

Creation Date 29-May-2012

Revision Date 27-Sep-2023

Revision Number 8

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

### 1.1. Product identifier

|                      |                                                       |
|----------------------|-------------------------------------------------------|
| Product Description: | <u>Dimethyl maleate</u>                               |
| Cat No. :            | 218460000; 218460010; 218460050; 218460051; 218462500 |
| Synonyms             | Maleic acid, dimethyl ester; Methyl Maleate.          |
| CAS No               | 624-48-6                                              |
| EC No                | 210-848-5                                             |
| Molecular Formula    | C6 H8 O4                                              |

### 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 Pharmaceuticaaan 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

#### CLP 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

# SAFETY DATA SHEET

Dimethyl maleate

Revision Date 27-Sep-2023

Acute oral toxicity  
Serious Eye Damage/Eye Irritation  
Skin Sensitization  
Specific target organ toxicity - (single exposure)  
Specific target organ toxicity - (repeated exposure)

Category 4 (H302)  
Category 2 (H319)  
Category 1 (H317)  
Category 3 (H335)  
Category 2 (H373)

## **Environmental hazards**

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

## **2.2. Label elements**



Signal Word

Warning

## **Hazard Statements**

H302 - Harmful if swallowed  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation  
H373 - May cause damage to organs through prolonged or repeated exposure

## **Precautionary Statements**

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
P312 - Call a POISON CENTER or doctor if you feel unwell  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P337 + P313 - If eye irritation persists: Get medical advice/attention  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P280 - Wear protective gloves/protective clothing/eye protection/face protection

## **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**

### **3.1. Substances**

| Component        | CAS No   | EC No             | Weight % | CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567 |
|------------------|----------|-------------------|----------|-----------------------------------------------------------------------------------------|
| Dimethyl maleate | 624-48-6 | EEC No. 210-848-5 | >95      | Acute Tox. 4 (H302)<br>Eye Irrit. 2 (H319)                                              |

# SAFETY DATA SHEET

Dimethyl maleate

Revision Date 27-Sep-2023

|  |  |  |  |                                                             |
|--|--|--|--|-------------------------------------------------------------|
|  |  |  |  | STOT SE 3 (H335)<br>Skin Sens. 1 (H317)<br>STOT RE 2 (H373) |
|--|--|--|--|-------------------------------------------------------------|

Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

|                                           |                                                                                                                                                  |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General Advice</b>                     | If symptoms persist, call a physician.                                                                                                           |
| <b>Eye Contact</b>                        | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.                                  |
| <b>Skin Contact</b>                       | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.                                |
| <b>Ingestion</b>                          | Clean mouth with water and drink afterwards plenty of water.                                                                                     |
| <b>Inhalation</b>                         | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.                                     |
| <b>Self-Protection of the First Aider</b> | 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

May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

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

|                           |                        |
|---------------------------|------------------------|
| <b>Notes to Physician</b> | Treat symptomatically. |
|---------------------------|------------------------|

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### **Suitable Extinguishing Media**

Water spray, carbon dioxide (CO<sub>2</sub>), 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

Combustible material.

#### **Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

### 5.3. Advice for firefighters

# SAFETY DATA SHEET

Dimethyl maleate

Revision Date 27-Sep-2023

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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

Ensure adequate ventilation. Use personal protective equipment as required.

### 6.2. Environmental precautions

Should not be released into the environment.

