complex) petroleum and coal derivatives

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Diethylene glycol monobutyl ether	112-34-5	Use restricted. See item 55. Conditions of restrictions 27 June 2010	Not applicable

15.2. Chemical Safety Assessment

Yes

SECTION 16: Other Information

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

H336 - May cause drowsiness or dizziness

Key or legend to abbreviations and acronyms

bw – body weight

CAS – Chemical Abstracts Service

CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures

EC – European Commission

EC10 – Effective Concentration 10%

EC50 – Effective Concentration 50%

EEC – European Economic Community

ErC50 – Effective Concentration growth rate 50%

IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL0 – Lethal Loading 0%

LL50 – Lethal Loading 50%

MARPOL – International Convention for the Prevention of Pollution from Ships

mg/kg – milligram/kilogram

mg/L – milligram/liter

NIOSH – National Institute for Occupational Safety and Health

NOEC – No Observed Effect Concentration

NTP – National Toxicology Program

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

PC – Chemical Product category

PEL – Permissible Exposure Limit

ppm – parts per million

PROC – Process category

REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

STEL – Short Term Exposure Limit

SU – Sector of Use category

Key literature references and sources for data

www.ChemADVISOR.com/

Revision Date: 23-Sep-2015

Revision Note

SDS sections updated: 1

This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010

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End of Safety Data Sheet