

Potassium permanganate

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 1/29/2024 Revision date: 9/24/2024 Supersedes version of: 4/13/2024 Version: 1.3

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

1.1. Product identifier

Product form : Substance
Trade name : Potassium permanganate
REACH registration no. : 01-2119480139-34-0004
EC-No. : 231-760-3
CAS-No. : 7722-64-7

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

1.2.1. Relevant identified uses

Main use category : Industrial use. Metal surface treatment products, Non-metal surface treatment products, Laboratory chemicals, Semiconductors, Washing and cleaning products

1.2.2. Uses advised against

Use details other than mention in section 1.2.1 are not advised without any prior approval.

1.3. Details of the supplier of the safety data sheet

Supplier

MAGNESIA CHEMICALS LLP
Gat No.81/A, Lonand Parhar Road,
A/p – Koregaon, Lonand,
Tal – Phaltan, Dist – Satara – 415523
Maharashtra, India
info@magnesiachemicals.com

1.4. Emergency telephone number

Emergency number : +91 94230 35839, +91 9819186444

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Index no	Substance	EC Number	C A S	Haz Category	Haz Statement	Code	Haz Statement
025-002-00-9	Potassium Permanganate	231-760-3	7722-64-7	Ox. Sol 2 Repr 2 STOT Rep Exp 2 Acute Tox. 4* Aquatic Acute 1 Aquatic Chronic 1	H272 H361 H373 H302 H400 H410	GHS03 GHS08 GHS08 GHS07 GHS09 GHS09 Dgr	H272 H361 H373 H302 H410

Oxidising Solids, Category 2 H272
Acute toxicity (oral), Category 4 H302
Skin corrosion/irritation, Category 1, Sub-Category 1C H314
Serious eye damage/eye irritation, Category 1 H318
Reproductive toxicity, Category 2 H361
Specific target organ toxicity – Repeated exposure, Category 2 H373
Hazardous to the aquatic environment – Acute Hazard, Category 1 H400
Hazardous to the aquatic environment – Chronic Hazard, Category 1 H410
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

May intensify fire; oxidiser. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. Very toxic to aquatic life with long lasting effects.

Potassium permanganate

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

Hazard statements (CLP)

Precautionary statements (CLP)

- : Danger
- H272 - May intensify fire; oxidiser.
- H302 - Harmful if swallowed.
- H314 - Causes severe skin burns and eye damage.
- H361 - Suspected of damaging fertility or the unborn child. (Development: decrease body weight, skeletal abnormalities based on oral route)
- H373 - May cause damage to organs through prolonged or repeated exposure. (Affected organ: Brain via inhalation route)
- H410 - Very toxic to aquatic life with long lasting effects.
- : P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- 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.
- P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
- P264 - Wash hands, forearms and face thoroughly after handling.

2.3. Other hazards

Information shall be provided on whether the substance meets the criteria for persistent, bioaccumulative and toxic or very persistent and very bioaccumulative in accordance with Annex XIII, whether the substance was included in the list established in accordance with Article 59(1) for having endocrine disrupting properties, and whether the substance is a substance identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 (1) or Commission Regulation (EU) 2018/605 (2). For a mixture, information shall be provided for each such substance that is present in the mixture at a concentration equal to or greater than 0.1% by weight.

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type

: Mono-constituent

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Potassium permanganate	CAS-No.: 7722-64-7 EC-No.: 231-760-3 EC Index-No.: 025-002-00-9	≈ 100	Ox. Sol. 2, H272 Acute Tox. 4 (Oral), H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 Repr. 2, H361 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H- and EUH-statements: see section 16

3.2. Mixtures

The substance is a single parent compound not mixture.

Potassium permanganate

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam.
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5.2. Special hazards arising from the substance or mixture

Fire hazard	: May intensify fire; oxidiser.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.
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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Collect spillage.
Methods for cleaning up	: Mechanically recover the product. Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

Potassium permanganate

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.
Hygiene measures	: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store locked up. Store in a well-ventilated place. Keep cool.
Incompatible materials	: combustible materials.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses, Wear face shield if splashing hazard exists. Tightly fitting safety goggles (chemical goggles).

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing, Body protection must be chosen based on level of activity and exposure.

