

Flammable liquids.

Category 3 - H226

2.2. Label Elements**Hazard Pictograms****Signal Word****Danger****Hazard Statements**

H226 - Flammable liquid and vapor
 H304 - May be fatal if swallowed and enters airways
 H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H336 - May cause drowsiness or dizziness
 H411 - Toxic to aquatic life with long lasting effects

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

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 P280 - Wear protective gloves/eye protection/face protection
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 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

Contains Substances

Hydrotreated light petroleum distillate
 Isobutanol

CAS Number

64742-47-8

78-83-1

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

68990-47-6

Quaternary ammonium compounds, di-C14-C18-alkyldimethyl,
 chlorides

68002-59-5

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.
Hydrotreated light petroleum distillate	265-149-8	64742-47-8	30 - 60%	STOT SE 3 (H336) Asp. Tox. 1 (H304)	01-2119484819-18
Isobutanol	201-148-0	78-83-1	10 - 30%	Skin Irrit. 2 (H315) Eye Corr. 1 (H318) STOT SE 3 (H336) Flam. Liq. 3 (H226)	01-2119484609-23
Fatty acid, tall-oil, reaction	273-601-0	68990-47-6	10 - 30%	Skin Sens. 1 (H317)	01-2119496070-42

product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine					
Quaternary ammonium compounds, di-C14-C18-alkyl dimethyl, chlorides	268-072-8	68002-59-5	1 - 5%	Acute Tox. 4 (H302) Skin Corr. 1B (H314) Eye Corr. 1 (H318) STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	01-2119485041-46

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	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 laundry before reuse.
Ingestion	Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

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

Causes severe eye irritation which may damage tissue. Causes skin irritation. May cause allergic skin reaction. May cause headache, dizziness, and other central nervous system effects.

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

None known.

5.2. Special hazards arising from the substance or mixture

Special Exposure Hazards

May be ignited by heat, sparks or flames. Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce harmful gases.

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

Remove sources of ignition. Use appropriate protective equipment. 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.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling

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. Ground and bond containers when transferring from one container to another.

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. Product separates with storage and requires mixing before use. Product has a shelf life of 12 months.

7.3. Specific End Use(s)

Exposure Scenario

Please refer to the attached Annex for a listing of exposure scenarios.

Other Guidelines

No information available

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable	Not applicable	Not applicable
Isobutanol	78-83-1	Not applicable	TWA: 50 ppm TWA: 154 mg/m ³ STEL: 75 ppm STEL: 231 mg/m ³	50 ppm	50 ppm
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Hydrotreated light petroleum distillate	64742-47-8	TWA: 20 ppm TWA: 140 mg/m ³	Not applicable	Not applicable	Not applicable
Isobutanol	78-83-1	TWA: 100 ppm TWA: 310 mg/m ³	TWA: 50 ppm TWA: 154 mg/m ³	TWA: 50 ppm	Not applicable
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable	Not applicable	Not applicable
Isobutanol	78-83-1	TWA: 50 ppm TWA: 150 mg/m ³ STEL: 200 ppm STEL: 600 mg/m ³	50 ppm TWA; 150 mg/m ³ TWA 75 ppm STEL; 225 mg/m ³ STEL	TWA: 50 ppm TWA: 150 mg/m ³ STEL: 50 ppm STEL: 150 mg/m ³	Not applicable
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine,	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable

and triethylenetetramine					
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable	Not applicable	Not applicable
Isobutanol	78-83-1	Not applicable	TWA: 100 mg/m ³ STEL: 200 mg/m ³	Not applicable	TWA: 300 mg/m ³
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable	Not applicable	Not applicable
Isobutanol	78-83-1	Not applicable	TWA: 33 ppm TWA: 100 mg/m ³ STEL: 66 ppm STEL: 200 mg/m ³	TWA: 50 ppm TWA: 154 mg/m ³ STEL: 75 ppm STEL: 231 mg/m ³	Not applicable
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	Not applicable	Not applicable	Not applicable	Not applicable

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
Isobutanol	Not available	Not available	310 mg/m ³	Not available	Not available	Not available	Not available	Not available	Not available
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
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	9.7 mg/m ³	Not available	No-threshold effect and/or no dose-response information available	Not available	14 mg/kg bw/day	Not available	No-threshold effect and/or no dose-response information 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
Isobutanol	Not available	Not available	55 mg/m ³	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available
Fatty acid, tall-oil,	3623	7246	3623	3623	8333	16666	694	694	8333	16666	Not

reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	µg/m³	µg/m³	µg/m³	µg/m³	µg/kg bw/day	µg/kg bw/day	µg/cm²	µg/cm²	µg/kg bw/day	µg/kg bw/day	available
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	Exposure based waiving	Exposure based waiving	Exposure based waiving	Exposure based waiving	Not available	No-threshold effect and/or no dose-response information available	No-threshold effect and/or no dose-response information available	Not available	0.83 mg/kg bw/day	Exposure based waiving	Not available

