

## Methyl orange

Version number: GHS 2.0  
Replaces version of: 2019-05-20 (GHS 1)

Revision: 2022-01-25

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

#### 1.1 Product identifier

|                                 |                                   |
|---------------------------------|-----------------------------------|
| Identification of the substance | <b>Methyl orange</b>              |
| Registration number (REACH)     | this information is not available |
| CAS number                      | 547-58-0                          |
| Article number                  | A0000874                          |

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

|                          |             |
|--------------------------|-------------|
| Relevant identified uses | General use |
|--------------------------|-------------|

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

Chemos GmbH & Co. KG  
Sonnenring 7  
84032 Altdorf  
Germany

Telephone: +49 871-966346-0  
Telefax: +49 871-966346-13  
e-mail: chemos@chemos.de  
Website: <http://www.chemos.de/>

e-mail (competent person) chemos@chemos.de

#### 1.4 Emergency telephone number

Emergency information service +49 89 1 92 40

| Poison centre  |                                                               |                      |                   |         |
|----------------|---------------------------------------------------------------|----------------------|-------------------|---------|
| Country        | Name                                                          | Postal code/<br>city | Telephone         | Telefax |
| United Kingdom | National Poison Information Centre<br>Medical Toxicology Unit | SE14 5ER Lon-<br>don | +44 171 635 91 91 |         |

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

| Section | Hazard class          | Category | Hazard class and cat-<br>egory | Hazard state-<br>ment |
|---------|-----------------------|----------|--------------------------------|-----------------------|
| 3.10    | acute toxicity (oral) | 3        | Acute Tox. 3                   | H301                  |

For full text of abbreviations: see SECTION 16.

#### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- Signal word danger

- Pictograms

GHS06



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### - Hazard statements

H301 Toxic if swallowed.

### - Precautionary statements

P264 Wash thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P321 Specific treatment (see on this label).  
P330 Rinse mouth.  
P405 Store locked up.  
P501 Dispose of contents/container to industrial combustion plant.

## 2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance Methyl orange

Identifiers

CAS No 547-58-0

| Specific Conc. Limits | M-Factors | ATE       | Exposure route |
|-----------------------|-----------|-----------|----------------|
| -                     | -         | 100 mg/kg | oral           |

Molecular formula C<sub>14</sub>H<sub>14</sub>N<sub>3</sub>NaO<sub>3</sub>S

Molar mass 327.3 g/mol

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Brush off loose particles from skin. Rinse skin with water/shower.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

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

Symptoms and effects are not known to date.

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Water, Foam, ABC-powder

Unsuitable extinguishing media

Water jet

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

Deposited combustible dust has considerable explosion potential.

Hazardous combustion products

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Sulphur oxides (SO<sub>x</sub>)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

## SECTION 6: Accidental release measures

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

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

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

Advice on how to contain a spill

Covering of drains, Take up mechanically

Advice on how to clean up a spill

Take up mechanically.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

##### Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Ground/bond container and receiving equipment.

- Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

##### Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

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

##### Managing of associated risks

- Explosive atmospheres

Removal of dust deposits.

- Ventilation requirements

Use local and general ventilation.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

#### 7.3 Specific end use(s)

See section 16 for a general overview.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

| Occupational exposure limit values (Workplace Exposure Limits) |               |        |            |           |             |            |              |                 |                   |          |           |
|----------------------------------------------------------------|---------------|--------|------------|-----------|-------------|------------|--------------|-----------------|-------------------|----------|-----------|
| Country                                                        | Name of agent | CAS No | Identifier | TWA [ppm] | TWA [mg/m³] | STEL [ppm] | STEL [mg/m³] | Ceiling-C [ppm] | Ceiling-C [mg/m³] | Notation | Source    |
| GB                                                             | dust          |        | WEL        |           | 10          |            |              |                 |                   | i        | EH40/2005 |
| GB                                                             | dust          |        | WEL        |           | 4           |            |              |                 |                   | r        | EH40/2005 |

##### Notation

##### Ceiling-C

ceiling value is a limit value above which exposure should not occur

##### i

inhalable fraction

##### r

respirable fraction

##### STEL

short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

##### TWA

time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours

time-weighted average (unless otherwise specified)

#### 8.2 Exposure controls

##### Appropriate engineering controls

General ventilation.

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### Individual protection measures (personal protective equipment)

#### Eye/face protection

Wear eye/face protection.

#### Skin protection

##### - Hand protection

In the case of wanting to use the gloves again, clean them before taking off and air them well.

##### - Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

#### Respiratory protection

Particulate filter device (EN 143).

#### Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|                                                          |                                                           |
|----------------------------------------------------------|-----------------------------------------------------------|
| Physical state                                           | solid (powder)                                            |
| Colour                                                   | dark orange                                               |
| Odour                                                    | characteristic                                            |
| Melting point/freezing point                             | >300 °C                                                   |
| Boiling point or initial boiling point and boiling range | not determined                                            |
| Flammability                                             | this material is combustible, but will not ignite readily |
| Lower and upper explosion limit                          | not determined                                            |
| Flash point                                              | not applicable                                            |
| Auto-ignition temperature                                | not determined                                            |
| Decomposition temperature                                | not relevant                                              |
| pH (value)                                               | 6.5 (in aqueous solution: 5 g/l, 20 °C)                   |
| Kinematic viscosity                                      | not relevant                                              |
| Solubility(ies)                                          | not determined                                            |

#### Partition coefficient

|                                                   |                                   |
|---------------------------------------------------|-----------------------------------|
| Partition coefficient n-octanol/water (log value) | this information is not available |
|---------------------------------------------------|-----------------------------------|

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|                 |                |
|-----------------|----------------|
| Vapour pressure | not determined |
|-----------------|----------------|

## Density and/or relative density

|                         |                                               |
|-------------------------|-----------------------------------------------|
| Density                 | not determined                                |
| Relative vapour density | information on this property is not available |

|                          |                   |
|--------------------------|-------------------|
| Particle characteristics | no data available |
|--------------------------|-------------------|

**9.2 Other information**

|                                                    |                                                                |
|----------------------------------------------------|----------------------------------------------------------------|
| Information with regard to physical hazard classes | hazard classes acc. to GHS (physical hazards):<br>not relevant |
|----------------------------------------------------|----------------------------------------------------------------|

## Other safety characteristics

|               |       |
|---------------|-------|
| Solid content | 100 % |
|---------------|-------|

**SECTION 10: Stability and reactivity****10.1 Reactivity**

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

**10.2 Chemical stability**

See below "Conditions to avoid".

**10.3 Possibility of hazardous reactions**

No known hazardous reactions.

**10.4 Conditions to avoid**

There are no specific conditions known which have to be avoided.

## Hints to prevent fire or explosion

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

**10.5 Incompatible materials**

Oxidisers

**10.6 Hazardous decomposition products**

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

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### SECTION 11: Toxicological information

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

##### Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Toxic if swallowed.

- Acute toxicity estimate (ATE)

Oral 100 mg/kg

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

#### 11.2 Information on other hazards

There is no additional information.

### SECTION 12: Ecological information

#### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

#### 12.2 Persistence and degradability

Data are not available.

#### 12.3 Bioaccumulative potential

Data are not available.

#### 12.4 Mobility in soil

Data are not available.

#### 12.5 Results of PBT and vPvB assessment

Data are not available.

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### 12.6 Endocrine disrupting properties

Information on this property is not available.

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagegins

It is a dangerous waste; only packagegins which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

## SECTION 14: Transport information

### 14.1 UN number or ID number

|             |         |
|-------------|---------|
| ADR/RID/ADN | UN 3143 |
| IMDG-Code   | UN 3143 |
| ICAO-TI     | UN 3143 |

### 14.2 UN proper shipping name

|                |                                        |
|----------------|----------------------------------------|
| ADR/RID/ADN    | DYE, SOLID, TOXIC, N.O.S.              |
| IMDG-Code      | DYE, SOLID, TOXIC, N.O.S.              |
| ICAO-TI        | Dye intermediate, solid, toxic, n.o.s. |
| Technical name | Methyl orange                          |

### 14.3 Transport hazard class(es)

|             |     |
|-------------|-----|
| ADR/RID/ADN | 6.1 |
| IMDG-Code   | 6.1 |
| ICAO-TI     | 6.1 |

### 14.4 Packing group

|             |     |
|-------------|-----|
| ADR/RID/ADN | III |
| IMDG-Code   | III |
| ICAO-TI     | III |

### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

### 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

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### Information for each of the UN Model Regulations

#### **Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information**

Classification code T2  
Danger label(s) 6.1



Special provisions (SP) 274, 802(ADN)  
Exempted quantities (EQ) E1  
Limited quantities (LQ) 5 kg  
Transport category (TC) 2  
Tunnel restriction code (TRC) E  
Hazard identification No 60  
Emergency Action Code 2X

