article number: **9930**

Version: **2.0 en**

Replaces version of: 2016-08-24 Version: (1.0)

date of compilation: 2016-08-24

Revision: 2017-01-30

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

## Product identifier

Identification of the substance **Cobalt(II) carbonate**

Article number 9930

Registration number (REACH) 01-2119513233-54-xxxx

Index No 027-010-00-8

EC number 208-169-4

CAS number 513-79-1

## Relevant identified uses of the substance or mixture and uses advised against Identified uses: laboratory chemical

* 1. **Details of the supplier of the safety data sheet**

Carl Roth GmbH + Co KG Schoemperlenstr. 3-5

D-76185 Karlsruhe Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** sicherheit@carlroth.de

**Website:** [www.carlroth.de](http://www.carlroth.de/)

Competent person responsible for the safety data sheet

: Department Health, Safety and Environment

## e-mail (competent person) : sicherheit@carlroth.de

* 1. **Emergency telephone number**

Emergency information service **Poison Centre Munich: +49/(0)89 19240**

# SECTION 2: Hazards identification

## Classification of the substance or mixture

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

|  |
| --- |
| **Classification acc. to GHS** |
| **Section** | **Hazard class** | **Hazard class and cat- egory** | **Hazard state- ment** |
| 3.1O | acute toxicity (oral) | (Acute Tox. 4) | H302 |
| 3.4R | respiratory sensitisation | (Resp. Sens. 1) | H334 |
| 3.4S | skin sensitisation | (Skin Sens. 1) | H317 |
| 3.5 | germ cell mutagenicity | (Muta. 2) | H341 |
| 3.6 | carcinogenicity | (Carc. 1B) | H350i |

|  |
| --- |
| **Classification acc. to GHS** |
| **Section** | **Hazard class** | **Hazard class and cat- egory** | **Hazard state- ment** |
| 3.7 | reproductive toxicity | (Repr. 1B) | H360F |
| 4.1A | hazardous to the aquatic environment - acute hazard | (Aquatic Acute 1) | H400 |
| 4.1C | hazardous to the aquatic environment - chronic hazard | (Aquatic Chronic 1) | H410 |

**Remarks**

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

## Label elements

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

**Signal word Danger**

**Pictograms**

**Hazard statements**

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H341 Suspected of causing genetic defects.

H350i May cause cancer by inhalation.

H360F May damage fertility.

H410 Very toxic to aquatic life with long lasting effects.

## Precautionary statements Precautionary statements - prevention

P261 Avoid breathing dust.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

## Precautionary statements - response

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308+P313 IF exposed or concerned: Get medical advice/attention.

For professional users only

**Labelling of packages where the contents do not exceed 125 ml**

Signal word: **Danger**

Symbol(s)

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H341 Suspected of causing genetic defects.

H350i May cause cancer by inhalation.

H360F May damage fertility.

P261 Avoid breathing dust.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P304+P340 IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. P308+P313 IF exposed or concerned: Get medical advice/attention.

## Other hazards

There is no additional information.

# SECTION 3: Composition/information on ingredients

## 3.1 Substances

Name of substance Cobalt(II) carbonate

Index No 027-010-00-8

Registration number (REACH) 01-2119513233-54-xxxx

EC number 208-169-4

CAS number 513-79-1

Molecular formula CoCO₃

Molar mass 118,9 g/mol

|  |
| --- |
| **Substance of Very High Concern (SVHC)** |
| **Name of substance** | **CAS No** | **Wt%** | **Listed in** | **Remarks** |
| Cobalt(II) carbonate | 513-79-1 | 100 | Candidate list | Carc. A57a Repr. A57c |

**Legend**

candidate list Substances meeting the criteria referred to in Article 57 and for eventual inclusion in Annex XIV Carc. A57a Carcinogenic (article 57a)

Repr. A57c Toxic for reproduction (article 57c)

# SECTION 4: First aid measures

## Description of first aid measures

**General notes**

Take off contaminated clothing.

## Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. IF exposed or concerned: Call a doctor.

## Following skin contact

Rinse skin with water/shower. In case of skin reactions, consult a physician.

## Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

## Following ingestion

Rinse mouth with water (only if the person is conscious). In case of accident or unwellness, seek med- ical advice immediately (show directions for use or safety data sheet if possible).

