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

Printing date 31.03.2026 Version number 26 (replaces version 25) Revision: 31.03.2026

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

· **1.1 Product identifier**
· **Trade name: Potassium permanganate**
· **SDS number:** CH0285
· **CAS Number:**
7722-64-7

· **EC number:**
231-760-3
· **Index number:**
025-002-00-9
· **Registration number** 01-2119480139-34
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **Life cycle stages**
IS Use at industrial Sites
F Formulation or re-packing
· **Sector of Use**
SU9 Manufacture of fine chemicals
SU24 Scientific research and development
· **Product category**
PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
PC21 Laboratory chemicals
PC29 Pharmaceuticals
PC40 Extraction agents
· **Process category**
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
PROC5 Mixing or blending in batch processes
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC15 Use as laboratory reagent
· **Environmental release category**
ERC1 Manufacture of the substance
ERC2 Formulation into mixture
ERC3 Formulation into solid matrix
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC6a Use of an intermediary
· **Application of the substance / the mixture** Chemicals products for laboratory

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
CARLO ERBA REAGENTS
Chaussée du Vexin
Parc d'Affaires des Portes - BP616
27106 VAL DE REUIL Cedex
Téléphone: +33 (0)2 32 09 20 00
Télécopie: +33 (0)2 32 09 20 20
· **Further information obtainable from:**
Q.A / Normative
email: MSDS_CER-SDS@cer.dgroup.it

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· ***1.4 Emergency telephone number:***
Ireland - Tel : 00 353 1 8092568 - 00 353 1 8379964 (24h/24)
EU Tel : 112

SECTION 2: Hazards identification

· ***2.1 Classification of the substance or mixture***
· ***Classification according to Regulation (EC) No 1272/2008***



GHS03 flame over circle

Ox. Sol. 2 *H272 May intensify fire; oxidiser.*



GHS08 health hazard

Repr. 2 *H361d Suspected of damaging the unborn child. Route of exposure: Oral.*



GHS09 environment

Aquatic Acute 1 *H400 Very toxic to aquatic life.*
Aquatic Chronic 1 *H410 Very toxic to aquatic life with long lasting effects.*



GHS07

Acute Tox. 4 *H302 Harmful if swallowed.*

· ***2.2 Label elements***
· ***Labelling according to Regulation (EC) No 1272/2008***
The substance is classified and labelled according to the CLP regulation.
· ***Hazard pictograms***



GHS03 GHS07 GHS08 GHS09

· ***Signal word*** *Danger*
· ***Hazard statements***
H272 May intensify fire; oxidiser.
H302 Harmful if swallowed.
H361d Suspected of damaging the unborn child. Route of exposure: Oral.
H410 Very toxic to aquatic life with long lasting effects.
· ***Precautionary statements***
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 Keep away from clothing and other combustible materials.
P264 Wash contaminated body parts thoroughly after handling.
P280 Wear protective gloves / eye protection / face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P308+P313 IF exposed or concerned: Get medical advice/attention.

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· ***2.3 Other hazards***
· ***Results of PBT and vPvB assessment***
· ***PBT:*** *Not applicable*
· ***vPvB:*** *Not applicable*
· ***Determination of endocrine-disrupting properties*** *Not applicable*

SECTION 3: Composition/information on ingredients

· ***3.1 Substances***

· ***CAS No. Description***
CAS: 7722-64-7 Potassium permanganate

· ***Identification number(s)***

· ***EC number:*** *231-760-3*

· ***Index number:*** *025-002-00-9*

SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***General information:***
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· ***After inhalation:*** *Supply fresh air; consult a doctor in case of complaints.*
· ***After skin contact:***
Immediately wash with water and soap and rinse thoroughly. Wash contaminated clothing before reuse.
Generally the product does not irritate the skin.
If skin irritation continues, consult a doctor.
· ***After eye contact:*** *Rinse opened eye for several minutes under running water.*
· ***After swallowing:*** *If some symptoms persist seek for medical advice.*
· ***Information for doctor:*** *Show the doctor this Material Safety Data Sheet.*
· ***4.2 Most important symptoms and effects, both acute and delayed*** *No further relevant information available.*
· ***4.3 Indication of any immediate medical attention and special treatment needed***
No further relevant information available.