Potassium permanganate

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Hand protection:

Protective gloves, EN 374 are preferred. Use gloves that are determined by evaluation of glove performance characteristics and the hazards and potential hazards identified, including but not limited to butyl, natural and synthetic rubber, nitrile, or neoprene.

8.2.2.3. Respiratory protection

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection. Use of N95 mask is preferred.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Dark purple or bronze-like.
Appearance	: Crystalline solid.
Molecular mass	: 158.034 g/mol
Odour	: Odourless.
Odour threshold	: No relevant odour specific data available.
Melting point	: 240 °C
Freezing point	: Not applicable as substance is Solid.
Boiling point	: The substance undergoes decomposition before boiling.
Flammability	: Non flammable.
Explosive properties	: Non explosive.
Oxidising properties	: Strong oxidizing agent.
Explosive limits	: Not applicable
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: Not applicable as substance is Solid.
Auto-ignition temperature	: No data available.
Decomposition temperature	: Not available
pH	: Not available
pH solution	: Not available
Viscosity, kinematic	: Not applicable as substance is Solid.
Solubility	: Water: 64 g/L
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not applicable as substance is Solid.
Vapour pressure at 50°C	: Not applicable as substance is Solid.
Density	: 2.7 g/cm ³
Relative density	: 2.7
Relative vapour density at 20°C	: Not applicable as substance is Solid.
Particle size	: Not available.
Particle size distribution	: 175.8 µm

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No other relevant information available.

9.2.2. Other safety characteristics

No additional information available.

Potassium permanganate

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 10: Stability and reactivity

10.1. Reactivity

May intensify fire; oxidiser.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Combustible materials.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: (No relevant studies available to classify the substance)
Acute toxicity (inhalation)	: (No relevant studies available to classify the substance)

Potassium permanganate (7722-64-7)	
LD50 oral rat	> 2000 mg/kg bodyweight
LD50 dermal rat	> 2000 mg/kg bodyweight

Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: (No relevant studies available to classify the substance)
Germ cell mutagenicity	: (No relevant studies available to classify the substance)
Carcinogenicity	: (No relevant studies available to classify the substance)
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
STOT-single exposure	: (No relevant studies available to classify the substance)
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: (No relevant studies available to classify the substance)

Potassium permanganate (7722-64-7)	
Viscosity, kinematic	Not applicable as substance is Solid.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Information on adverse health effects caused by endocrine disrupting properties shall be provided, where available for the substances identified as having endocrine disrupting properties in Subsection 2.3. This information shall consist of brief summaries of the information derived from application of the assessment criteria laid down by the corresponding Regulations ((EC) No 1907/2006, (EU) 2017/2100, (EU) 2018/605), that is relevant to assess endocrine disrupting properties for human health.

Potassium permanganate

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic) : Very toxic to aquatic life with long lasting effects.
Not rapidly degradable

Potassium permanganate (7722-64-7)

LC50 - Fish [1]	0.47 mg/l
EC50 - Crustacea [1]	0.06 mg/l
EC50 72h - Algae [1]	0.43 mg/l
NOEC chronic algae	0.22 mg/l

12.2. Persistence and degradability

Potassium permanganate (7722-64-7)

Persistence and degradability	No further relevant information available.
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12.3. Bioaccumulative potential

Potassium permanganate (7722-64-7)

Bioaccumulative potential	No further relevant information available.
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12.4. Mobility in soil

No additional relevant information available.

12.5. Results of PBT and vPvB assessment

No additional information available.

12.6. Endocrine disrupting properties

Not applicable.

12.7. Other adverse effects

No additional information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Dispose according to the national regulation.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

UN-No. (ADR) : UN 1490
UN-No. (IMDG) : UN 1490
UN-No. (IATA) : UN 1490
UN-No. (ADN) : UN 1490

Potassium permanganate

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

UN-No. (RID) : UN 1490

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: POTASSIUM PERMANGANATE
Proper Shipping Name (IMDG)	: POTASSIUM PERMANGANATE
Proper Shipping Name (IATA)	: Potassium permanganate
Proper Shipping Name (ADN)	: POTASSIUM PERMANGANATE
Proper Shipping Name (RID)	: POTASSIUM PERMANGANATE
Transport document description (ADR)	: UN 1490 POTASSIUM PERMANGANATE, 5.1, II, (E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG)	: UN 1490 POTASSIUM PERMANGANATE, 5.1, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA)	: UN 1490 Potassium permanganate, 5.1, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN)	: UN 1490 POTASSIUM PERMANGANATE, 5.1, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID)	: UN 1490 POTASSIUM PERMANGANATE, 5.1, II, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

