

### Safety data sheet according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

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

· **1.1 Product identifier**

· **Product name: Reference Standard Gardner Colour 2**

· **Catalog number:** 134200, 135069

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

· **Application of the substance / the preparation:** Coloured Standard Solution for calibration purposes

· **1.3 Details of the supplier of the safety data sheet**

· **Supplier:**

Tintometer GmbH  
Schleefstraße 8-12  
44287 Dortmund  
www.lovibond.com

phone: +49 231 94510-0  
e-mail: sales@tintometer.de

The Tintometer Limited  
Lovibond® House  
Sun Rise Way  
Amesbury  
Wiltshire SP4 7GR  
United Kingdom  
Made in UK

phone : +44 1980 664800  
e-mail: SDS@tintometer.com

· **Informing department:**

e-mail: sds@lovibond.com  
Product Safety Department

· **1.4 Emergency telephone number:**

+44 1235 239670  
Languages: English

#### SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Carc. 1B H350 May cause cancer.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

· **Hazard pictograms**



GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

Base oil : residual oils solvent-dewaxed  
(D94/69 p1345) L  
White mineral oil (petroleum)

(Contd. on page 2)

GB

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

**Product name: Reference Standard Gardner Colour 2**

(Contd. of page 1)

**Hazard statements**

H350 May cause cancer.  
H304 May be fatal if swallowed and enters airways.

**Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P201 Obtain special instructions before use.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P331 Do NOT induce vomiting.  
P501 Dispose of contents/container to an approved waste disposal plant.

**Additional information:**

Restricted to professional users.

**2.3 Other hazards** No further relevant information available.

**Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

**Determination of endocrine-disrupting properties**

The product does not contain substances with endocrine disrupting properties.

### SECTION 3: Composition/information on ingredients

**3.2 Mixtures**

**Description:** Mixture of organic compounds.

**Dangerous components:**

CAS: 64742-62-7 EINECS: 265-166-0 Index No: 649-471-00-X	Base oil : residual oils solvent-dewaxed (D94/69 p1345) L ☠ Carc. 1B, H350	60-80%
CAS: 8042-47-5 EINECS: 232-455-8	White mineral oil (petroleum) ☠ Asp. Tox. 1, H304	20-40%
CAS: 1330-20-7 EINECS: 215-535-7 Index No: 601-022-00-9	xylene, mixed isomers, pure ☠ Flam. Liq. 3, H226; ☠ Aquatic Acute 1, H400 (M=1); ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	<0.1%
CAS: 100-41-4 EINECS: 202-849-4 Index No: 601-023-00-4	Ethylbenzene ☠ Flam. Liq. 2, H225; ☠ Carc. 2, H351; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H332	<0.1%

**Additional information** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

**4.1 Description of first aid measures**
**General information**

Personal protection for the First Aider!  
Instantly remove any clothing soiled by the product.

**After inhalation**

Supply fresh air or oxygen.  
Call a doctor immediately.

**After skin contact**

Instantly wash with water and soap and rinse thoroughly.  
If skin irritation or rash occurs: Get medical advice/attention.

**After eye contact** Rinse opened eye for several minutes (at least 15 min) under running water. Then consult doctor.

**After swallowing**

Rinse out mouth and then drink 1-2 glasses of water.  
Do not induce vomiting; instantly call for medical help.

**4.2 Most important symptoms and effects, both acute and delayed:**

after swallowing and inhalation:

breathing difficulty  
coughing  
dizziness  
gastric or intestinal trouble

**Danger**

Danger of pneumonia.

(Contd. on page 3)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

---

**Product name: Reference Standard Gardner Colour 2**


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(Contd. of page 2)

Danger of pulmonary oedema.

- **4.3 Indication of any immediate medical attention and special treatment needed:**

If swallowed or in case of vomiting, danger of entering the lungs

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### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**

- **Suitable extinguishing agents**

Use fire fighting measures that suit the environment.

CO<sub>2</sub>, extinguishing powder or water spray jet. Fight larger fire with alcohol-resistant foam.

- **For safety reasons unsuitable extinguishing agents**

Water with a full water jet.

Large Fire: Use of water spray when fighting fire may be inefficient.

- **5.2 Special hazards arising from the substance or mixture**

combustible

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

Carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>)

- **5.3 Advice for firefighters**

- **Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

- **Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

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### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**

- **Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Avoid substance contact.

Ensure adequate ventilation

- **Advice for emergency responders:** Protective equipment: see section 8

- **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.

- **6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, universal binders).

Dispose of contaminated material as waste according to item 13.

- **6.4 Reference to other sections**

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

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### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**

- **Advice on safe handling:**

Open and handle container with care.

Ensure good ventilation/exhaustion at the workplace.

Keep ignition sources away - Do not smoke.

- **Hygiene measures:**

Do not inhale gases / fumes / aerosols.

Do not get in eyes, on skin, or on clothing.

Take off immediately all contaminated clothing.

Store protective clothing separately.

Wash hands during breaks and at the end of the work.

Do not eat, drink or smoke when using this product.