SECTION 5: Firefighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents:***
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.
· ***5.2 Special hazards arising from the substance or mixture***
Fumes with metal oxides.
Potassium oxides.
· ***5.3 Advice for firefighters***
· ***Protective equipment:*** *Do not inhale gases in case or fire or combustion.*
· ***Additional information*** *Keep receptacles cool with water spray.*

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SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Ensure adequate ventilation
· **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to penetrate the ground/soil.
Do not allow to enter sewers/ surface or ground water.
In case of seepage into the ground inform responsible authorities.
· **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
Dispose contaminated material as waste according to section 13.
Provide suction extractors if dust is formed.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
Provide suction extractors if dust is formed.
Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.
Keep unused containers tightly sealed.
· **Information about fire - and explosion protection:**
The product is not flammable.
Potentially explosive when mixed with organic substances.
Keep respiratory protective device available.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store in a well-ventilated place. Keep container tightly closed.
Prevent any seepage into the ground.
Use only receptacles specifically permitted for this substance/product.
· **Information about storage in one common storage facility:** *Store away from flammable substances.*
· **Further information about storage conditions:** *None.*
· **7.3 Specific end use(s)** *No further relevant information available.*

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
CAS: 7722-64-7 Potassium permanganate	
IOELV	Long-term value: 0.2* 0.05** mg/m³ as Mn; *inhalable, **respirable fraction

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· **DNELs**		
Inhalative	*DNEL (workers-systemic chronic effects)*	*0.2 mg/m3*

· **PNECs**	
PNEC (Fresh water)	*0.00006 mg/l*
PNEC (STP)	*1.64 mg/l*

· ***Additional information:*** *The lists valid during the making were used as basis.*

· ***8.2 Exposure controls***
· ***Appropriate engineering controls*** *No further data; see section 7.*
· ***Individual protection measures, such as personal protective equipment***
· ***General protective and hygienic measures:***
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Vacuum clean contaminated clothing. Do not blow or brush off contamination.
Avoid contact with the eyes and skin.
· ***Respiratory protection:***
Use suitable respiratory protective device only when aerosol or mist is formed.



In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

The selected respiratory protection must comply with standard EN 136/140/143/145/149.
· ***Hand protection***
The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation



Protective gloves

Rubber gloves
· ***Material of gloves***
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Thin, disposable gloves in PVC or PE
· ***Penetration time of glove material***
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· ***For the permanent contact gloves made of the following materials are suitable:***
The penetration time has to be at least 480 minutes
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.35 mm
· ***As protection from splashes gloves made of the following materials are suitable:***
Thin, disposable gloves in PVC or PE
· ***Eye/face protection***



Safety glasses

· ***Environmental exposure controls***
The product must not be released into the environment.

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In case of unintended release of the product: See section 6 of the Safety Data Sheet.

· ***Risk management measures*** *Keep good industrial hygiene.*

SECTION 9: Physical and chemical properties

· ***9.1 Information on basic physical and chemical properties***	
· ***Molecular weight***	*158.04 g*
· ***Physical state***	*Solid*
· ***Colour:***	*Red-brown*
· ***Odour:***	*Odourless*
· ***Odour threshold:***	*Not determined*
· ***Melting point/freezing point:***	*>240 °C*
· ***Boiling point or initial boiling point and boiling range***	*Undetermined*
· ***Flammability***	*Contact with combustible material may cause fire.*
· ***Lower and upper explosion limit***	
· ***Lower:***	*Not determined*
· ***Upper:***	*Not determined*
· ***Flash point:***	*Not applicable*
· ***Decomposition temperature:***	*Not determined*
· ***pH***	*Not applicable*
· ***Viscosity:***	
· ***Kinematic viscosity***	*Not applicable*
· ***Dynamic:***	*Not applicable*
· ***Solubility***	
· ***water at 20 °C:***	*64.3 g/l*
· ***organic solvents:***	*Soluble in acetone.*
· ***chlorohydrocarbons:***	*Soluble in trichloromethane*
· ***Partition coefficient n-octanol/water (log value)***	*Not determined*
· ***Vapour pressure at 20 °C:***	*0 hPa*
· ***Density and/or relative density***	
· ***Density at 20 °C:***	*2.703 g/cm³*
· ***Relative density***	*Not determined*
· ***Vapour density***	*Not applicable*
· ***Particle characteristics***	*See section 3.*

