



SAFETY DATA SHEET TETRANYL AO 1

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

1.1. Product identifier

Product name TETRANYL AO 1
Product number 51549
Synonyms; trade names TETRANYL AO 1 RSPO MB

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

Identified uses Chemical Intermediate Detergent. Fabric Softeners Cleaning agent. Industrial application

1.3. Details of the supplier of the safety data sheet

Supplier Univar Solutions UK Ltd
Aquarius House
6 Mid Point Business Park
Bradford
BD3 7AY
+44 1274 267300
+44 1274 267306
SDS.EMEA@univarsolutions.com

1.4. Emergency telephone number

Emergency telephone SGS - +32 (0)3 575 55 55 (24h)
Sds No. 51549

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Flam. Liq. 3 - H226
Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2 - H319
Environmental hazards Not Classified

2.2. Label elements

Hazard pictograms



Signal word Warning

Hazard statements
H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

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Precautionary statements

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P241 Use explosion-proof electrical, ventilating and lighting equipment.
 P235 Keep cool.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

FATTY ACIDS, C18 UNSATURATED, REACTION PRODUCTS WITH TRIETHANOLAMINE, DI-ME SULPHATE QUATERNIZED			25 - 100%
CAS number: 94095-35-9	EC number: 931-216-1	REACH registration number: 01-2119472309-33-XXXX	
Classification			
Skin Irrit. 2 - H315			
Eye Irrit. 2 - H319			
PROPAN-2-OL			5-10%
CAS number: 67-63-0	EC number: 200-661-7	REACH registration number: 01-2119457558-25-XXXX	
Classification			
Flam. Liq. 2 - H225			
Eye Irrit. 2 - H319			
STOT SE 3 - H336			

The full text for all hazard statements is displayed in Section 16.

Composition comments

The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation. Get medical attention if symptoms are severe or persist. Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

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Ingestion	Rinse mouth thoroughly with water. Remove any dentures. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Give plenty of water to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if symptoms are severe or persist. Never give anything by mouth to an unconscious person. Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
Skin contact	Wash skin thoroughly with soap and water. Take off immediately all contaminated clothing. Continue to rinse for at least 10 minutes. Get medical attention if any discomfort continues. Wash clothing and clean shoes thoroughly before reuse.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes. Get medical attention.
Protection of first aiders	No action shall be taken without appropriate training or involving any personal risk. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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

Skin contact	Causes skin irritation. Overexposure may cause the following adverse effects: Irritation. Redness.
Eye contact	Causes serious eye irritation. Overexposure may cause the following adverse effects: Pain or irritation. Redness. Profuse watering of the eyes.

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

Notes for the doctor	No specific recommendations. Treat symptomatically. Contact specialist immediately poison treatment if large quantities have been ingested or inhaled
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Flammable liquid and vapour. Containers can burst violently or explode when heated, due to excessive pressure build-up. Vapours may form explosive mixtures with air. Fire-water run-off in sewers may create fire or explosion hazard. When heated and in case of fire, toxic vapours/gases may be formed.
Hazardous combustion products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of the following substances: Carbon.

5.3. Advice for firefighters

Protective actions during firefighting	No action shall be taken without appropriate training or involving any personal risk. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Contain and collect extinguishing water. Control run-off water by containing and keeping it out of sewers and watercourses.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

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6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	No action shall be taken without appropriate training or involving any personal risk. Evacuate area. Keep unnecessary and unprotected personnel away from the spillage. Do not touch or walk into spilled material. No smoking, sparks, flames or other sources of ignition near spillage. Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation. If ventilation is inadequate, suitable respiratory protection must be worn. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet.
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6.2. Environmental precautions

Environmental precautions	Avoid the spillage or runoff entering drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Stop leak if safe to do so. Move containers from spillage area. Use only non-sparking tools. Use explosion-proof electrical equipment. Approach the spillage from upwind. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses. Absorb spillage with inert, damp, non-combustible material. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible.
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6.4. Reference to other sections