#### **International Maritime Dangerous Goods Code (IMDG) - Additional information**

Marine pollutant -  
Danger label(s) 6.1



Special provisions (SP) 223, 274  
Exempted quantities (EQ) E1  
Limited quantities (LQ) 5 kg  
EmS F-A, S-A  
Stowage category A

#### **International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information**

Danger label(s) 6.1



Special provisions (SP) A3, A5  
Exempted quantities (EQ) E1  
Limited quantities (LQ) 10 kg

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### SECTION 15: Regulatory information

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

#### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

### SECTION 16: Other information

#### Indication of changes (revised safety data sheet)

| Section | Former entry (text/value)                                                                                                                                 | Actual entry (text/value)                                                                                          | Safety-relevant |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------|
| 1.4     | Emergency information service:<br>This number is only available during the following office hours: Mon - Thu 08:00 AM - 05:00 PM, Fri 08:00 AM - 12:00 PM | Emergency information service:<br>+49 89 1 92 40                                                                   | yes             |
| 1.4     |                                                                                                                                                           | Poison centre:<br>change in the listing (table)                                                                    | yes             |
| 3.1     |                                                                                                                                                           | CAS No:<br>change in the listing (table)                                                                           | yes             |
| 9.1     | Appearance                                                                                                                                                |                                                                                                                    | yes             |
| 9.1     | Other safety parameters                                                                                                                                   |                                                                                                                    | yes             |
| 9.1     |                                                                                                                                                           | Lower and upper explosion limit:<br>not determined                                                                 | yes             |
| 9.1     | Evaporation rate:<br>not determined                                                                                                                       |                                                                                                                    | yes             |
| 9.1     | Explosion limits of dust clouds:<br>not determined                                                                                                        |                                                                                                                    | yes             |
| 9.1     |                                                                                                                                                           | Decomposition temperature:<br>not relevant                                                                         | yes             |
| 9.1     | pH (value):<br>6.5 (water: 5 g/l, 20 °C)                                                                                                                  | pH (value):<br>6.5 (in aqueous solution: 5 g/l, 20 °C)                                                             | yes             |
| 9.1     |                                                                                                                                                           | Kinematic viscosity:<br>not relevant                                                                               | yes             |
| 9.1     |                                                                                                                                                           | Density and/or relative density                                                                                    | yes             |
| 9.1     | Vapour density:<br>this information is not available                                                                                                      |                                                                                                                    | yes             |
| 9.1     | Viscosity:<br>not relevant (solid matter)                                                                                                                 |                                                                                                                    | yes             |
| 9.1     | Explosive properties:<br>none                                                                                                                             |                                                                                                                    | yes             |
| 9.1     | Oxidising properties:<br>none                                                                                                                             |                                                                                                                    | yes             |
| 9.1     |                                                                                                                                                           | Particle characteristics:<br>no data available                                                                     | yes             |
| 9.2     |                                                                                                                                                           | Information with regard to physical hazard classes:<br>hazard classes acc. to GHS (physical hazards): not relevant | yes             |

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| Section | Former entry (text/value)                               | Actual entry (text/value)                                                          | Safety-relevant |
|---------|---------------------------------------------------------|------------------------------------------------------------------------------------|-----------------|
| 9.2     |                                                         | Other safety characteristics                                                       | yes             |
| 11.2    |                                                         | Information on other hazards:<br>There is no additional information.               | yes             |
| 12.6    | Other adverse effects:<br>Data are not available.       | Endocrine disrupting properties:<br>Information on this property is not available. | yes             |
| 14.1    | UN number:<br>3143                                      | UN number or ID number                                                             | yes             |
| 14.1    |                                                         | ADR/RID/ADN:<br>UN 3143                                                            | yes             |
| 14.1    |                                                         | IMDG-Code:<br>UN 3143                                                              | yes             |
| 14.1    |                                                         | ICAO-TI:<br>UN 3143                                                                | yes             |
| 14.2    | UN proper shipping name:<br>DYE, SOLID, TOXIC, N.O.S.   | UN proper shipping name                                                            | yes             |
| 14.2    |                                                         | ADR/RID/ADN:<br>DYE, SOLID, TOXIC, N.O.S.                                          | yes             |
| 14.2    |                                                         | IMDG-Code:<br>DYE, SOLID, TOXIC, N.O.S.                                            | yes             |
| 14.2    |                                                         | ICAO-TI:<br>Dye intermediate, solid, toxic, n.o.s.                                 | yes             |
| 14.2    |                                                         | Technical name:<br>Methyl orange                                                   | yes             |
| 14.3    | Class:<br>6.1 (toxic substances)                        |                                                                                    | yes             |
| 14.3    |                                                         | ADR/RID/ADN:<br>6.1                                                                | yes             |
| 14.3    |                                                         | IMDG-Code:<br>6.1                                                                  | yes             |
| 14.3    |                                                         | ICAO-TI:<br>6.1                                                                    | yes             |
| 14.4    | Packing group:<br>III (substance presenting low danger) | Packing group                                                                      | yes             |
| 14.4    |                                                         | ADR/RID/ADN:<br>III                                                                | yes             |
| 14.4    |                                                         | IMDG-Code:<br>III                                                                  | yes             |
| 14.4    |                                                         | ICAO-TI:<br>III                                                                    | yes             |
| 14.7    | UN number:<br>3143                                      |                                                                                    | yes             |
| 14.7    | Proper shipping name:<br>DYE, SOLID, TOXIC, N.O.S.      |                                                                                    | yes             |
| 14.7    | Class:<br>6.1                                           |                                                                                    | yes             |