· ***9.2 Other information***	
· ***Appearance:***	
· ***Form:***	*Crystalline*
· ***Important information on protection of health and environment, and on safety.***	
· ***Ignition temperature:***	*Not determined*
· ***Explosive properties:***	*Product does not present an explosion hazard.*
· ***Molecular formula***	*K Mn O4*
· ***Molecular weight***	*158.04 g/mol*
· ***Change in condition***	
· ***Evaporation rate***	*Not applicable.*

· ***Information with regard to physical hazard classes***	
· ***Explosives***	*Void*
· ***Flammable gases***	*Void*
· ***Aerosols***	*Void*
· ***Oxidising gases***	*Void*
· ***Gases under pressure***	*Void*

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· ***Flammable liquids***	*Void*
· ***Flammable solids***	*Void*
· ***Self-reactive substances and mixtures***	*Void*
· ***Pyrophoric liquids***	*Void*
· ***Pyrophoric solids***	*Void*
· ***Self-heating substances and mixtures***	*Void*
· ***Substances and mixtures, which emit flammable gases in contact with water***	*Void*
· ***Oxidising liquids***	*Void*
· ***Oxidising solids***	*May intensify fire; oxidiser.*
· ***Organic peroxides***	*Void*
· ***Corrosive to metals***	*Void*
· ***Desensitised explosives***	*Void*

SECTION 10: Stability and reactivity

· ***10.1 Reactivity*** *See 10.3*
· ***10.2 Chemical stability***
· ***Thermal decomposition / conditions to be avoided:*** *No decomposition if used according to specifications.*
· ***10.3 Possibility of hazardous reactions***
Reacts with peroxides and other radical forming substances.
Catalytic decomposition of hydrogen peroxide.
May react dangerously with reducing or flammable substances in bulk.
· ***10.4 Conditions to avoid*** *No further relevant information available.*
· ***10.5 Incompatible materials:*** *No further relevant information available.*
· ***10.6 Hazardous decomposition products:***
Oxygen
Potassium oxides.

SECTION 11: Toxicological information

· ***11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008***
· ***Acute toxicity*** *Harmful if swallowed.*

· ***LD/LC50 values relevant for classification:***		
Oral	*LD50*	*1,090 mg/kg (rat)*

· ***Primary irritant effect:***
· ***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.*
· ***Ingestion:*** *Harmful if swallowed.*
· ***Inhalation:*** *May be harmful if inhaled.*
· ***Respiratory or skin sensitisation*** *Based on available data, the classification criteria are not met.*
· ***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*** *Suspected of damaging the unborn child. Route of exposure: Oral.*
· ***STOT-single exposure*** *Based on available data, the classification criteria are not met.*
· ***STOT-repeated exposure*** *Based on available data, the classification criteria are not met.*
· ***Aspiration hazard*** *Based on available data, the classification criteria are not met.*
· ***Other information (about experimental toxicology):*** *No further relevant information available.*

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· ***11.2 Information on other hazards***
· ***Endocrine disrupting properties*** *Substance is not listed.*

SECTION 12: Ecological information

· ***12.1 Toxicity***

· ***Aquatic toxicity:***	
EC50	*0.45 mg/L (algae) (72h)*
LC50/96h	*1.72 mg/l (fishes)*