Reference to other sections	Wear protective clothing as described in Section 8 of this safety data sheet. Collect and dispose of spillage as indicated in Section 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	Wear protective clothing as described in Section 8 of this safety data sheet. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapours and spray/mists. Provide adequate ventilation. If ventilation is inadequate, suitable respiratory protection must be worn. Container must be kept tightly closed when not in use. Avoid heat, flames and other sources of ignition. Use explosion-proof electrical, ventilating and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Product residues retained in emptied containers can be hazardous. Do not reuse empty containers.
Advice on general occupational hygiene	Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Remove contaminated clothing and protective equipment before entering eating areas. Observe good chemical hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	Store in tightly-closed, original container in a dry, cool and well-ventilated place. Avoid exposure to high temperatures or direct sunlight. Store away from incompatible materials (see Section 10). Keep away from food and drink. Eliminate all sources of ignition. Store away from the following materials: Strong oxidising agents. Container must be kept tightly closed when not in use. Only store in correctly labelled containers.
Storage class	Flammable liquid storage.

7.3. Specific end use(s)

Specific end use(s)	The identified uses for this product are detailed in Section 1.2.
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SECTION 8: Exposure controls/Personal protection

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8.1. Control parameters

Occupational exposure limits

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Long-term exposure limit (8-hour TWA): WEL 400 ppm 999 mg/m³

Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m³

WEL = Workplace Exposure Limit.

Ingredient comments

Observe any occupational exposure limits for the product or ingredients.

FATTY ACIDS, C18 UNSATURATED, REACTION PRODUCTS WITH TRIETHANOLAMINE, DI-ME SULPHATE QUATERNIZED (CAS: 94095-35-9)

PNEC

Fresh water; 0.065 mg/l
marine water; 0.0065 mg/l
STP; 2.96 mg/l

PROPAN-2-OL (CAS: 67-63-0)

DNEL

Industry - Dermal; Long term systemic effects: 888 mg/kg/day
Industry - Inhalation; Long term systemic effects: 500 mg/m³
Consumer - Dermal; Long term systemic effects: 319 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 89 mg/m³
Consumer - Oral; Long term systemic effects: 26 mg/kg/day

PNEC

- Fresh water; 140.9 mg/l
- marine water; 140.9 mg/l
- Intermittent release; 140.9 mg/l
- STP; 2251 mg/l
- Sediment (Freshwater); 552 mg/kg
- Sediment (Marinewater); 552 mg/kg
- Soil; 28 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Use explosion-proof electrical, ventilating and lighting equipment.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. The selected gloves should have a breakthrough time of at least 8 hours. Butyl rubber. Viton rubber (fluoro rubber). Nitrile rubber. Neoprene. To protect hands from chemicals, gloves should comply with European Standard EN374.

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Other skin and body protection	Wear fire/flammable resistant/retardant clothing. Wear anti-static protective clothing if there is a risk of ignition from static electricity. Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
Hygiene measures	Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Care should be taken to avoid contact with contaminants when removing contaminated clothing. Wash contaminated clothing before reuse. Provide eyewash station and safety shower.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. If ventilation is inadequate, suitable respiratory protection must be worn. EN 136/140/141/145/143/149
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Light (or pale). Yellow.
Odour	Alcoholic.
Odour threshold	No information available.
pH	pH (diluted solution): 2.5 - 3.5 (5% w/w)
Melting point	4 - 10°C
Initial boiling point and range	No information available.
Flash point	24°C Closed cup.
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapour pressure	No information available.
Vapour density	No information available.
Relative density	0.996 @ 20°C
Bulk density	No information available.
Solubility(ies)	Insoluble in water.
Partition coefficient	No information available.
Auto-ignition temperature	No information available.