- **7.2 Conditions for safe storage, including any incompatibilities**

- **Requirements to be met by storerooms and containers:** Store in cool location.

- **Information about storage in one common storage facility:** see chapter 10

(Contd. on page 4)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

**Product name: Reference Standard Gardner Colour 2**

(Contd. of page 3)

- **Further information about storage conditions:**  
Store in a locked cabinet or with access restricted to technical experts or their assistants.  
Protect from heat and direct sunlight.  
Protect from the effects of light.  
Protect from humidity and keep away from water.
- **Recommended storage temperature:** 23°C +/- 5°C
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Recommended monitoring procedures:**  
Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Engineering measures:**  
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.  
See item 7.
- **Individual protection measures, such as personal protective equipment**  
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Eye/face protection**  
Safety glasses  
Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.
- **Hand protection**  
Protective gloves.  
Preventive skin protection by use of skin-protecting agents is recommended.  
After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**  
nitrile rubber, NBR  
Recommended thickness of the material:  $\geq 0.11$  mm
- **Penetration time of glove material**  
Value for the permeation: Level = 1 ( < 10 min )  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Other skin protection (body protection):** Protective work clothing.
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter A
- **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

### SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **Physical state** Fluid
- **Form:** Liquid
- **Colour:** Light yellow
- **Odour:** Characteristic
- **Odour threshold:** Not determined.
- **Melting point/Freezing point:** Not determined.
- **Boiling point or initial boiling point and boiling range** Not determined.
- **Flammability** combustible
- **Explosive properties:** Product is not explosive. However, formation of explosive air/steam mixtures is possible.
- **Lower and upper explosion limit**
- **Lower:** Not determined.
- **Upper:** Not determined.

(Contd. on page 5)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

**Product name: Reference Standard Gardner Colour 2**

(Contd. of page 4)

· <b>Flash point:</b>	>98°C (CAS: 64742-62-7 Base oil : residual oils solvent-dewaxed (D94/69 p1345) L)
· <b>Auto-ignition temperature:</b>	>300°C
· <b>Decomposition temperature:</b>	Not applicable.
· <b>pH</b>	Mixture is non-soluble (in water).
· <b>Kinematic viscosity at 40°C</b>	<20.5 mm <sup>2</sup> /s
· <b>Solubility</b>	
· <b>Water:</b>	Not miscible or difficult to mix
· <b>Partition coefficient n-octanol/water (log value)</b>	Not applicable (mixture).
· <b>Vapour pressure:</b>	Not determined.
· <b>Density and/or relative density</b>	
· <b>Density at 20°C:</b>	>0.55–<1.39 g/cm <sup>3</sup>
· <b>Relative density:</b>	Not determined.
· <b>Relative gas density</b>	Not determined.
· <b>Particle characteristics</b>	Not applicable (liquid).
<b>· 9.2 Other information</b>	
· <b>Information with regard to physical hazard classes</b>	
· <b>Corrosive to metals</b>	Void
· <b>Other safety characteristics</b>	
· <b>Oxidising properties:</b>	none
· <b>Additional information</b>	
· <b>Solids content:</b>	0 %
· <b>Solvent content:</b>	
· <b>Organic solvents:</b>	<1 %

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** Fumes can combine with air to form an explosive mixture.
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**  
Reacts with oxidizing agents  
Explosion hazard with: Nitrates, chlorates, perchlorates
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

### SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

#### · **LD/LC50 values that are relevant for classification:**

<b>CAS: 64742-62-7 Base oil : residual oils solvent-dewaxed (D94/69 p1345) L</b>		
Oral	LD50	>5000 mg/kg (rat) (OECD 401)
Dermal	LD50.	>2000 mg/kg (rat)
Inhalative	LC50.	>5.53 mg/l4h (rat) (OECD 403) (ECHA: there was no mortality in either control or exposed group during the study; aerosol; read-across based on grouping of substances (category approach))
<b>CAS: 8042-47-5 White mineral oil (petroleum)</b>		
Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50.	>2000 mg/kg (rabbit)
Inhalative	LC50.	>5 mg/l4h (rat)

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.

(Contd. on page 6)

— GB —

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

**Product name: Reference Standard Gardner Colour 2**

(Contd. of page 5)

· <b>Information on components:</b>		
<b>CAS: 8042-47-5 White mineral oil (petroleum)</b>		
Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 405	(rabbit: no irritation)

· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

· <b>Information on components:</b>		
<b>CAS: 8042-47-5 White mineral oil (petroleum)</b>		
Sensitisation	OECD 406	(guinea pig: negative) (Magnusson / Klingman)

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

· **Carcinogenicity** May cause cancer.

· **Reproductive toxicity** Based on available data, the classification criteria are not met.

· **Information on components:**  
 OECD 414: Teratogenicity testing  
 OECD 473: Mutagenicity testing  
 OECD 471, 474, 476, 487: Germ cell mutagenicity testing

<b>CAS: 8042-47-5 White mineral oil (petroleum)</b>		
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)	
OECD 474	(negative) (Mammalian Erythrocyte Micronucleus Test)	

· **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.