· ***12.2 Persistence and degradability*** *No further relevant information available.*
· ***Method***
· ***Ecological information*** *Not available*
· ***12.3 Bioaccumulative potential*** *No further relevant information available.*
· ***12.4 Mobility in soil*** *No further relevant information available.*
· ***12.5 Results of PBT and vPvB assessment***
· ***PBT:*** *Not applicable*
· ***vPvB:*** *Not applicable*
· ***12.6 Endocrine disrupting properties***
The product does not contain substances with endocrine disrupting properties.
· ***12.7 Other adverse effects***
· ***Remark:*** *Very toxic for fish*
· ***Remark:*** *Inhibition of bacterial phlora*
· ***Additional ecological information:***
· ***General notes:***
Water danger class 3 (German Regulation) (Assessment by list): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms

*

SECTION 13: Disposal considerations

· ***13.1 Waste treatment methods***
· ***Recommendation***
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Reutilise if possible or contact a waste processors for recycling or safe disposal.
· ***Waste disposal key:***
The European Union does not establish uniform rules for the disposal of chemical waste, which are special waste. Their treatment and elimination of the domestic legislation of each country. So, in each case, you should contact the relevant authorities, or those companies legally authorized for elimination of waste.
2014/955/UE: Council Decision of 18 December 2014 amending the list of wastes contained in Decision 2000/532/EC.
Directive 2008/98/EC of the european parliament and of the council of 18 November 2008, in ist latest valid version.

· ***European waste catalogue***	
06 00 00	*WASTES FROM INORGANIC CHEMICAL PROCESSES*
06 11 00	*wastes from the manufacture of inorganic pigments and opacificiers*
06 11 99	*wastes not otherwise specified*
HP2	*Oxidising*
HP6	*Acute Toxicity*

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HP10	Toxic for reproduction
HP14	Ecotoxic

· ***Uncleaned packaging:***
The containers and packaging materials contaminated with dangerous substances or preparations, have the same treatment of products.
Directive 94/62/EC of the European Parliament and the Council of 20 December 1994 on packaging and packaging waste.
· ***Recommendation:***
Disposal must be made according to official regulations.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
Chemical treatment of contaminated water.

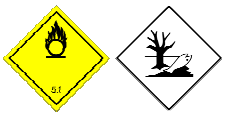
SECTION 14: Transport information

· ***14.1 UN number or ID number***
· ***ADR/RID, IMDG, IATA*** *UN1490*

· ***14.2 UN proper shipping name***
· ***ADR/RID*** *1490 POTASSIUM PERMANGANATE, ENVIRONMENTALLY HAZARDOUS*
· ***IMDG*** *POTASSIUM PERMANGANATE, MARINE POLLUTANT*
· ***IATA*** *Potassium permanganate*

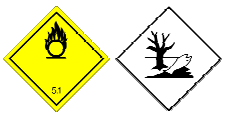
· ***14.3 Transport hazard class(es)***

· ***ADR/RID***



· ***Class*** *5.1 (O2) Oxidising substances.*
· ***Label*** *5.1*

· ***IMDG***



· ***Class*** *5.1 Oxidising substances.*
· ***Label*** *5.1*

· ***IATA***



· ***Class*** *5.1 Oxidising substances.*
· ***Label*** *5.1*

· ***14.4 Packing group***
· ***ADR/RID, IMDG, IATA*** *II*

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· ***14.5 Environmental hazards:***	*Environmentally hazardous substance, solid; Marine Pollutant*
· ***Marine pollutant:***	*Symbol (fish and tree)*
· ***Special marking (ADR/RID):***	*Symbol (fish and tree)*
· ***14.6 Special precautions for user***	*Warning: Oxidising substances.*
· ***Hazard identification number (Kemler code):***	*50*
· ***EMS Number:***	*F-H,S-Q*
· ***Segregation groups***	*(SGG14) Permanganates*
· ***Stowage Category***	*D*
· ***Segregation Code***	*SG38 Stow "separated from" SGG2-ammonium compounds.* *SG49 Stow "separated from" SGG6-cyanides* *SG60 Stow "separated from" SGG16-peroxides*
· ***14.7 Maritime transport in bulk according to IMO instruments***	*Not applicable*
· ***Transport/Additional information:***	
· ***ADR/RID***	
· ***Excepted quantities (EQ):***	*E2*
· ***Limited quantities (LQ)***	*1 kg*
· ***Excepted quantities (EQ)***	*Code: E2* *Maximum net quantity per inner packaging: 30 g* *Maximum net quantity per outer packaging: 500 g*
· ***Transport category***	*2*
· ***Tunnel restriction code***	*E*
· ***IMDG***	
· ***Limited quantities (LQ)***	*1 kg*
· ***Excepted quantities (EQ)***	*Code: E2* *Maximum net quantity per inner packaging: 30 g* *Maximum net quantity per outer packaging: 500 g*
· ***UN "Model Regulation":***	*UN 1490 POTASSIUM PERMANGANATE, 5.1, II, ENVIRONMENTALLY HAZARDOUS*

