# SAFETY DATA SHEET

according to Regulation UK SI 2019/758 and UK SI 2020/1577 as amended

**Creation Date** 19-Mar-2012 **Revision Date** 13-Oct-2023 **Revision Number** 7

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

### 1.1. Product identifier

**Product Description:** **Tris Buffered Saline (TBS), 10X Solution, pH 7.4**
**Cat No. :** **BP2471-1; BP2471-100; BP2471-500**

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

**Recommended Use** Laboratory chemicals
**Uses advised against** No Information available

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

**Company**

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

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

**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

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

**GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567**

**Physical hazards**

Based on available data, the classification criteria are not met

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

**Environmental hazards**

Based on available data, the classification criteria are not met

*Full text of Hazard Statements: see section 16*

**2.2. Label elements**
None required

**2.3. Other hazards**

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 % | GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567 |
|---|---|---|---|---|
| Sodium chloride | 7647-14-5 | 231-598-3 | 5 - 10 | - |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride | 1185-53-1 | EEC No. 214-684-5 | 5 - 10 | - |
| Potassium chloride | 7447-40-7 | 231-211-8 | < 1 | - |
| Water | 7732-18-5 | 231-791-2 | 80 - 90 | - |

| Components | Reach Registration Number | |
|---|---|---|
| Sodium chloride | 01-2119485491-33-0131 | |

*Full text of Hazard Statements: see section 16*

## SECTION 4: FIRST AID MEASURES

**4.1. Description of first aid measures**

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately if symptoms occur.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

**Ingestion** Do NOT induce vomiting. Get medical attention if symptoms occur.

**Inhalation** Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention.

**Self-Protection of the First Aider** No special precautions required.

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

No information available.

### 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**
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

**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.

**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. Avoid contact with skin and eyes.

### 6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

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

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

### 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. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

**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

Keep containers tightly closed in a dry, cool and well-ventilated place.

**Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK) (Germany)** Class 12

### 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

**Exposure limits**
List source(s): **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020. **IRE -** 2021 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority

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

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

| Component | Acute effects local (Dermal) | Acute effects systemic (Dermal) | Chronic effects local (Dermal) | Chronic effects systemic (Dermal) |
|---|---|---|---|---|
| Sodium chloride<br>7647-14-5 ( 5 - 10 ) | | DNEL = 295.52mg/kg bw/day | | DNEL = 295.52mg/kg bw/day |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride<br>1185-53-1 ( 5 - 10 ) | | | | DNEL = 216.6mg/kg bw/day |
| Potassium chloride<br>7447-40-7 ( < 1 ) | | DNEL = 910mg/kg bw/day | | DNEL = 303mg/kg bw/day |

| Component | Acute effects local (Inhalation) | Acute effects systemic (Inhalation) | Chronic effects local (Inhalation) | Chronic effects systemic (Inhalation) |
|---|---|---|---|---|
| Sodium chloride<br>7647-14-5 ( 5 - 10 ) | | DNEL = 2068.62mg/m$^3$ | | DNEL = 2068.62mg/m$^3$ |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride<br>1185-53-1 ( 5 - 10 ) | | | | DNEL = 152.8mg/m$^3$ |
| Potassium chloride<br>7447-40-7 ( < 1 ) | | DNEL = 5320mg/m$^3$ | | DNEL = 1064mg/m$^3$ |

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

| Component | Fresh water | Fresh water sediment | Water Intermittent | Microorganisms in sewage treatment | Soil (Agriculture) |
|---|---|---|---|---|---|
| Sodium chloride 7647-14-5 ( 5 - 10 ) | PNEC = 5mg/L | | | PNEC = 500mg/L | PNEC = 4.86mg/kg soil dw |
| Potassium chloride 7447-40-7 ( < 1 ) | PNEC = 0.1mg/L | | PNEC = 1mg/L | PNEC = 10mg/L | |

| Component | Marine water | Marine water sediment | Marine water intermittent | Food chain | Air |
|---|---|---|---|---|---|
| Potassium chloride 7447-40-7 ( < 1 ) | PNEC = 0.1mg/L | | | | |

**8.2. Exposure controls**

**Engineering Measures**
None under normal use conditions.

**Personal protective equipment**

**Eye Protection** Wear safety glasses with side shields (or goggles) (European standard - EN 166)

**Hand Protection** Protective gloves

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

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

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure 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.
Remove gloves with care avoiding skin contamination.