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| Section | Former entry (text/value)                                                                                                                                                                                                                                                                                                                                                                                               | Actual entry (text/value)                                                                                                                                                                                                                                                                                                                                                                                               | Safety-relevant |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| 14.7    | Packing group:<br>III                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         | yes             |
| 14.7    | UN number:<br>3143                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                         | yes             |
| 14.7    | Proper shipping name:<br>DYE, SOLID, TOXIC, N.O.S.                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                         | yes             |
| 14.7    | Class:<br>6.1                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                         | yes             |
| 14.7    | Packing group:<br>III                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         | yes             |
| 14.7    | UN number:<br>3143                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                         | yes             |
| 14.7    | Proper shipping name:<br>Dye intermediate, solid, toxic, n.o.s.                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                         | yes             |
| 14.7    | Class:<br>6.1                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                         | yes             |
| 14.7    | Packing group:<br>III                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         | yes             |
| 16      |                                                                                                                                                                                                                                                                                                                                                                                                                         | Abbreviations and acronyms:<br>change in the listing (table)                                                                                                                                                                                                                                                                                                                                                            | yes             |
| 16      | Key literature references and sources for data:<br>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU. Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA). | Key literature references and sources for data:<br>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU. Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA). | yes             |

### Abbreviations and acronyms

| Abbr.       | Descriptions of used abbreviations                                                                                                                                                                                    |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADN         | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR         | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)                                                         |
| ADR/RID/ADN | Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)                                                                                                       |
| ATE         | Acute Toxicity Estimate                                                                                                                                                                                               |
| CAS         | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)                                                                                                                |
| Ceiling-C   | Ceiling value                                                                                                                                                                                                         |
| CLP         | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures                                                                                                                    |
| DGR         | Dangerous Goods Regulations (see IATA/DGR)                                                                                                                                                                            |
| EH40/2005   | EH40/2005 Workplace exposure limits ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )                                 |

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| Abbr.     | Descriptions of used abbreviations                                                                                                                                      |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EmS       | Emergency Schedule                                                                                                                                                      |
| GHS       | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations                                                               |
| IATA      | International Air Transport Association                                                                                                                                 |
| IATA/DGR  | Dangerous Goods Regulations (DGR) for the air transport (IATA)                                                                                                          |
| ICAO      | International Civil Aviation Organization                                                                                                                               |
| ICAO-TI   | Technical instructions for the safe transport of dangerous goods by air                                                                                                 |
| IMDG      | International Maritime Dangerous Goods Code                                                                                                                             |
| IMDG-Code | International Maritime Dangerous Goods Code                                                                                                                             |
| PBT       | Persistent, Bioaccumulative and Toxic                                                                                                                                   |
| ppm       | Parts per million                                                                                                                                                       |
| REACH     | Registration, Evaluation, Authorisation and Restriction of Chemicals                                                                                                    |
| RID       | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| STEL      | Short-term exposure limit                                                                                                                                               |
| TWA       | Time-weighted average                                                                                                                                                   |
| vPvB      | Very Persistent and very Bioaccumulative                                                                                                                                |
| WEL       | Workplace exposure limit                                                                                                                                                |

### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text                |
|------|---------------------|
| H301 | Toxic if swallowed. |

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.