# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Creation Date** 04-Jul-2017 **Revision Date** 09-Feb-2024 **Revision Number** 6

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**Product Description:** **Aliquat® 336TG**
**Cat No. :** **463570000; 463570010; 463570025; 463572500**

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

| | |
|---|---|
| **Recommended Use** | Laboratory chemicals. |
| **Sector of use** | SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites |
| **Product category** | PC21 - Laboratory chemicals |
| **Process categories** | PROC15 - Use as a laboratory reagent |
| **Environmental release category** | ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates) |
| **Uses advised against** | No Information available |

### 1.3. Details of the supplier of the safety data sheet

**Company**

**EU entity/business name**
Thermo Fisher Scientific
Janssen Pharmaceuticalaan 3a, 2440 Geel, Belgium

**UK entity/business name**
Fisher Scientific UK
Bishop Meadow Road,
Loughborough, Leicestershire LE11 5RG, United Kingdom

**Swiss distributor -** Fisher Scientific AG
Neuhofstrasse 11, CH 4153 Reinach
Tel: +41 (0) 56 618 41 11
e-mail - infoch@thermofisher.com

**E-mail address** begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
**CHEMTREC** Tel. No.**US:**001-800-424-9300 / **Europe:**001-703-527-3887

customers in Switzerland:
Tox Info Suisse Emergency Number: **145 (24hr)**
Tox Info Suisse: +41-44 251 51 51 (Emergency number from abroad)
Chemtrec (24h) Toll-Free: 0800 564 402
Chemtrec Local: +41-43 508 20 11 (Zurich)

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

**CLP Classification - Regulation (EC) No 1272/2008**

**Physical hazards**

Based on available data, the classification criteria are not met

**Health hazards**

| | |
|---|---|
| Acute oral toxicity | Category 3 (H301) |
| Skin Corrosion/Irritation | Category 1 C (H314) |
| Serious Eye Damage/Eye Irritation | Category 1 (H318) |
| Reproductive Toxicity | Category 1B (H360FD) |
| Specific target organ toxicity - (repeated exposure) | Category 2 (H373) |

**Environmental hazards**

| | |
|---|---|
| Acute aquatic toxicity | Category 1 (H400) |
| Chronic aquatic toxicity | Category 1 (H410) |

*Full text of Hazard Statements: see section 16*

**2.2. Label elements**

**Signal Word** **Danger**

**Hazard Statements**

H301 - Toxic if swallowed
H314 - Causes severe skin burns and eye damage
H360FD - May damage fertility. May damage the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects
Combustible liquid

**Precautionary Statements**

P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

**Additional EU labelling**

Restricted to professional users

**2.3. Other hazards**

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2. Mixtures

| Component | CAS No | EC No | Weight % | CLP Classification - Regulation (EC) No 1272/2008 |
|---|---|---|---|---|
| Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides | 63393-96-4 | EEC No. 264-120-7 | >75 | Skin Corr. 1C (H314)<br>Eye Dam. 1 (H318)<br>Acute Tox. 3 (H301)<br>STOT RE 3 (H373)<br>Repr. 1B (H360FD)<br>Aquatic Acute 1 (H400)<br>Aquatic Chronic 1 (H410) |
| 1-Octanol | 111-87-5 | EEC No. 203-917-6 | 1-7 | Eye Irrit. 2 (H319)<br>Aquatic Chronic 3 (H412) |
| 1-Decanol | 112-30-1 | EEC No. 203-956-9 | 0-7 | Eye Irrit. 2 (H319)<br>Aquatic Chronic 3 (H412) |
| Amines, tri-C8-10-alkyl | 68814-95-9 | EEC No. 272-347-8 | 0-3 | Skin Irrit. 2 (H315)<br>Eye Irrit. 2 (H319)<br>Repr. 1B (H360FD)<br>STOT RE 1 (H372)<br>Aquatic Chronic 2 (H411) |

| Component | Specific concentration limits (SCL's) | M-Factor | Component notes |
|---|---|---|---|
| Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides | - | 10 | - |

| Components | Reach Registration Number | |
|---|---|---|
| Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides | 01-2119982988-08 | |

*Full text of Hazard Statements: see section 16*

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

**General Advice** Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**Ingestion** Do NOT induce vomiting. Call a physician or poison control center immediately.