SECTION 15: Regulatory information

· ***15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture***
· ***SARA Section 355 (extremely hazardous substances)*** *Substance is not listed.*
· ***SARA Section 313 (specific toxic chemical listings)*** *Substance is listed.*
· ***Prop 65 - Chemicals known to cause cancer*** *Substance is not listed.*

· ***Directive 2012/18/EU***
· ***Named dangerous substances - ANNEX I*** *Substance is not listed.*
· ***Seveso category***
P8 OXIDISING LIQUIDS AND SOLIDS
E1 Hazardous to the Aquatic Environment
· ***Qualifying quantity (tonnes) for the application of lower-tier requirements*** *50 t*
· ***Qualifying quantity (tonnes) for the application of upper-tier requirements*** *200 t*
· ***REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)*** *Substance is not listed.*
· ***LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)*** *Substance is not listed.*
· ***REGULATION (EC) No 1907/2006 ANNEX XVII*** *Conditions of restriction: 75*

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· ***DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II***
Substance is not listed.
· ***REGULATION (EU) 2024/590 on substances that deplete the ozone layer*** *Substance is not listed.*
· ***National regulations:***

· ***Technical instructions (air):***

Class	Share in %
III	50-100

· ***Waterhazard class:*** *Water danger class 3 (Assessment by list): extremely hazardous for water.*

· ***Other regulations, limitations and prohibitive regulations***
· ***Substances of very high concern (SVHC) according to REACH, Article 57*** *Substance is not listed.*
· ***15.2 Chemical safety assessment:*** *A Chemical Safety Assessment has been carried out.*

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· ***Department issuing SDS:*** *Q.A./Normative*
· ***Date of previous version:*** *29.01.2021*
· ***Version number of previous version:*** *25*
· ***Abbreviations and acronyms:***
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
RCR : Risk Characterisation Ratio
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (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
Ox. Sol. 2: Oxidizing solids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Repr. 2: Reproductive toxicity – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
· ***Sources***
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006, REACH, in the latest valid version.
Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008, CLP, in the latest valid version.
Globally Harmonized System, GHS
ADR/RID, IMDG, IATA
PubChem : an open chemistry database at the National Institutes of Health (NIH)
ECHA : European CHemicals Agency
GESTIS : Information system on hazardous substances of the German Social Accident Insurance