### 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**      Class 10  
**Storage Class (LGK) (Germany)**

### 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### **Exposure limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

#### **Biological limit values**

# SAFETY DATA SHEET

Dimethyl maleate

Revision Date 27-Sep-2023

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) |
|--------------------------------------|------------------------------|---------------------------------|--------------------------------|-----------------------------------|
| Dimethyl maleate<br>624-48-6 ( >95 ) |                              |                                 |                                | DNEL = 0.83mg/kg<br>bw/day        |

| Component                            | Acute effects local (Inhalation) | Acute effects systemic (Inhalation) | Chronic effects local (Inhalation) | Chronic effects systemic (Inhalation) |
|--------------------------------------|----------------------------------|-------------------------------------|------------------------------------|---------------------------------------|
| Dimethyl maleate<br>624-48-6 ( >95 ) |                                  |                                     |                                    | DNEL = 19.4mg/m <sup>3</sup>          |

## Predicted No Effect Concentration (PNEC)

See values below.

| Component                            | Fresh water   | Fresh water sediment          | Water Intermittent | Microorganisms in sewage treatment | Soil (Agriculture) |
|--------------------------------------|---------------|-------------------------------|--------------------|------------------------------------|--------------------|
| Dimethyl maleate<br>624-48-6 ( >95 ) | PNEC = 20µg/L | PNEC = 40µg/kg<br>sediment dw | PNEC = 65.1µg/L    | PNEC = 3.2mg/L                     |                    |

| Component                            | Marine water | Marine water sediment | Marine water intermittent | Food chain | Air |
|--------------------------------------|--------------|-----------------------|---------------------------|------------|-----|
| Dimethyl maleate<br>624-48-6 ( >95 ) | PNEC = 2µg/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

Wear safety glasses with side shields (or goggles) 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<br>recommendations | -               | EN 374      | (minimum requirement) |

#### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

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 compatibility, 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.

# SAFETY DATA SHEET

Dimethyl maleate

Revision Date 27-Sep-2023

|                                        |                                                                                                                                                     |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Respiratory Protection</b>          | No protective equipment is needed under normal use conditions.                                                                                      |
| <b>Large scale/emergency use</b>       | Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced |
| <b>Small scale/Laboratory use</b>      | Maintain adequate ventilation                                                                                                                       |
| <b>Environmental exposure controls</b> | No information available.                                                                                                                           |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

|                                                |                               |                                          |
|------------------------------------------------|-------------------------------|------------------------------------------|
| <b>Physical State</b>                          | Liquid                        |                                          |
| <b>Appearance</b>                              | Colorless                     |                                          |
| <b>Odor</b>                                    | No information available      |                                          |
| <b>Odor Threshold</b>                          | No data available             |                                          |
| <b>Melting Point/Range</b>                     | -17.5 °C / 0.5 °F             |                                          |
| <b>Softening Point</b>                         | No data available             |                                          |
| <b>Boiling Point/Range</b>                     | 204 - 205 °C / 399.2 - 401 °F | @ 760 mmHg                               |
| <b>Flammability (liquid)</b>                   | No data available             |                                          |
| <b>Flammability (solid,gas)</b>                | Not applicable                | Liquid                                   |
| <b>Explosion Limits</b>                        | No data available             |                                          |
| <b>Flash Point</b>                             | 95 °C / 203 °F                | <b>Method -</b> No information available |
| <b>Autoignition Temperature</b>                | 390 °C / 734 °F               |                                          |
| <b>Decomposition Temperature</b>               | No data available             |                                          |
| <b>pH</b>                                      | No information available      |                                          |
| <b>Viscosity</b>                               | 4 mPa.s (20°C)                |                                          |
| <b>Water Solubility</b>                        | 80 g/L (25°C)                 |                                          |
| <b>Solubility in other solvents</b>            | No information available      |                                          |
| <b>Partition Coefficient (n-octanol/water)</b> |                               |                                          |
| <b>Component</b>                               | <b>log Pow</b>                |                                          |
| Dimethyl maleate                               | 0.52                          |                                          |
| <b>Vapor Pressure</b>                          | 0.28 hPa (20°C)               |                                          |
| <b>Density / Specific Gravity</b>              | 1.150                         |                                          |
| <b>Bulk Density</b>                            | Not applicable                | Liquid                                   |
| <b>Vapor Density</b>                           | 4.97                          | (Air = 1.0)                              |
| <b>Particle characteristics</b>                | Not applicable (liquid)       |                                          |