**Inhalation** If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Immediate medical attention is required.

**Self-Protection of the First Aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

Causes burns by all exposure routes. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric

lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

### 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 spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

**Extinguishing media which must not be used for safety reasons**
No information available.

### 5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Combustible material. Containers may explode when heated. Do not allow run-off from fire-fighting to enter drains or water courses.

**Hazardous Combustion Products**
None under normal use conditions.

### 5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Take precautionary measures against static discharges.

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

### 6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition.

### 6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition.

**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

### 7.2. Conditions for safe storage, including any incompatibilities

Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

| | |
|---|---|
| **Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK) (Germany)** | Storage Class/LGK 6.1C |
| **Switzerland - Storage of hazardous substances** | Storage class - SC 6.1<br>https://www.kvu.ch/de/themen/stoffe-und-produkte<br>https://www.kvu.ch/fr/themes/substances-et-produits<br>https://www.kvu.ch/it/temi/sostanze-e-prodotti |

### 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

**Exposure limits**
List source(s): **CH** - The Government of Switzerland has set a directive on limit values for working materials (Grenzwerte am Arbeitsplatz) which is based on the Swiss Federal Regulation "Verordnung über die Verhütung von Unfällen und Berufskrankheiten". This directive is administered, periodically revised and enforced by SUVA (Swiss National Accident Insurance Fund).

| Component | Italy | Germany | Portugal | The Netherlands | Finland |
|---|---|---|---|---|---|
| 1-Octanol | | TWA: 10 ppm (8 Stunden). AGW - exposure factor 1<br>TWA: 54 mg/m³ (8 Stunden). AGW - exposure factor 1<br>TWA: 10 ppm (8 Stunden). MAK can occur as vapor and aerosol at the same time<br>TWA: 54 mg/m³ (8 Stunden). MAK can occur as vapor and aerosol at the same time<br>Höhepunkt: 10 ppm<br>Höhepunkt: 54 mg/m³ | | | |
| 1-Decanol | | TWA: 10 ppm (8 Stunden). AGW - exposure factor 1<br>TWA: 66 mg/m³ (8 Stunden). AGW - exposure factor 1<br>TWA: 10 ppm (8 Stunden). MAK can occur as vapor and aerosol at the same time<br>TWA: 66 mg/m³ (8 Stunden). MAK can occur as vapor and aerosol at the same time | | | |

| | | | | | |
|---|---|---|---|---|---|
| | | Höhepunkt: 10 ppm<br>Höhepunkt: 66 mg/m³ | | | |

| Component | Austria | Denmark | Switzerland | Poland | Norway |
|---|---|---|---|---|---|
| 1-Octanol | | | STEL: 20 ppm 15 Minuten<br>STEL: 106 mg/m³ 15 Minuten<br>TWA: 20 ppm 8 Stunden<br>TWA: 106 mg/m³ 8 Stunden | | |
| 1-Decanol | | | STEL: 10 ppm 15 Minuten<br>STEL: 66 mg/m³ 15 Minuten<br>TWA: 10 ppm 8 Stunden<br>TWA: 66 mg/m³ 8 Stunden | | |

| Component | Bulgaria | Croatia | Ireland | Cyprus | Czech Republic |
|---|---|---|---|---|---|
| 1-Octanol | TWA: 10.0 mg/m³ | | | | |
| 1-Decanol | TWA: 10 mg/m³ | | | | |

| Component | Latvia | Lithuania | Luxembourg | Malta | Romania |
|---|---|---|---|---|---|
| 1-Octanol | TWA: 10 mg/m³ | TWA: 10 mg/m³ IPRD | | | Skin notation<br>TWA: 28 ppm 8 ore<br>TWA: 150 mg/m³ 8 ore<br>STEL: 47 ppm 15 minute<br>STEL: 250 mg/m³ 15 minute |
| 1-Decanol | TWA: 10 mg/m³ | TWA: 10 mg/m³ IPRD | | | TWA: 15 ppm 8 ore<br>TWA: 100 mg/m³ 8 ore<br>STEL: 30 ppm 15 minute<br>STEL: 200 mg/m³ 15 minute |

| Component | Russia | Slovak Republic | Slovenia | Sweden | Turkey |
|---|---|---|---|---|---|
| 1-Octanol | MAC: 10 mg/m³ | | TWA: 106 mg/m³ 8 urah<br>TWA: 20 ppm 8 urah<br>STEL: 20 ppm 15 minutah<br>STEL: 106 mg/m³ 15 minutah | | |
| 1-Decanol | MAC: 10 mg/m³ | | | | |

