Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 14.02.2025 Version number 5 (replaces version 4) Revision: 14.02.2025

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

· **1.1 Product identifier**

· **Product name: Vario Chlorine Total - DPD F5, F10, F25, PD250**

· **Catalog number:**
00530089, 00530199, 00530139, 005301559, 530130, 530133, 530080, 530083, 530190, 530193, 530192, 530155, 530156, 00530191, 570138, 570134, 570130, 570198, 570194, 570190, 570088, 570084, 570080, 00570138, 00570139, 00570088, 00570084, 00570089, 00570198, 00570199, 00570134, 00570194

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

· **Application of the substance / the preparation:** Reagent for water analysis

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

· **Supplier:**
Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com
phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom
phone : +44 1980 664800
e-mail: SDS@lovibond.uk

· **Informing department:**
e-mail: sds@lovibond.com
Product Safety Department

· **1.4 Emergency telephone number:**
+44 1235 239670
Languages: English

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SECTION 2: Hazards identification

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

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



GHS08 health hazard

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.

· **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:**
potassium iodide
· **Hazard statements**
H372 Causes damage to organs through prolonged or repeated exposure.

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· **Precautionary statements**
P260 Do not breathe dust.
P264 Wash hands thoroughly after handling.
P314 Get medical advice/attention if you feel unwell.

· **2.3 Other hazards**
The main intake pathways of potassium iodide are: inhalation of dust and solution aerosols, as well as oral ingestion.

· **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.

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SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:** Mixture of organic and inorganic compounds

· **Dangerous components:**

CAS: 7681-11-0 EINECS: 231-659-4 Reg.nr.: 01-2119966161-40-XXXX	potassium iodide STOT RE 1, H372	20–30%
CAS: 6381-92-6 EINECS: 205-358-3 Reg.nr.: 01-2119486775-20-XXXX	Ethylenediaminetetraacetic acid disodium salt dihydrate STOT RE 2, H373; Acute Tox. 4, H332	≤2.5%
CAS: 6283-63-2 EINECS: 228-500-6	N,N-diethylbenzene-1,4-diammonium sulphate (1:1) Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	≤2.5%

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

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SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information** Instantly remove any clothing soiled by the product.
· **After inhalation** Supply fresh air; consult doctor in case of symptoms.
· **After skin contact** Instantly wash with water and soap and rinse thoroughly.
· **After eye contact**
Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.
· **After swallowing**
Rinse out mouth and then drink 1-2 glasses of water.
In case of persistent symptoms consult doctor.
· **4.2 Most important symptoms and effects, both acute and delayed:**
irritating effects possible
allergic reactions
after swallowing and inhalation:
absorption
after absorption of large amounts:
headache
sickness
vomiting
gastric pain
diarrhoea
cardiovascular disorders
drop in blood pressure
weakness
after absorption:
methaemoglobinaemia
disorder of electrolyte balance
· **4.3 Indication of any immediate medical attention and special treatment needed:**
Absorption: in case of iodine hypersensitivity, even after relatively low doses, acute respiratory and cardiovascular disorders (possibly shock), skin and mucous membrane reactions possible. (GESTIS)

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Symptoms of poisoning may even occur after several hours.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
· **5.2 Special hazards arising from the substance or mixture**
The product is not combustible.
Formation of toxic gases is possible during heating or in case of fire.
Can be released in case of fire:
Phosporus oxides (PxOx)
Sulphur oxides (SOx)
Nitrogen oxides (NOx)
Dipotassium oxide
Hydrogen iodide (HI)
Carbon monoxide (CO) and carbon dioxide (CO_2)
· **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.

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.
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.
Collect mechanically.
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:**
Prevent formation of dust.
Provide suction extractors if dust is formed.
· **Hygiene measures:**
Take off immediately all contaminated clothing.
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:** Store away from oxidising agents.
· **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.
Store in cool, dry conditions in well sealed containers.
Protect from the effects of light.
Protect from humidity and keep away from water.
This product is hygroscopic.

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· **Recommended storage temperature:** 20°C +/- 5°C

· **7.3 Specific end use(s)** No further relevant information available.

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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.

· **DNELs**
Derived No Effect Level (DNEL)

CAS: 7681-11-0 potassium iodide		
Oral	DNEL	0.01 mg/kg /bw/d (Consumer / acute / systemic effects)
		0.01 mg/kg /bw/d (Consumer / long-term / systemic effects)
Dermal	DNEL	1 mg/kg /bw/d (Worker / long-term /systemic effects)
		1 mg/kg /bw/d (Consumer / long-term / systemic effects)
Inhalative	DNEL	0.07 mg/m³ (Worker / long-term /systemic effects)
		0.035 mg/m³ (Consumer / long-term / systemic effects)
CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt dihydrate		
Oral	DNEL	25 mg/kg (Consumer / long-term / systemic effects)
Inhalative	DNEL	3 mg/m³ (Worker / acute / local effects)
		1.5 mg/m³ (Worker / long-term / local effects)
		1.2 mg/m³ (Consumer / acute / local effects)
		0.6 mg/m³ (Consumer / long-term / local effects)

· **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.