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Decomposition Temperature	No information available.
Viscosity	400 - 1500 cP @ 20°C
Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	No information available.
Oxidising properties	Does not meet the criteria for classification as oxidising.
<u>9.2. Other information</u>	
Refractive index	No information available.
Particle size	No information available.
Molecular weight	No information available.
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	This product contains a maximum VOC content of 10 %.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No test data specifically related to reactivity available for this product or its ingredients.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Under normal conditions of storage and use, no hazardous reactions will occur.
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10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition. Static electricity and formation of sparks must be prevented.
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10.5. Incompatible materials

Materials to avoid	Avoid contact with strong oxidising agents.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of the following substances: Carbon.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀)	No information available.
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Acute toxicity - dermal

Notes (dermal LD₅₀)	No information available.
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Acute toxicity - inhalation

Notes (inhalation LC₅₀)	No information available.
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Skin corrosion/irritation

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye irritation.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation No information available.

Germ cell mutagenicity

Genotoxicity - in vitro No information available.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility No information available.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

Inhalation Gas or vapour in high concentrations may irritate the respiratory system.

Ingestion May cause discomfort if swallowed.

Skin contact Causes skin irritation. Overexposure may cause the following adverse effects: Irritation. Redness.

Eye contact Causes serious eye irritation. Overexposure may cause the following adverse effects: Pain or irritation. Profuse watering of the eyes. Redness.

Toxicological information on ingredients.

FATTY ACIDS, C18 UNSATURATED, REACTION PRODUCTS WITH TRIETHANOLAMINE, DI-ME SULPHATE QUATERNIZED

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 2,000.0

Species Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ > 2000 mg/kg, Dermal, Rat

Skin corrosion/irritation

Animal data Causes skin irritation. Rabbit

Serious eye damage/irritation

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Serious eye damage/irritation Causes serious eye irritation. Rabbit

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Not sensitising. Guinea pig

Germ cell mutagenicity

Genotoxicity - in vitro Bacterial reverse mutation test: Negative. OECD 471 Chromosome aberration: Negative. OECD 473 Gene mutation: Negative. OECD 476

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility This substance has no evidence of toxicity to reproduction.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

Inhalation Gas or vapour in high concentrations may irritate the respiratory system.

Ingestion May cause discomfort if swallowed.

Skin contact Causes skin irritation.

Eye contact Causes serious eye irritation.

PROPAN-2-OL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,840.0

Species Rat

Notes (oral LD₅₀) OECD 401

ATE oral (mg/kg) 5,840.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 13,900.0

Species Rabbit

Notes (dermal LD₅₀) OECD 402

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ATE dermal (mg/kg) 13,900.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ gases ppmV) 10,000.0

Species Rat

Notes (inhalation LC₅₀) LC₅₀ (6h) >10000 ppm, Inhalation, Rat OECD 403

Skin corrosion/irritation

Animal data Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye irritation.

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vivo No information available.

Carcinogenicity

Carcinogenicity There is no evidence that the product can cause cancer.

Reproductive toxicity

Reproductive toxicity - fertility No information available.

Specific target organ toxicity - single exposure

STOT - single exposure May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

Inhalation May cause respiratory system irritation. Vapours may cause drowsiness and dizziness.

Ingestion Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Skin contact Prolonged contact may cause dryness of the skin.

Eye contact Causes serious eye irritation.

Target organs Kidneys Liver

SECTION 12: Ecological information

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Ecotoxicity The product is not expected to be hazardous to the environment. However, large or frequent spills may have hazardous effects on the environment.

Ecological information on ingredients.

FATTY ACIDS, C18 UNSATURATED, REACTION PRODUCTS WITH TRIETHANOLAMINE, DI-ME SULPHATE QUATERNIZED

Ecotoxicity The product is not expected to be hazardous to the environment. However, large or frequent spills may have hazardous effects on the environment.

PROPAN-2-OL

Ecotoxicity The product is not expected to be toxic to aquatic organisms.

12.1. Toxicity

Toxicity There are no data on the ecotoxicity of this product.

Ecological information on ingredients.

FATTY ACIDS, C18 UNSATURATED, REACTION PRODUCTS WITH TRIETHANOLAMINE, DI-ME SULPHATE QUATERNIZED

Toxicity Not considered toxic to fish.