**Biological limit values**
This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

**Monitoring methods**
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
MDHS70 General methods for sampling airborne gases and vapours

**Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)**
Workers; See table for values

| Component | Acute effects local | Acute effects | Chronic effects local | Chronic effects |
|---|---|---|---|---|

| | (Dermal) | systemic (Dermal) | (Dermal) | systemic (Dermal) |
|---|---|---|---|---|
| 1-Octanol<br>111-87-5 ( 1-7 ) | | | DNEL = 190µg/cm2 | DNEL = 50mg/kg bw/day |
| 1-Decanol<br>112-30-1 ( 0-7 ) | | | DNEL = 190µg/cm2 | DNEL = 250mg/kg bw/day |
| Amines, tri-C8-10-alkyl<br>68814-95-9 ( 0-3 ) | | | | DNEL = 0.17mg/kg bw/day |

| Component | Acute effects local (Inhalation) | Acute effects systemic (Inhalation) | Chronic effects local (Inhalation) | Chronic effects systemic (Inhalation) |
|---|---|---|---|---|
| Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides<br>63393-96-4 ( >75 ) | | | | DNEL = 0.42mg/m³ |
| 1-Octanol<br>111-87-5 ( 1-7 ) | | | DNEL = 106mg/m³ | DNEL = 176mg/m³ |
| 1-Decanol<br>112-30-1 ( 0-7 ) | | | DNEL = 129mg/m³ | DNEL = 176mg/m³ |
| Amines, tri-C8-10-alkyl<br>68814-95-9 ( 0-3 ) | | | | DNEL = 0.12mg/m³ |

**Predicted No Effect Concentration (PNEC)**
See values below.

| Component | Fresh water | Fresh water sediment | Water Intermittent | Microorganisms in sewage treatment | Soil (Agriculture) |
|---|---|---|---|---|---|
| Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides<br>63393-96-4 ( >75 ) | PNEC = 0.15µg/L | PNEC = 0.63µg/kg sediment dw | PNEC = 1.5µg/L | PNEC = 0.44mg/L | PNEC = 38ng/kg soil dw |
| 1-Octanol<br>111-87-5 ( 1-7 ) | PNEC = 0.1mg/L | PNEC = 1.6mg/kg sediment dw | | | PNEC = 0.26mg/kg soil dw |
| 1-Decanol<br>112-30-1 ( 0-7 ) | PNEC = 0.021mg/L | PNEC = 3.2mg/kg sediment dw | | | PNEC = 0.63mg/kg soil dw |
| Amines, tri-C8-10-alkyl<br>68814-95-9 ( 0-3 ) | PNEC = 0.032mg/L | | PNEC = 0.032mg/L | PNEC = 100mg/L | PNEC = 0.78mg/kg soil dw |

| Component | Marine water | Marine water sediment | Marine water Intermittent | Food chain | Air |
|---|---|---|---|---|---|
| Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides<br>63393-96-4 ( >75 ) | PNEC = 15ng/L | PNEC = 63ng/kg sediment dw | PNEC = 0.15µg/L | PNEC = 1.66mg/kg food | |
| 1-Octanol<br>111-87-5 ( 1-7 ) | PNEC = 0.01mg/L | PNEC = 0.16mg/kg sediment dw | | | |
| 1-Decanol<br>112-30-1 ( 0-7 ) | PNEC = 0.0021mg/L | PNEC = 0.32mg/kg sediment dw | | | |
| Amines, tri-C8-10-alkyl<br>68814-95-9 ( 0-3 ) | PNEC = 0.0032mg/L | | | | |

**8.2. Exposure controls**

**Engineering Measures**
Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Personal protective equipment**

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|---|---|---|---|---|
| Nitrile rubber<br>Neoprene<br>Natural rubber<br>PVC | See manufacturers recommendations | - | EN 374 | (minimum requirement) |