**Respiratory Protection** No protective equipment is needed under normal use conditions.

**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:** Particle filter

**Small scale/Laboratory use** Maintain adequate ventilation

**Environmental exposure controls** No information available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

| | | |
|---|---|---|
| **Physical State** | Liquid | |
| **Appearance** | Colorless | |
| **Odor** | No information available | |
| **Odor Threshold** | No data available | |
| **Melting Point/Range** | No data available | |
| **Softening Point** | No data available | |
| **Boiling Point/Range** | > 100 °C / > 212 | |
| **Flammability (liquid)** | No data available | |
| **Flammability (solid,gas)** | Not applicable | Liquid |
| **Explosion Limits** | No data available | |
| **Flash Point** | No data available | **Method -** No information available |
| **Autoignition Temperature** | No data available | |
| **Decomposition Temperature** | No data available | |
| **pH** | 7.4 - 7.5 | |
| **Viscosity** | No data available | |
| **Water Solubility** | Miscible | |
| **Solubility in other solvents** | No information available | |
| **Partition Coefficient (n-octanol/water)** | | |
| **Component** | **log Pow** | |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride | -3.6 | |
| **Vapor Pressure** | No data available | |
| **Density / Specific Gravity** | No data available | |
| **Bulk Density** | Not applicable | Liquid |
| **Vapor Density** | > 1.00 | (Air = 1.0) |
| **Particle characteristics** | Not applicable (liquid) | |

**9.2. Other information**

## 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** | No information available. |

**10.4. Conditions to avoid**

Incompatible products. Excess heat.

**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** | Based on available data, the classification criteria are not met |
| **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 |
|---|---|---|---|
| Sodium chloride | LD50 = 3550 mg/kg ( Rat ) | LD50 > 10000 mg/kg ( Rabbit ) | LC50 > 42 mg/L ( Rat ) 1 h |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride | OECD 425 (Rat) LD50 > 5000 mg/kg bw | OECD 402 (Rat) LD50 > 5000 mg/kg bw | - |
| Potassium chloride | LD50 = 2600 mg/kg ( Rat ) | - | - |
| Water | - | - | - |

**(b) skin corrosion/irritation;** No data available

**(c) serious eye damage/irritation;** No data available

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

| | |
|---|---|
| **Respiratory** | No data available |
| **Skin** | No data available |

| Component | Test method | Test species | Study result |
|---|---|---|---|
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride 1185-53-1 ( 5 - 10 ) | OECD Test Guideline 406 | guinea pig | non-sensitising |

**(e) germ cell mutagenicity;** No data available

| Component | Test method | Test species | Study result |
|---|---|---|---|
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride 1185-53-1 ( 5 - 10 ) | OECD Test Guideline 471 Bacterial Reverse Mutation Test | Mammalian in vitro | negative |

**(f) carcinogenicity;** No data available

The table below indicates whether each agency has listed any ingredient as a carcinogen

**(g) reproductive toxicity;** No data available

**(h) STOT-single exposure;** No data available

**(i) STOT-repeated exposure;** No data available

**Target Organs** No information available.

**(j) aspiration hazard;** No data available

**Symptoms / effects,both acute and** No information available.

**delayed**

### 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** Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

| Component | Freshwater Fish | Water Flea | Freshwater Algae |
|---|---|---|---|
| Sodium chloride | Pimephals prome: LC50: 7650 mg/L/96h | EC50: 1000 mg/L/48h | |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride | | Daphnia Magna EC50 >100 mg/L (48h) | |
| Potassium chloride | Lepomis macrochirus: LC50: 1060 mg/L /96h Pimephales promelas: LC50: 750 - 1020 mg/L /96h | EC50: 825 mg/L/48h | EC50: 2500 mg/L/72h |

| Component | Microtox | M-Factor |
|---|---|---|
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride | OECD 209 EC50 > 1000 mg/L (3h) | |

### 12.2. Persistence and degradability

**Persistence** Miscible with water, Persistence is unlikely, based on information available.

### 12.3. Bioaccumulative potential

Bioaccumulation is unlikely

| Component | log Pow | Bioconcentration factor (BCF) |
|---|---|---|
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride | -3.6 | No data available |

### 12.4. Mobility in soil

The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

### 12.5. Results of PBT and vPvB assessment

No data available for assessment.