· **PNECs**
Predicted No Effect Concentration (PNEC)

CAS: 7681-11-0 potassium iodide	
PNEC	0.007 mg/l (Fresh water)
PNEC	0.075 mg/kg (Aquatic intermittent release)
	0.007 mg/kg /sediment (Fresh water sediment)
CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt dihydrate	
PNEC	0.22 mg/l (Marine water)
	1.2 mg/l (Aquatic intermittent release)
	2.2 mg/l (Fresh water)

· **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 against the effects of fumes / dust
Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.
· **Hand protection**
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: ≥ 0.11 mm

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· **Penetration time of glove material**
Value for the permeation: Level = 1 (< 10 min)
The exact break trough 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 P3

· **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**	Solid.
· **Form:**	Powder
· **Colour:**	White
· **Odour:**	Odourless
· **Odour threshold:**	Not applicable.
· **Melting point/Freezing point:**	Not determined.
· **Boiling point or initial boiling point and boiling range**	Not determined.
· **Flammability**	The product is not combustible.
· **Explosive properties:**	Product is not explosive.
· **Lower and upper explosion limit**	
Lower:	Not applicable.
Upper:	Not applicable.
· **Flash point:**	Not applicable.
· **Auto-ignition temperature:**	Not applicable (solid).
· **Decomposition temperature:**	Not determined.
· **pH (10 g/l) at 20°C**	6.3
· **Kinematic viscosity**	Not applicable (solid).
· **Solubility**	
· **Water:**	Soluble
· **Partition coefficient n-octanol/water (log value)**	Not applicable (mixture).
· **Vapour pressure:**	Not applicable.
· **Density and/or relative density**	
· **Density:**	Not determined.
· **Relative density:**	Not determined.
· **Relative gas density**	Not applicable (solid).
· **Particle characteristics**	Not determined.
· **9.2 Other information**	
· **Information with regard to physical hazard classes**	
· **Corrosive to metals**	Void
· **Other safety characteristics**	
· **Oxidising properties:**	none
· **Additional information**	
· **Solids content:**	100 %

SECTION 10: Stability and reactivity

· **10.1 Reactivity** see section 10.3
· **10.2 Chemical stability** Stable at ambient temperature (room temperature).
· **10.3 Possibility of hazardous reactions**
Reacts with acids, alkalis and oxidizing agents
--> forms heat
Reacts with alkaline metals
Reacts with peroxides
Reacts with halogenated compounds
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.

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· **10.6 Hazardous decomposition 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**

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

· **LD/LC50 values that are relevant for classification:**		
CAS: 7681-11-0 potassium iodide		
Oral	LD50	2779 mg/kg (rat)
Dermal	LD50	3160 mg/kg (rabbit)
	NOAEL	0.01 mg/kg /bw/d (human) organ: Thyroid
CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt dihydrate		
Oral	LD50	2800 mg/kg (rat) (OECD 401) (ECHA: anhydrous substance)
Inhalative	LC50/4h	1.5 mg/l (ATE)
CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)		
Oral	LD50	497 mg/kg (rat) (MERCK)
Dermal	LD50	1100 mg/kg (ATE)

· **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.
· **Information on components:**
CAS 6283-63-2: DPD may cause allergic skin reaction

CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt dihydrate		
Irritation of skin	OECD 404	(rabbit: no irritation) (ECHA read across: anhydrous substance)
Irritation of eyes	OECD 405	(rabbit: no irritation) (ECHA read across: anhydrous substance)

· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **Information on components:**
CAS 6283-63-2: Sensitization possible in predisposed persons.
The following applies to iodides in general: Sensitation possible at predisposed persons.

CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt dihydrate		
Sensitisation	OECD 406	(guinea pig: negative) (ECHA read across: anhydrous substance)

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

CAS: 7681-11-0 potassium iodide	
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)
OECD 476	(negative) (In Vitro Mammalian Cell Gene Mutation Test) Mouse (lymhoma L5178Y cells)

· **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
· **STOT (specific target organ toxicity) -repeated exposure**
Causes damage to organs through prolonged or repeated exposure.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

· **Information on likely routes of exposure**

"Main routes of exposure:
At workplaces, intake of potassium iodide (KI) is most likely to occur via the respiratory tract.
Outside the workplace, iodides are ingested with food (essential) and sometimes with medications.