**Skin and body protection** Long sleeved clothing.

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
**Recommended Filter type:** Organic gases and vapours filter Type A Brown conforming to EN14387

**Small scale/Laboratory use** Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141
When RPE is used a face piece Fit Test should be conducted

**Environmental exposure controls** Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

| | | |
|---|---|---|
| **Physical State** | Liquid | |
| **Appearance** | Yellow | |
| **Odor** | Slight: Ammonia-like | |
| **Odor Threshold** | No data available | |
| **Melting Point/Range** | No data available | |
| **Softening Point** | No data available | |
| **Boiling Point/Range** | No information available | |
| **Flammability (liquid)** | Combustible liquid | On basis of test data |
| **Flammability (solid,gas)** | Not applicable | Liquid |
| **Explosion Limits** | No data available | |
| **Flash Point** | 77 °C / 170.6 °F | **Method -** No information available |
| **Autoignition Temperature** | No data available | |
| **Decomposition Temperature** | No data available | |
| **pH** | No information available | |
| **Viscosity** | 1500 mPa.s @ 30°C | |
| **Water Solubility** | Insoluble | |
| **Solubility in other solvents** | No information available | |

**Partition Coefficient (n-octanol/water)**

| Component | log Pow |
|---|---|
| Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides | 6.13 |
| 1-Octanol | 2.8 |

| | | |
|---|---|---|
| 1-Decanol | 4.5 | |
| Amines, tri-C8-10-alkyl | 6.2 | |
| **Vapor Pressure** | No data available | |
| **Density / Specific Gravity** | 0.89 | |
| **Bulk Density** | Not applicable | Liquid |
| **Vapor Density** | No data available | (Air = 1.0) |
| **Particle characteristics** | Not applicable (liquid) | |

**9.2. Other information**

**Explosive Properties** explosive air/vapour mixtures possible

## SECTION 10: STABILITY AND REACTIVITY

**10.1. Reactivity**

None known, based on information available

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

**Hazardous Polymerization** No information available.
**Hazardous Reactions** None under normal processing.

**10.4. Conditions to avoid**

Keep away from open flames, hot surfaces and sources of ignition.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

None under normal use conditions.

## SECTION 11: TOXICOLOGICAL INFORMATION

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Product Information**

**(a) acute toxicity;**

**Oral** Category 3
**Dermal** Based on available data, the classification criteria are not met
**Inhalation** Based on available data, the classification criteria are not met

**Toxicology data for the components**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides | 300-2000 mg/kg<br>223 mg/kg (Rat) | - | - |
| 1-Octanol | LD50 > 3200 mg/kg ( Rat ) | LD50 > 5 g/kg ( Rabbit ) | - |
| 1-Decanol | LD50 = 4720 mg/kg ( Rat ) | LD50 = 3560 mg/kg ( Rabbit ) | - |
| Amines, tri-C8-10-alkyl | LD50 = 5600 mg/kg ( Rat ) | - | - |

**(b) skin corrosion/irritation;** Category 1 C

**(c) serious eye damage/irritation;** Category 1

**(d) respiratory or skin sensitization;**

**Respiratory** Based on available data, the classification criteria are not met

**Skin** Based on available data, the classification criteria are not met

**(e) germ cell mutagenicity;** Based on available data, the classification criteria are not met

**(f) carcinogenicity;** Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

**(g) reproductive toxicity;** Category 1B

**Reproductive Effects** May impair fertility. May cause harm to the unborn child.

**(h) STOT-single exposure;** Based on available data, the classification criteria are not met

**(i) STOT-repeated exposure;** Category 2

**Target Organs** Heart.

**(j) aspiration hazard;** Based on available data, the classification criteria are not met

**Symptoms / effects,both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

### 11.2. Information on other hazards

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecotoxicity effects** The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

| Component | Freshwater Fish | Water Flea | Freshwater Algae |
|---|---|---|---|
| Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides | LC50: 0.1-1 mg/L 96h | EC50: 0.16 mg/L 48h (Daphnia magna) | |
| 1-Octanol | LC50: 17.68 mg/L, 96h static (Oncorhynchus mykiss)<br>LC50: 11.4 - 12.9 mg/L, 96h flow-through (Pimephales promelas) | | |
| 1-Decanol | Pimephales promelas: LC50=2.2-2.5 mg/L 96h | EC50: 11 mg/L, 24h (Daphnia magna)<br>EC50: 3 mg/L, 48h (Daphnia magna) | |