### 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** | Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification. |
| **Contaminated Packaging** | Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers. |
| **European Waste Catalogue (EWC)** | According to the European Waste Catalog, Waste Codes are not product specific, but application specific. |
| **Other Information** | Waste codes should be assigned by the user based on the application for which the product was used. |

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO** Not regulated

**14.1. UN number**
**14.2. UN proper shipping name**
**14.3. Transport hazard class(es)**
**14.4. Packing group**

**ADR** Not regulated

**14.1. UN number**
**14.2. UN proper shipping name**
**14.3. Transport hazard class(es)**
**14.4. Packing group**

**IATA** Not regulated

**14.1. UN number**
**14.2. UN proper shipping name**
**14.3. Transport hazard class(es)**
**14.4. Packing group**

**14.5. Environmental hazards** No hazards identified

**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 |
|---|---|---|---|---|---|---|---|---|---|
| Sodium chloride | 7647-14-5 | 231-598-3 | - | - | X | X | KE-31387 | X | X |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride | 1185-53-1 | 214-684-5 | - | - | X | X | KE-34819 | X | - |
| Potassium chloride | 7447-40-7 | 231-211-8 | - | - | X | X | KE-29086 | X | X |
| Water | 7732-18-5 | 231-791-2 | - | - | X | X | KE-35400 | X | - |

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|---|---|---|---|---|---|---|---|---|
| Sodium chloride | 7647-14-5 | X | ACTIVE | X | - | X | X | X |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride | 1185-53-1 | X | ACTIVE | X | - | X | X | X |
| Potassium chloride | 7447-40-7 | X | ACTIVE | X | - | X | X | X |
| Water | 7732-18-5 | X | ACTIVE | X | - | X | 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) |
|---|---|---|---|---|
| Sodium chloride | 7647-14-5 | - | - | - |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride | 1185-53-1 | - | - | - |
| Potassium chloride | 7447-40-7 | - | - | - |
| Water | 7732-18-5 | - | - | - |

**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 |
|---|---|---|---|
| Sodium chloride | 7647-14-5 | Not applicable | Not applicable |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride | 1185-53-1 | Not applicable | Not applicable |
| Potassium chloride | 7447-40-7 | Not applicable | Not applicable |
| Water | 7732-18-5 | Not applicable | Not applicable |

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

| Component | CAS No | OECD HPV | Restriction of Hazardous Substances (RoHS) | Basel Convention (Hazardous Waste) |
|---|---|---|---|---|
| Sodium chloride | 7647-14-5 | Listed | Not applicable | Not applicable |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride | 1185-53-1 | Not applicable | Not applicable | Not applicable |
| Potassium chloride | 7447-40-7 | Listed | Not applicable | Not applicable |
| Water | 7732-18-5 | Listed | 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 .

**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 |
|---|---|---|
| Sodium chloride | WGK1 | |
| 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride | WGK1 | |
| Potassium chloride | WGK1 | |

| Component | France - INRS (Tables of occupational diseases) |
|---|---|
| Sodium chloride | Tableaux des maladies professionnelles (TMP) - RG 78 |
| Potassium chloride | Tableaux des maladies professionnelles (TMP) - RG 67 |

| Component | Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81) | Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC) | Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure |
|---|---|---|---|
| Sodium chloride 7647-14-5 ( 5 - 10 ) | Prohibited and Restricted Substances | | |

**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**

**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
**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code
**MARPOL** - International Convention for the Prevention of Pollution from Ships
**OECD** - Organisation for Economic Co-operation and Development
**ATE** - Acute Toxicity Estimate
**BCF** - Bioconcentration factor
**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.

| | |
|---|---|
| **Creation Date** | 19-Mar-2012 |
| **Revision Date** | 13-Oct-2023 |
| **Revision Summary** | SDS sections updated, 2, 3, 9. |

## This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended. .

.

**Disclaimer**

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text**

# End of Safety Data Sheet