· **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.

· **Aspiration hazard** May be fatal if swallowed and enters airways.

· **11.2 Information on other hazards**

· **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

· **Other information**

Other dangerous properties can not be excluded.

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

## SECTION 12: Ecological information

· **12.1 Toxicity**

· <b>Aquatic toxicity:</b>		
<b>CAS: 64742-62-7 Base oil : residual oils solvent-dewaxed (D94/69 p1345) L</b>		
EC50	>1000 mg/l/48h (Daphnia magna)	
LC50	>5000 mg/l/96h (rainbow trout)	
<b>CAS: 8042-47-5 White mineral oil (petroleum)</b>		
EC50	>100 mg/l/48h (Daphnia magna) (OECD 202)	
IC50	≥100 mg/l/72h (Pseudokirchneriella subcapitata) (OECD 201)	
LC50	>1000 mg/l/96h (gold orfe) (OECD 203)	

· **12.2 Persistence and degradability**

<b>CAS: 8042-47-5 White mineral oil (petroleum)</b>		
OECD 301 F	31.3 % / 28 d (.)	

· **12.3 Bioaccumulative potential**

Pow = n-octanol/wasser partition coefficient  
 log Pow > 3 = May be accumulated in organism

<b>CAS: 8042-47-5 White mineral oil (petroleum)</b>		
log Pow	>6 (.)	

· **12.4 Mobility in soil** No further relevant information available.

· **12.5 Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

· **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

· **12.7 Other adverse effects** Avoid transfer into the environment.

(Contd. on page 7)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

**Product name: Reference Standard Gardner Colour 2**

(Contd. of page 6)

**· Water hazard:**

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.

### SECTION 13: Disposal considerations

**· 13.1 Waste treatment methods**
**· Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Hand over to disposers of hazardous waste.

**· European waste catalogue**

16 05 08*	discarded organic chemicals consisting of or containing hazardous substances
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**· Uncleaned packagings:**
**· Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

**· 14.1 UN number or ID number**
**· ADR, IMDG, IATA** Void

**· 14.2 UN proper shipping name**
**· ADR, IMDG, IATA** Void

**· 14.3 Transport hazard class(es)**
**· ADR, IMDG, IATA**  
**· Class** Void

**· 14.4 Packing group**
**· ADR, IMDG, IATA** Void

**· 14.5 Environmental hazards:**

Not applicable.

**· 14.6 Special precautions for user**

Not applicable.

**· 14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.

**· Transport/Additional information:**

Not dangerous according to the above specifications.

### SECTION 15: Regulatory information

**· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
**· Poisons Act UK**
**· Regulated explosives precursors**

None of the ingredients is listed.

**· Regulated poisons**

None of the ingredients is listed.

**· Reportable explosives precursors**

None of the ingredients is listed.

**· Reportable poisons**

None of the ingredients is listed.

**· Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

**· Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

**· Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:**

None of the ingredients is listed.

(Contd. on page 8)



# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

**Product name: Reference Standard Gardner Colour 2**

(Contd. of page 7)

· <b>Regulation (EC) No 273/2004 on drug precursors</b>
None of the ingredients is listed.
· <b>Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors</b>
None of the ingredients is listed.
· <b>Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:</b>
None of the ingredients is listed.
· <b>REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)</b>
None of the ingredients is listed.
· <b>LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)</b>
None of the ingredients is listed.
· <b>Substances of very high concern (SVHC) according to REACH, Article 57</b> This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).
· <b>Substances of very high concern (SVHC) according to UK REACH</b> This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).
· <b>Directive 2012/18/EU (SEVESO III):</b>
· <b>Named dangerous substances - ANNEX I</b> None of the ingredients is listed.
· <b>REGULATION (EC) No 1907/2006 ANNEX XVII</b> Conditions of restriction: 3, 28
· <b>Information about limitation of use:</b> Employment restrictions concerning young persons must be observed (94/33/EC). Employment restrictions concerning pregnant and lactating women must be observed (92/85/EEC).
· <b>15.2 Chemical safety assessment:</b> A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheets is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H332 Harmful if inhaled.

H350 May cause cancer.

H351 Suspected of causing cancer.

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

H400 Very toxic to aquatic life.

· **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

(Contd. on page 9)

GB



# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 6 (replaces version 5)

Revision: 15.11.2023

---

**Product name: Reference Standard Gardner Colour 2**

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(Contd. of page 8)

vPvB: very Persistent and very Bioaccumulative  
Flam. Liq. 2: Flammable liquids – Category 2  
Flam. Liq. 3: Flammable liquids – Category 3  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Carc. 1B: Carcinogenicity – Category 1B  
Carc. 2: Carcinogenicity – Category 2  
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2  
Asp. Tox. 1: Aspiration hazard – Category 1  
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

**Sources**

Data arise from safety data sheets, reference works and literature.  
ECHA: European CHemicals Agency <http://echa.europa.eu>

\* **Data compared to the previous version altered.**

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