| Component | Microtox | M-Factor |
|---|---|---|
| Quaternary ammonium compounds, | | 10 |

| | | |
|---|---|---|
| tri-C8-10-alkylmethyl, chlorides | | |
| 1-Octanol | EC50 = 32.7 - 51.1 mg/L 48 h<br>EC50 = 3.4 mg/L 5 min<br>EC50 = 3.71 mg/L 30 min<br>EC50 = 4.73 mg/L 15 min | |
| 1-Decanol | EC50 = 1.31 mg/L 5 min<br>EC50 = 1.47 mg/L 30 min<br>EC50 = 8.83 mg/L 48 h | |

**12.2. Persistence and degradability**

**Persistence** May persist.

**Degradation in sewage treatment plant** Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**12.3. Bioaccumulative potential** Product has a high potential to bioconcentrate

| Component | log Pow | Bioconcentration factor (BCF) |
|---|---|---|
| Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides | 6.13 | No data available |
| 1-Octanol | 2.8 | No data available |
| 1-Decanol | 4.5 | No data available |
| Amines, tri-C8-10-alkyl | 6.2 | No data available |

**12.4. Mobility in soil** Spillage unlikely to penetrate soil The product is insoluble and floats on water Is not likely mobile in the environment due its low water solubility. Is not likely mobile in the environment due its low water solubility and propensity to bind to soil particles

**12.5. Results of PBT and vPvB assessment** Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB).

**12.6. Endocrine disrupting properties**

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors

**12.7. Other adverse effects**

**Persistent Organic Pollutant** This product does not contain any known or suspected substance

**Ozone Depletion Potential** This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

**13.1. Waste treatment methods**

**Waste from Residues/Unused Products** Should not be released into the environment. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point.

**European Waste Catalogue (EWC)** According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

**Other Information** Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms. Do not let this chemical enter the environment.

**Switzerland - Waste Ordinance** Disposal should be in accordance with applicable regional, national and local laws and regulations. Ordinance on the Avoidance and the Disposal of Waste (Waste Ordinance, ADWO) SR 814.600
https://www.fedlex.admin.ch/eli/cc/2015/891/en

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO**

| | |
|---|---|
| **14.1. UN number** | UN2922 |
| **14.2. UN proper shipping name** | Corrosive liquid, toxic, n.o.s. |
| **Technical Shipping Name** | Quaternary alkyl ammonium salts |
| **14.3. Transport hazard class(es)** | 8 |
| **Subsidiary Hazard Class** | 6.1 |
| **14.4. Packing group** | III |

**ADR**

| | |
|---|---|
| **14.1. UN number** | UN2922 |
| **14.2. UN proper shipping name** | Corrosive liquid, toxic, n.o.s. |
| **Technical Shipping Name** | Quaternary alkyl ammonium salts |
| **14.3. Transport hazard class(es)** | 8 |
| **Subsidiary Hazard Class** | 6.1 |
| **14.4. Packing group** | III |

**IATA**

| | |
|---|---|
| **14.1. UN number** | UN2922 |
| **14.2. UN proper shipping name** | Corrosive liquid, toxic, n.o.s. |
| **Technical Shipping Name** | Quaternary alkyl ammonium salts |
| **14.3. Transport hazard class(es)** | 8 |
| **Subsidiary Hazard Class** | 6.1 |
| **14.4. Packing group** | III |

**14.5. Environmental hazards** Dangerous for the environment
Product is a marine pollutant according to the criteria set by IMDG/IMO

**14.6. Special precautions for user** No special precautions required.

**14.7. Maritime transport in bulk according to IMO instruments** Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

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

**International Inventories**
Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

| Component | CAS No | EINECS | ELINCS | NLP | IECSC | TCSI | KECL | ENCS | ISHL |
|---|---|---|---|---|---|---|---|---|---|
| Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides | 63393-96-4 | 264-120-7 | - | - | X | X | KE-30035 | - | - |
| 1-Octanol | 111-87-5 | 203-917-6 | - | - | X | X | KE-26656 | X | X |
| 1-Decanol | 112-30-1 | 203-956-9 | - | - | X | X | KE-09483 | X | X |
| Amines, tri-C8-10-alkyl | 68814-95-9 | 272-347-8 | - | - | X | X | - | X | X |