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

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Annex: Exposure scenario 1

· ***Short title of the exposure scenario*** *Formulation or re-packing*
· ***Sector of Use*** *Industrial use.*
· ***Process category***
PROC5 Mixing or blending in batch processes
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
· ***Environmental release category***
ERC2 Formulation into mixture
ERC3 Formulation into solid matrix
· ***Description of the activities / processes covered in the Exposure Scenario***
See section 1 of the annex to the Safety Data Sheet.
· ***Conditions of use***
According to directions for use.
Customary application according to section 1.
· ***Duration and frequency*** *5 workdays/week.*
· ***Worker*** *4 hrs (half working shift).*
· ***Physical parameters***
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
· ***Physical state***
Solid
Crystalline
· ***Concentration of the substance in the mixture*** *Raw material.*
· ***Used amount per time or activity*** *According to directions for use.*
· ***Other operational conditions*** *Observe the general safety regulations when handling chemicals.*
· ***Other operational conditions affecting environmental exposure*** *Use only on hard ground.*
· ***Other operational conditions affecting worker exposure*** *Keep away from combustible material.*
· ***Risk management measures***
· ***Worker protection***
· ***Organisational protective measures***
Keep good industrial hygiene.
Deploy only trained chemical workers.
Ensure that activities are executed by specialists or authorised personnel only.
Provide sufficient washing facilities.
Persons, who tend to skin diseases or other hypersensitivity reactions of the skin, should not handle the product.
Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device.
· ***Technical protective measures***
Ensure good ventilation/exhaustion at the workplace.
Any unavoidabledeposit of dust must be regularly removed.
· ***Personal protective measures***
The usual precautionary measures are to be adhered to when handling chemicals.
Do not inhale dust / smoke / mist.
Detailed measures on hand protection according to Safety Data Sheet, section 8.
Use suitable respiratory protective device only when aerosol or mist is formed.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
The selected respiratory protection must comply with standard EN 136/140/143/145/149.
The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.

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Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Protective gloves
Rubber gloves
Safety glasses
· ***Environmental protection measures***
· ***Water***
Do not allow to reach sewage system.
Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.
· ***Soil*** *Prevent contamination of soil.*
· ***Notes*** *In case of unintended release of the product: See section 6 of the Safety Data Sheet.*
· ***Disposal measures*** *Ensure that waste is collected and contained.*
· ***Disposal procedures***
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
· ***Waste type*** *Partially emptied and uncleaned packaging*
· ***Exposure estimation***
· ***Worker (inhalation)*** *The highest inhalative exposure to be expected is 0.125 ppm.*
· ***Guidance for downstream users***
Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.

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Annex: Exposure scenario 2

· ***Short title of the exposure scenario*** *Chemicals products for laboratory*
· ***Sector of Use*** *Industrial use.*
· ***Process category*** *PROC15 Use as laboratory reagent*
· ***Environmental release category***
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)
· ***Description of the activities / processes covered in the Exposure Scenario***
See section 1 of the annex to the Safety Data Sheet.
· ***Conditions of use*** *Customary application according to section 1.*
· ***Duration and frequency*** *5 workdays/week.*
· ***Physical parameters***
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
· ***Physical state*** *Crystalline*
· ***Concentration of the substance in the mixture***
Raw material.
>25%
· ***Other operational conditions*** *Observe the general safety regulations when handling chemicals.*
· ***Other operational conditions affecting environmental exposure*** *Use only on hard ground.*
· ***Other operational conditions affecting worker exposure*** *Keep away from combustible material.*
· ***Risk management measures***
· ***Worker protection***
· ***Organisational protective measures***
Keep good industrial hygiene.
Deploy only trained chemical workers.
Ensure that activities are executed by specialists or authorised personnel only.
Provide sufficient washing facilities.
Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device.
· ***Technical protective measures***
Ensure good ventilation/exhaustion at the workplace.
Any unavoidabledeposit of dust must be regularly removed.
· ***Personal protective measures***
The usual precautionary measures are to be adhered to when handling chemicals.
Do not inhale dust / smoke / mist.
Detailed measures on hand protection according to Safety Data Sheet, section 8.
Use suitable respiratory protective device only when aerosol or mist is formed.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
The selected respiratory protection must comply with standard EN 136/140/143/145/149.
The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Protective gloves
Rubber gloves
Avoid direct contact with the chemical/ the product/ the preparation by organisational measures.
Protective work clothing
Face protection
· ***Environmental protection measures***
· ***Water*** *Do not allow to reach sewage system.*

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· ***Soil*** *Prevent contamination of soil.*
· ***Notes*** *In case of unintended release of the product: See section 6 of the Safety Data Sheet.*
· ***Disposal measures*** *Ensure that waste is collected and contained.*
· ***Disposal procedures***
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
· ***Waste type*** *Partially emptied and uncleaned packaging*
· ***Exposure estimation***
· ***Worker (inhalation)*** *The highest inhalative exposure to be expected is 0.05 ppm.*
· ***Guidance for downstream users***
Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.