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
Isobutanol	0.4 mg/L	0.04 mg/L	11 mg/L	10 mg/L	1.52 mg/kg sediment dw	0.152 mg/kg sediment dw	Not available	0.0699 mg/kg soil dw	Not available
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, 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
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	6.2 µg/L	0.62 µg/L	0.0024 mg/L	0.21 mg/L	55 mg/kg sediment dw	11 mg/kg sediment dw	Not available	7.3 mg/kg soil dw	No potential for bioaccumulation

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.

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.

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: Semi-Solid **Color:** Brown Green
Odor: Alcohol **Odor Threshold:** No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
pH:	5-8
Freezing Point/Range	-10 °C
Melting Point/Range	No data available
Boiling Point/Range	No data available
Flash Point	33 °C / 92 °F PMCC
Flammability (solid, gas)	No data available
upper flammability limit	No data available
lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	0.977
Water Solubility	Slightly soluble
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

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

Ammonia. Oxides of nitrogen. 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 severe eye irritation which may damage tissue.

Skin Contact

Causes skin irritation. May cause an allergic skin reaction.

Ingestion

Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

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
Hydrotreated light	64742-47-8	> 5000 mg/kg (Rat) (similar)	> 2000 mg/kg (Rabbit) (similar)	> 5.28 mg/L (Rat) 4h (similar)

		substance)	substance)	substance)
petroleum distillate				
Isobutanol	78-83-1	2460 mg/kg (Rat) 3350 mg/kg (Rat) > 2830 mg/kg (Rat)	> 2000 mg/kg (Rabbit) 3392 mg/kg (Rabbit)	6.5 mg/L (Rat) 4h 24.6 mg/L (Rat) 4h 19.6 mg/L (Rat) 4h
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
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	> 5000 mg/kg (Rat) (similar substance) 960 mg/kg (Rat) (similar substance)	> 2000 mg/kg (Rat) (similar substance)	> 180 mg/L (Rat) (similar substance)

Substances	CAS Number	Skin corrosion/irritation
Hydrotreated light petroleum distillate	64742-47-8	Non-irritating to the skin (similar substances)
Isobutanol	78-83-1	Irritating to skin. (Rabbit)
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Non-irritating to the skin
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	Causes severe irritation and or burns (Rabbit) (similar substances)

Substances	CAS Number	Eye damage/irritation
Hydrotreated light petroleum distillate	64742-47-8	Non-irritating to rabbit's eye
Isobutanol	78-83-1	Causes severe eye irritation. (Rabbit)
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Non-irritating to the eye
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	Causes severe eye irritation. (Rabbit) (similar substances)

Substances	CAS Number	Skin Sensitization
Hydrotreated light petroleum distillate	64742-47-8	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Isobutanol	78-83-1	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Skin sensitizer in guinea pig.
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)

Substances	CAS Number	Respiratory Sensitization
Hydrotreated light petroleum distillate	64742-47-8	No information available
Isobutanol	78-83-1	No information available
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	No information available
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	No information available

Substances	CAS Number	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)
Isobutanol	78-83-1	In vitro tests did not show mutagenic effects In vivo tests did not show 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.
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	In vitro tests did not show mutagenic effects (similar substances)

Substances	CAS Number	Carcinogenic Effects
Hydrotreated light petroleum distillate	64742-47-8	Did not show carcinogenic effects in animal experiments
Isobutanol	78-83-1	No information available.
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	No information available.
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	No information available.

Substances	CAS Number	Reproductive toxicity
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)
Isobutanol	78-83-1	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
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.
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)

Substances	CAS Number	STOT - single exposure
Hydrotreated light petroleum distillate	64742-47-8	May cause disorder and damage to the Central Nervous System (CNS) (similar substances)
Isobutanol	78-83-1	May cause respiratory irritation. May cause headache, dizziness, and other central nervous system effects.
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	No information available
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	May cause respiratory irritation. (similar substances)