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|---|---|---|---|---|---|---|---|---|
| Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides | 63393-96-4 | X | ACTIVE | X | - | X | X | X |
| 1-Octanol | 111-87-5 | X | ACTIVE | X | - | X | X | X |
| 1-Decanol | 112-30-1 | X | ACTIVE | X | - | X | X | X |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Amines, tri-C8-10-alkyl | 68814-95-9 | X | ACTIVE | X | - | X | - | - |

**Legend:** X - Listed '-' - Not Listed **KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

**Authorisation/Restrictions according to EU REACH** Not applicable

| Component | CAS No | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|---|---|---|---|---|
| Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides | 63393-96-4 | - | - | - |
| 1-Octanol | 111-87-5 | - | - | - |
| 1-Decanol | 112-30-1 | - | - | - |
| Amines, tri-C8-10-alkyl | 68814-95-9 | - | - | - |

**Seveso III Directive (2012/18/EC)**

| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|---|---|---|---|
| Quaternary ammonium compounds, tri-C8-10-alkylmethyl, chlorides | 63393-96-4 | Not applicable | Not applicable |
| 1-Octanol | 111-87-5 | Not applicable | Not applicable |
| 1-Decanol | 112-30-1 | Not applicable | Not applicable |
| Amines, tri-C8-10-alkyl | 68814-95-9 | Not applicable | Not applicable |

**Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals**
Not applicable

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**
Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .
Take note of Directive 94/33/EC on the protection of young people at work
Take note of Dir 92/85/EC on the protection of pregnant and breastfeeding women at work

**National Regulations**

**UK** - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

**WGK Classification** Water endangering class = 1 (self classification)

| Component | Germany - Water Classification (AwSV) | Germany - TA-Luft Class |
|---|---|---|
| 1-Octanol | WGK1 | |
| 1-Decanol | WGK1 | |

| Component | France - INRS (Tables of occupational diseases) |
|---|---|
| 1-Octanol | Tableaux des maladies professionnelles (TMP) - RG 84 |

**Swiss Regulations**
Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2).
Take note on Article 13 Maternity Ordinance (SR 822.111.52) with regards expectant and nursing mothers.

**15.2. Chemical safety assessment**

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

## SECTION 16: OTHER INFORMATION

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

H301 - Toxic if swallowed
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H360FD - May damage fertility. May damage the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H372 - Causes damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects
H412 - Harmful to aquatic life with long lasting effects

**Legend**

**CAS** - Chemical Abstracts Service
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**IECSC** - Chinese Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**ENCS** - Japanese Existing and New Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit
**ACGIH** - American Conference of Governmental Industrial Hygienists
**DNEL** - Derived No Effect Level
**RPE** - Respiratory Protective Equipment
**LC50** - Lethal Concentration 50%
**NOEC** - No Observed Effect Concentration
**PBT** - Persistent, Bioaccumulative, Toxic
**TWA** - Time Weighted Average
**IARC** - International Agency for Research on Cancer
Predicted No Effect Concentration (PNEC)
**LD50** - Lethal Dose 50%
**EC50** - Effective Concentration 50%
**POW** - Partition coefficient Octanol:Water
**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code
**OECD** - Organisation for Economic Co-operation and Development
**BCF** - Bioconcentration factor
**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association
**MARPOL** - International Convention for the Prevention of Pollution from Ships
**ATE** - Acute Toxicity Estimate
**VOC** - (volatile organic compound)

**Key literature references and sources for data**

https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:**

| | |
|---|---|
| **Physical hazards** | On basis of test data |
| **Health Hazards** | Calculation method |
| **Environmental hazards** | Calculation method |

**Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.
Chemical incident response training.

| | |
|---|---|
| **Creation Date** | 04-Jul-2017 |
| **Revision Date** | 09-Feb-2024 |
| **Revision Summary** | Not applicable. |

**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006** .

**For Switzerland - Compiled in accordance with the technical provisions referred to in Annex 2, Number 3, ChemO (SR 813.11 - Ordinance on Protection against Dangerous Substances and Preparations).**

**Disclaimer**

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## End of Safety Data Sheet