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Respiratory tract: KI can be inhaled as dust or aerosol from solutions. Inhalation studies were conducted with particulate aerosols containing sodium iodide using various animal species (monkey, mouse, sheep). Rapid and effective absorption via the respiratory tract was observed. This is also assumed for KI as its solubility is comparable.
Skin: From tests on volunteers who had an aqueous KI solution applied to their forearms (12.5 cm²), the amount of iodine absorbed was estimated at 0.1%. Absorption through the skin is therefore considered to be of little relevance.
Gastrointestinal tract: Soluble iodide is absorbed almost entirely via the gastrointestinal tract. This has been proven by results of studies with KI on adult volunteers." [GESTIS]

CAS 6283-63-2 4-Amino-N,N-diethylaniline sulfate:
In analogy to CAS 93-05-0 Amino-N,N-diethylaniline at workplaces the main route of exposure is via the respiratory tract and the skin.
"The high systemic potential of Amino-N,N-diethylaniline observed in animal experiments after oral application of relatively low doses permits the assumption of an effective resorption via the digestive tract that must also be assumed for humans." [GESTIS]

· **Additional toxicological information:**

CAS: 7681-11-0 potassium iodide

. (source: GESTIS)
Main Toxic Effects:
Acute: Irritation to the eyes, skin and airways, disturbance of thyroid function, cardiovascular effects, metabolic disturbances.
Chronic: Disturbance of thyroid function, systemically conditioned skin damage and inflammation of the mucous membranes.

Furter Information (GESTIS, Merck):
Small amounts of iodine are essential for the body. However, long-term overdoses of iodine lead to disturbances in the thyroid function (hypo- and/or hyperthyroidism, possibly accompanied by thyroiditis). The effects are very complex.
Furthermore, symptoms of chronic iodine poisoning (iodine toxicosis, "iodism") can occur following intake of high doses of predisposed persons. They mainly consist of systemically conditioned irritation/inflammatory changes to the mucous membranes and skin.
Iodide crosses the placenta and, when administered (orally) to pregnant women in very high doses, can lead to hypothyroidism and/or goiter in the fetus with deaths from tracheal compression

CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)

. (source: GESTIS)
Main toxic effects of CAS 93-05-0 4-Amino-N,N-diethylaniline:
Acute: Irritative effects to the mucosae and the skin, sensitising effects;
Chronic: Skin diseases. Only insufficient information available on the systemic effects.

· **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**

· **Aquatic toxicity:**

CAS: 7681-11-0 potassium iodide

EC50	7.5 mg/l/48h (Daphnia magna) (OECD 202) Merck
LC50	3780 mg/l/96h (rainbow trout) (OECD 203) Merck

CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt dihydrate

EC50	140 mg/l/48h (Daphnia magna) (DIN 38412) (ECHA read across: anhydrous substance)
NOEC	25 mg/l /21 d (Daphnia magna) (ECHA read across: anhydrous substance)
LC50	159 mg/l/96h (bluegill)

· **Bacterial toxicity:** sulphates toxic > 2.5 g/l
· **Other information:**
Toxic for fish:
Sulphates > 7 g/l

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· **12.2 Persistence and degradability**

CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt dihydrate	
OECD 301 D	2 /% (not readily biodegradable) (read across: anhydrous substance)

· **12.3 Bioaccumulative potential**
Pow = n-octanol/wasser partition coefficient
log Pow 1-3 = Not worth-mentioning accumulating in organisms.

CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)	
log Pow	2.24 (.) (calculated)

· **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**
Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of water supplies.
Avoid transfer into the environment.
· **Water hazard:**
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into soil.

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 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

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.

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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.

· **Regulation (EC) No 273/2004 on drug precursors**
None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
None of the ingredients is listed.

· **REGULATION (EU) 2024/590 on substances that deplete the ozone layer**
None of the ingredients is listed.

· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**
None of the ingredients is listed.

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**
None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**
This product does not contain any substances of very high concern above the legal concentration limit of ≥ 0.1% (w / w).

· **Substances of very high concern (SVHC) according to UK REACH**
This product does not contain any substances of very high concern above the legal concentration limit of ≥ 0.1% (w / w).

· **Directive 2012/18/EU (SEVESO III):**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed (94/33/EC).

· **15.2 Chemical safety assessment:** 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**
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.

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· **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)
DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
ATE: Acute toxicity estimate values
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

· **Sources**
Data arise from safety data sheets, reference works and literature.
ECHA: European CHemicals Agency http://echa.europa.eu
GESTIS- Stoffdatenbank (Substance Database, Germany)

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