### 9.2. Other information

|                          |          |
|--------------------------|----------|
| <b>Molecular Formula</b> | C6 H8 O4 |
| <b>Molecular Weight</b>  | 144.13   |

## SECTION 10: STABILITY AND REACTIVITY

|                         |                                            |
|-------------------------|--------------------------------------------|
| <b>10.1. Reactivity</b> | None known, based on information available |
|-------------------------|--------------------------------------------|

|                                 |                                 |
|---------------------------------|---------------------------------|
| <b>10.2. Chemical stability</b> | Stable under normal conditions. |
|---------------------------------|---------------------------------|

# SAFETY DATA SHEET

Dimethyl maleate

Revision Date 27-Sep-2023

## 10.3. Possibility of hazardous reactions

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

## 10.4. Conditions to avoid

Incompatible products. Excess heat.

## 10.5. Incompatible materials

Acids. Bases. Reducing Agent. Oxidizing agent.

## 10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

## 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 4  
**Dermal** Based on available data, the classification criteria are not met  
**Inhalation** Based on available data, the classification criteria are not met

| Component        | LD50 Oral               | LD50 Dermal            | LC50 Inhalation |
|------------------|-------------------------|------------------------|-----------------|
| Dimethyl maleate | LD50 = 1410 mg/kg (Rat) | LD50 >2000 mg/kg (Rat) | -               |

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; Category 2

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

**Respiratory** No data available  
**Skin** Category 1  
May cause sensitization by skin contact

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available  
There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; Category 3  
**Results / Target organs** Respiratory system.

(i) STOT-repeated exposure; Category 2  
**Target Organs** Stomach.

# SAFETY DATA SHEET

Dimethyl maleate

Revision Date 27-Sep-2023

(j) aspiration hazard; No data available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

**Symptoms / effects, both acute and delayed** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

## 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** Do not empty into drains. .

**12.2. Persistence and degradability** Readily biodegradable  
**Persistence** Persistence is unlikely.

**12.3. Bioaccumulative potential** Bioaccumulation is unlikely

| Component        | log Pow | Bioconcentration factor (BCF) |
|------------------|---------|-------------------------------|
| Dimethyl maleate | 0.52    | 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** 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**  
**Ozone Depletion Potential**

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste from Residues/Unused Products** 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

# SAFETY DATA SHEET

Dimethyl maleate

Revision Date 27-Sep-2023

application specific.

## Other Information

Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

## 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 |
|------------------|----------|-----------|--------|-----|-------|------|----------|------|------|
| Dimethyl maleate | 624-48-6 | 210-848-5 | -      | -   | X     | X    | KE-11506 | X    | X    |

| Component        | CAS No   | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|------------------|----------|------|-----------------------------------------------|-----|------|------|-------|-------|
| Dimethyl maleate | 624-48-6 | 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

ACR21846

# SAFETY DATA SHEET

Dimethyl maleate

Revision Date 27-Sep-2023

| 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) |
|------------------|----------|---------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Dimethyl maleate | 624-48-6 | -                                                                   | -                                                                             | -                                                                                                     |

## 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 |
|------------------|----------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Dimethyl maleate | 624-48-6 | 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** See table for values

| Component        | Germany - Water Classification (AwSV) | Germany - TA-Luft Class |
|------------------|---------------------------------------|-------------------------|
| Dimethyl maleate | WGK1                                  |                         |

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

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

H302 - Harmful if swallowed

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

H373 - May cause damage to organs through prolonged or repeated exposure

### Legend

# SAFETY DATA SHEET

Dimethyl maleate

Revision Date 27-Sep-2023

**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/NDL** - 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

**Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**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)

## 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.

**Creation Date** 29-May-2012  
**Revision Date** 27-Sep-2023  
**Revision Summary** Not applicable.

**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**