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 1.91 mg/l, Freshwater fish
OECD 203

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 2.23 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 2.14 mg/l, Freshwater algae
OECD 201
EC₁₀, 72 hours: 1.48 mg/l, Freshwater algae
OECD 201

PROPAN-2-OL

Toxicity Not considered toxic to fish.

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 48 hours: 9640 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 10000 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 7 days: 1800 mg/l, Algae

12.2. Persistence and degradability

Persistence and degradability The surfactant(s) contained in this product complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them at their direct request, or at the request of a detergent manufacturer.

Ecological information on ingredients.

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FATTY ACIDS, C18 UNSATURATED, REACTION PRODUCTS WITH TRIETHANOLAMINE, DI-ME SULPHATE QUATERNIZED

Persistence and degradability	The substance is readily biodegradable. This surfactant complies with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them at their direct request, or at the request of a detergent manufacturer.
Biodegradation	- Degradation > 60%: 28 days OECD 301B

PROPAN-2-OL

Persistence and degradability	The substance is readily biodegradable.
Biological oxygen demand	53 %

12.3. Bioaccumulative potential

Bioaccumulative potential	No data available on bioaccumulation.
Partition coefficient	No information available.

Ecological information on ingredients.

FATTY ACIDS, C18 UNSATURATED, REACTION PRODUCTS WITH TRIETHANOLAMINE, DI-ME SULPHATE QUATERNIZED

Bioaccumulative potential	No information available.
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PROPAN-2-OL

Bioaccumulative potential	The product is not bioaccumulating.
Partition coefficient	log Pow: 0.05 OECD 107

12.4. Mobility in soil

Mobility	The product is insoluble in water.
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Ecological information on ingredients.

FATTY ACIDS, C18 UNSATURATED, REACTION PRODUCTS WITH TRIETHANOLAMINE, DI-ME SULPHATE QUATERNIZED

Mobility	No information available.
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PROPAN-2-OL

Mobility	The product is soluble in water.
Surface tension	22.7 mN/m @ 20°C

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This product does not contain any substances classified as PBT or vPvB.
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Ecological information on ingredients.

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FATTY ACIDS, C18 UNSATURATED, REACTION PRODUCTS WITH TRIETHANOLAMINE, DI-ME SULPHATE QUATERNIZED

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

PROPAN-2-OL

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not determined.

Ecological information on ingredients.

FATTY ACIDS, C18 UNSATURATED, REACTION PRODUCTS WITH TRIETHANOLAMINE, DI-ME SULPHATE QUATERNIZED

Other adverse effects No information available.

PROPAN-2-OL

Other adverse effects No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste. Do not puncture or incinerate, even when empty.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General Wear protective clothing as described in Section 8 of this safety data sheet.

14.1. UN number

UN No. (ADR/RID) 1993

UN No. (IMDG) 1993

UN No. (ICAO) 1993

UN No. (ADN) 1993

14.2. UN proper shipping name

Proper shipping name (ADR/RID) FLAMMABLE LIQUID, N.O.S. (CONTAINS PROPAN-2-OL)

Proper shipping name (IMDG) FLAMMABLE LIQUID, N.O.S. (CONTAINS PROPAN-2-OL)

Proper shipping name (ICAO) FLAMMABLE LIQUID, N.O.S. (CONTAINS PROPAN-2-OL)

Proper shipping name (ADN) FLAMMABLE LIQUID, N.O.S. (CONTAINS PROPAN-2-OL)

14.3. Transport hazard class(es)

ADR/RID class 3

ADR/RID classification code F1

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ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III
ADN packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS	F-E, S-E
ADR transport category	3
Emergency Action Code	•3Y
Hazard Identification Number (ADR/RID)	30
Tunnel restriction code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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

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EU legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Commission Regulation (EU) No 2015/830 of 28 May 2015.

This product may impact SEVESO storage regulations.

The surfactant(s) contained in this product complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents.

Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents (as amended).

Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them at their direct request, or at the request of a detergent manufacturer.

Seveso Directive - Control of major accident hazards P5c

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

Canada - DSL/NDSL

All the ingredients are listed or exempt.
DSL

US - TSCA

All the ingredients are listed or exempt.

Australia - AICS

All the ingredients are listed or exempt.

Japan - ENCS

All the ingredients are listed or exempt.

Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

SECTION 16: Other information

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Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
 CAS: Chemical Abstracts Service.
 DNEL: Derived No Effect Level.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 Kow: Octanol-water partition coefficient.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 PBT: Persistent, Bioaccumulative and Toxic substance.
 PNEC: Predicted No Effect Concentration.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 vPvB: Very Persistent and Very Bioaccumulative.
 IARC: International Agency for Research on Cancer.
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 cATpE: Converted Acute Toxicity Point Estimate.
 BCF: Bioconcentration Factor.
 BOD: Biochemical Oxygen Demand.
 EC₅₀: 50% of maximal Effective Concentration.
 LOAEC: Lowest Observed Adverse Effect Concentration.
 LOAEL: Lowest Observed Adverse Effect Level.
 NOAEC: No Observed Adverse Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 NOEC: No Observed Effect Concentration.
 LOEC: Lowest Observed Effect Concentration.
 DMEL: Derived Minimal Effect Level.
 EL50: Exposure Limit 50
 hPa: Hectopascal
 LL50: Lethal Loading fifty
 OECD: Organisation for Economic Co-operation and Development
 POW: Octanol-water partition coefficient
 SCBA: self-contained breathing apparatus
 STP: Sewage Treatment Plant
 VOC: Volatile Organic Compounds

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
 Aquatic Acute = Hazardous to the aquatic environment (acute)
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Key literature references and sources for data

Supplier's information.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

24/04/2022

Version number

4.000

Supersedes date

12/11/2019

SDS number

51549

TETRANYL AO 1

SDS status	Approved.
Hazard statements in full	H225 Highly flammable liquid and vapour. H226 Flammable liquid and vapour. H315 Causes skin irritation. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.
Signature	Lisa Bland

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.



Exposure scenario

Use as a fuel - Industrial

Identification

Product name	Isopropanol
REACH registration number	01-2119457558-25-XXXX
CAS number	67-63-0
EC number	200-661-7
EU index number	603-117-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use as a fuel - Industrial
Process scope	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC7 Use of functional fluid at industrial site
<u>Worker</u>	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC16 Use of fuels

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

Use as a fuel - Industrial

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid, vapour pressure 0.5 - 10 kPa at STP

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Avoid direct eye contact with product, also via contamination on hands. Drain down system prior to equipment break-in or maintenance. Retain drain-downs in sealed storage pending disposal or for subsequent recycle. Store substance within a closed system.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Bulk transfers Transfer via enclosed lines. Drum/batch transfers Use drum pumps or carefully pour from container.

Risk management measures

Use suitable eye protection.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use as a fuel - Professional

Identification

Product name	Isopropanol
REACH registration number	01-2119457558-25-XXXX
CAS number	67-63-0
EC number	200-661-7
EU index number	603-117-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use as a fuel - Professional
Process scope	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
<u>Worker</u>	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC16 Use of fuels

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
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Use as a fuel - Professional

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Avoid direct eye contact with product, also via contamination on hands. Store substance within a closed system. Bulk transfers Transfer via enclosed lines. Drum/batch transfers Use drum pumps or carefully pour from container.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Drain down system prior to equipment break-in or maintenance. Retain drain-downs in sealed storage pending disposal or for subsequent recycle. Bulk transfers Clear transfer lines prior to de-coupling. Drum/batch transfers Avoid spillage when withdrawing pump.

Risk management measures

Use suitable eye protection.