Substances	CAS Number	STOT - repeated exposure
Hydrotreated light petroleum distillate	64742-47-8	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Isobutanol	78-83-1	No significant toxicity observed in animal studies at concentration requiring classification.
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	No data of sufficient quality are available.
Quaternary ammonium compounds, di-C14-C18-alk	68002-59-5	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

ylidimethyl, chlorides		
Substances	CAS Number	Aspiration hazard
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.
Isobutanol	78-83-1	Not applicable
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable
Quaternary ammonium compounds, di-C14-C18-alkylidimethyl, chlorides	68002-59-5	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
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)
Isobutanol	78-83-1	ErC50(48h): 2300 mg/L (Desmodesmus subspicatus) ErC50(72h): 1799 mg/L (Pseudokirchnerella subcapitata)	LC50(96h): 1370 - 1670 mg/L (Pimephales promelas) LC50(96h): 1430 mg/L (Pimephales promelas)	TGK(16h): 280 mg/L (growth inhibition) (Pseudomonas putida) IC50(16h): > 1000 mg/L (growth inhibition) (Industrial sewage)	EC50(48h): 1100 mg/L (Daphnia pulex) NOEC(21d): 20 mg/L (reproduction) (Daphnia magna)
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	EC50 (72h) > 100 mg/L (growth rate) (Pseudokirchnerella subcapitata)	LC50 (96h) > 100 mg/L (Danio rerio)	EC50 (3h) > 100 mg/L (Activated sludge) (respiration rate)	IC50 (48h) > 100 mg/L (Daphnia magna)
Quaternary ammonium compounds, di-C14-C18-alkylidimethyl, chlorides	68002-59-5	EC50(96h): 0.36 mg/L (growth rate) (Pseudokirchnerella subcapitata) (similar substance) EC50(72h): 12.9 mg/L (Skeletonema costatum) NOEC(5d): 0.062 mg/L (Pseudokirchnerella subcapitata) (similar substance)	LC50(96h): 21.3 mg/L (Pimephales promelas) (similar substance) LC50(96h): > 0.1 < 1 mg/L (Danio rerio) (similar substance) LC50(96h): 781.2 mg/L (Scophthalmus maximus) NOEC(35d): 0.23 mg/L (Pimephales promelas) (similar substance)	EC50: 278 mg/L (respiration rate, activated sludge) (similar substance)	EC50A(48h): 0.16 mg/L (Daphnia magna) (similar substance) LC50(48h): 769.7 mg/L (Acartia tonsa) NOEC(21d): 0.38 mg/L (Daphnia magna) (similar substance)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Hydrotreated light petroleum distillate	64742-47-8	Readily biodegradable (40% @ 28d)
Isobutanol	78-83-1	Readily biodegradable (70-80% @ 28d)
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Readily biodegradable (71% @ 28d)

Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	Not readily biodegradable (3 - 61% @ 28d) (similar substances)
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12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Hydrotreated light petroleum distillate	64742-47-8	No information available
Isobutanol	78-83-1	0.79 BCF: 3
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	2.4
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	BCF: 13 L/kg (river water) (Lepomis macrochirus) (similar substance)

12.4. Mobility in soil

Substances	CAS Number	Mobility
Hydrotreated light petroleum distillate	64742-47-8	No information available
Isobutanol	78-83-1	Log Koc = 0.31
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	No information available
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	68002-59-5	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
Hydrotreated light petroleum distillate	Not PBT/vPvB
Isobutanol	Not PBT/vPvB
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	Not PBT/vPvB
Quaternary ammonium compounds, di-C14-C18-alkyldimethyl, chlorides	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
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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
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IMDG/IMO

UN Number: UN1212
 UN Proper Shipping Name: Isobutanol Solution
 Transport Hazard Class(es): 3,
 Packing Group: III
 Environmental Hazards: Marine Pollutant

RID

UN Number: UN1212
 UN Proper Shipping Name: Isobutanol Solution
 Transport Hazard Class(es): 3,
 Packing Group: III
 Environmental Hazards: Marine Pollutant

ADR

UN Number:	UN1212
UN Proper Shipping Name:	Isobutanol Solution
Transport Hazard Class(es):	3,
Packing Group:	III
Environmental Hazards:	Marine Pollutant

IATA/ICAO

UN Number:	UN1212
UN Proper Shipping Name:	Isobutanol Solution
Transport Hazard Class(es):	3,
Packing Group:	III
Environmental Hazards:	Marine Pollutant

14.1. UN Number: UN1212**14.2. UN Proper Shipping Name:** Isobutanol Solution**14.3. Transport Hazard Class(es):** 3,**14.4. Packing Group:** III**14.5. Environmental Hazards:** Marine Pollutant**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/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering Classes (WGK)	Not determined.
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15.2. Chemical Safety Assessment

Yes

SECTION 16: Other Information**Full text of H-Statements referred to under sections 2 and 3**

H226 - Flammable liquid and vapor
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H314 - Causes severe skin burns and eye damage
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H411 - Toxic to aquatic life with long lasting effects

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 datawww.ChemADVISOR.com/**Revision Date:** 16-Sep-2015**Revision Note**

SDS sections updated: 1

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

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End of Safety Data Sheet