ADR	
Transport hazard class(es) (ADR)	: 5.1
Danger labels (ADR)	: 5.1 :  
IMDG	
Transport hazard class(es) (IMDG)	: 5.1
Danger labels (IMDG)	: 5.1 :  
IATA	
Transport hazard class(es) (IATA)	: 5.1
Danger labels (IATA)	: 5.1 :  
ADN	
Transport hazard class(es) (ADN)	: 5.1
Danger labels (ADN)	: 5.1 :  
RID	
Transport hazard class(es) (RID)	: 5.1
Danger labels (RID)	: 5.1 :  

Potassium permanganate

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

14.4. Packing group

Packing group (ADR)	: II
Packing group (IMDG)	: II
Packing group (IATA)	: II
Packing group (ADN)	: II
Packing group (RID)	: II

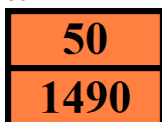
14.5. Environmental hazards

Dangerous for the environment	: Yes
Marine pollutant	: Yes
Other information	: No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR)	: O2
Limited quantities (ADR)	: 1kg
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P002, IBC08
Special packing provisions (ADR)	: B4
Mixed packing provisions (ADR)	: MP2
Portable tank and bulk container instructions (ADR)	: T3
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAN
Tank special provisions (ADR)	: TU3
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Special provisions for carriage - Packages (ADR)	: V11
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV24
Hazard identification number (Kemler No.)	: 50
Orange plates	:



Tunnel restriction code (ADR)	: E
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Transport by sea

Limited quantities (IMDG)	: 1 kg
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P002
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B21, B4
Tank instructions (IMDG)	: T3
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-H
EmS-No. (Spillage)	: S-Q
Stowage category (IMDG)	: D
Segregation (IMDG)	: SGG14, SG38, SG49, SG60
Properties and observations (IMDG)	: Dark purple crystals or powder. Soluble in water. Reacts vigorously with sulphuric acid and hydrogen peroxide. Reacts fiercely with cyanides when heated or by friction. May form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire, may cause an explosion.

Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y544
PCA limited quantity max net quantity (IATA)	: 2.5kg
PCA packing instructions (IATA)	: 558

Potassium permanganate

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

PCA max net quantity (IATA)	: 5kg
CAO packing instructions (IATA)	: 562
CAO max net quantity (IATA)	: 25kg
ERG code (IATA)	: 5L

Inland waterway transport

Classification code (ADN)	: O2
Limited quantities (ADN)	: 1 kg
Excepted quantities (ADN)	: E2
Equipment required (ADN)	: PP
Number of blue cones/lights (ADN)	: 0

Rail transport

Classification code (RID)	: O2
Limited quantities (RID)	: 1kg
Excepted quantities (RID)	: E2
Packing instructions (RID)	: P002, IBC08
Special packing provisions (RID)	: B4
Mixed packing provisions (RID)	: MP2
Portable tank and bulk container instructions (RID)	: T3
Portable tank and bulk container special provisions (RID)	: TP33
Tank codes for RID tanks (RID)	: SGAN
Special provisions for RID tanks (RID)	: TU3
Transport category (RID)	: 2
Special provisions for carriage – Packages (RID)	: W11
Special provisions for carriage - Loading, unloading and handling (RID)	: CW24
Colis express (express parcels) (RID)	: CE10
Hazard identification number (RID)	: 50

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Potassium permanganate

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Drug Precursors Regulation (273/2004)

Contains substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

Name	CN designation	CAS-No.	CN code	Category	Threshold	Annex
Potassium permanganate		7722-64-7	2841 61 00	Category 2	100 kg	Annex I, Annex II

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet

Potassium permanganate

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Abbreviations and acronyms:

STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H361d	Suspected of damaging fertility or the unborn child. (Development: decrease body weight, skeletal abnormalities based on oral route)
H373	May cause damage to organs through prolonged or repeated exposure. (Affected organ: Brain via inhalation route)
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
Ox. Sol. 2	Oxidising Solids, Category 2
Repr. 2	Reproductive toxicity, Category 2
Skin Corr. 1C	Skin corrosion/irritation, Category 1, Sub-Category 1C
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.