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use as a fuel - Consumer

Identification

Product name	Isopropanol
REACH registration number	01-2119457558-25-XXXX
CAS number	67-63-0
EC number	200-661-7
EU index number	603-117-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use as a fuel - Consumer
Process scope	Covers consumer uses in liquid fuels.
Product category	PC13 Fuels.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
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2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state	Liquid, vapour pressure > 10 Pa (STP)
Concentration details	Covers concentrations up to 100 %. Unless otherwise stated.

Amounts used

For each use event, covers use amounts up to 37,500 g.

Use as a fuel - Consumer

PC13_2 Liquid: scooter refuelling For each use event, covers use amounts up to 3,750 g.
 PC13_3 Liquid: garden equipment - use PC13_4 Liquid: Garden equipment - Refuelling
 PC13_6 Liquid: home space heater fuel For each use event, covers use amounts up to 750 g.
 PC13_5 Liquid: lamp oil For each use event, covers use amounts up to 100 g.

Frequency and duration of use

Covers use up to 1 time per week.
 Covers use up to 1 time per day.
 Application duration: 2 hours
 Unless otherwise stated.

PC13_3 Liquid: garden equipment - use PC13_4 Liquid: Garden equipment - Refuelling
 PC13_6 Liquid: home space heater fuel Covers use up to 26 days/year. PC13_1 Liquid: automotive refuelling Covers exposure up to 0.05 hours per event. PC13_2 Liquid: scooter refuelling PC13_4 Liquid: Garden equipment - Refuelling Covers exposure up to 0.03 hours per event. PC13_3 Liquid: garden equipment - use Covers exposure up to 2 hours per event. PC13_5 Liquid: lamp oil Covers exposure up to 0.01 hours per event. PC13_6 Liquid: home space heater fuel Covers exposure up to 8 hours per event.

Human factors not influenced by risk management

Potentially exposed body parts Covers skin contact area up to 420 cm². Unless otherwise stated.

PC13_1 Liquid: automotive refuelling PC13_2 Liquid: scooter refuelling PC13_5 Liquid: lamp oil Covers skin contact area up to 210 cm².

Other given operational conditions affecting Non-industrial exposure

Temperature Assumes activities are at ambient temperature (unless stated differently).

Room size Covers use in room size of 20 m³. Unless otherwise stated. PC13_1 Liquid: automotive refuelling PC13_2 Liquid: scooter refuelling PC13_3 Liquid: garden equipment - use Covers use in room size of 100 m³.

Ventilation rate Covers use under typical household ventilation. Unless otherwise stated. PC13_1 Liquid: automotive refuelling PC13_2 Liquid: scooter refuelling PC13_3 Liquid: garden equipment - use Covers outdoor use. PC13_4 Liquid: Garden equipment - Refuelling Covers use in a one car garage (34 m³) under typical ventilation.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in oil field drilling and production operations - Industrial

Identification

Product name	Isopropanol
REACH registration number	01-2119457558-25-XXXX
CAS number	67-63-0
EC number	200-661-7
EU index number	603-117-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in oil field drilling and production operations - Industrial
Process scope	Oil field well drilling and production operations (including drilling muds and well cleaning), including material transfers, onsite formulation, well head operations, shaker room activities and related maintenance.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
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Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Use in oil field drilling and production operations - Industrial

Not regarded as dangerous for the environment. No exposure scenario required.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid, vapour pressure 0.5 - 10 kPa at STP

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in oil field and production operations - Professional

Identification

Product name	Isopropanol
REACH registration number	01-2119457558-25-XXXX
CAS number	67-63-0
EC number	200-661-7
EU index number	603-117-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in oil field and production operations - Professional
Process scope	Oil field well drilling and production operations (including drilling muds and well cleaning), including material transfers, onsite formulation, well head operations, shaker room activities and related maintenance.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
<u>Worker</u>	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Use in oil field and production operations - Professional

Not regarded as dangerous for the environment. No exposure scenario required.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid, vapour pressure 0.5 - 10 kPa at STP

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Ventilation rate Provide enhanced general ventilation by mechanical means.

Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Risk management measures

Use suitable eye protection and gloves.

Gloves should comply with the requirements of EN 374.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.