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

Allergic reactions (such as skin rashes, hives, asthma or anaphylactic shock), Vomiting

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

none

**SECTION 5: Firefighting measures**

## Extinguishing media

**Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings

water spray, foam, dry extinguishing powder, carbon dioxide (CO2)

## Unsuitable extinguishing media

water jet

## Special hazards arising from the substance or mixture

Non-combustible.

## Hazardous combustion products

In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO2)

## Advice for firefighters

Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

**SECTION 6: Accidental release measures**

## Personal precautions, protective equipment and emergency procedures For non-emergency personnel

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Do not breathe dust. Avoid contact with skin, eyes and clothes.

## Environmental precautions

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

## Methods and material for containment and cleaning up

**Advices on how to contain a spill**

Covering of drains.

## Advices on how to clean up a spill

Take up mechanically. Control of dust.

## Other information relating to spills and releases

Place in appropriate containers for disposal.

## Reference to other sections

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

# SECTION 7: Handling and storage

## Precautions for safe handling

Use extractor hood (laboratory). Provision of sufficient ventilation.

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

Removal of dust deposits.

## Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

## Conditions for safe storage, including any incompatibilities

Store in a dry place.

## Incompatible substances or mixtures

Observe hints for combined storage.

## Consideration of other advice

* + - **Ventilation requirements**

Use local and general ventilation.

## Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C.

## Specific end use(s)

No information available.

# SECTION 8: Exposure controls/personal protection

## Control parameters National limit values

**Occupational exposure limit values (Workplace Exposure Limits)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Coun- try** | **Name of agent** | **CAS No** | **Nota- tion** | **Identifier** | **TWA****[mg/m³]** | **STEL****[mg/m³]** | **Source** |
| IE | dusts non-specific |  | i | OELV | 10 |  | S.I. No. 619 of 2001 |
| IE | dusts non-specific |  | r | OELV | 4 |  | S.I. No. 619 of 2001 |

**Notation**

i Inhalable fraction

r Respirable fraction

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

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

## Relevant DNELs/DMELs/PNECs and other threshold levels

* + - **human health values**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Endpoint** | **Threshold level** | **Protection goal, route of exposure** | **Used in** | **Exposure time** |
| DNEL | 80,7 µg/m³ | human, inhalatory | worker (industry) | chronic - local effects |

* + - **environmental values**

|  |  |  |  |
| --- | --- | --- | --- |
| **Endpoint** | **Threshold level** | **Environmental compartment** | **Exposure time** |
| PNEC | 0,6 µg/l | freshwater | short-term (single instance) |
| PNEC | 2,36 µg/l | marine water | short-term (single instance) |
| PNEC | 0,37 mg/l | sewage treatment plant (STP) | short-term (single instance) |
| PNEC | 9,5 mg/kg | freshwater sediment | short-term (single instance) |
| PNEC | 9,5 mg/kg | marine sediment | short-term (single instance) |
| PNEC | 10,9 mg/kg | soil | short-term (single instance) |

* 1. **Exposure controls**

**Individual protection measures (personal protective equipment)**

**Eye/face protection**

Use safety goggle with side protection.

## Skin protection

* + - **hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

## type of material

NBR (Nitrile rubber)

## material thickness

>0,11 mm

## breakthrough times of the glove material

>480 minutes (permeation: level 6)

## other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

## Respiratory protection

Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

## Environmental exposure controls

Keep away from drains, surface and ground water.

# SECTION 9: Physical and chemical properties

## Information on basic physical and chemical properties Appearance

Physical state solid (solid matter)

Colour red

Odour odourless

Odour threshold No data available

## Other physical and chemical parameters

pH (value) This information is not available.

Melting point/freezing point 200 °C slow decomposition Initial boiling point and boiling range This information is not available. Flash point not applicable

Evaporation rate no data available

Flammability (solid, gas) Non-flammable Explosive limits

* + - lower explosion limit (LEL) this information is not available
		- upper explosion limit (UEL) this information is not available

Explosion limits of dust clouds these information are not available

Vapour pressure This information is not available.

Density 4,13 g/cm³ at 20 °C

Vapour density This information is not available.

Relative density Information on this property is not available. Solubility(ies)

Water solubility 1,1 g/l at 15 °C

Partition coefficient

n-octanol/water (log KOW) This information is not available.

Auto-ignition temperature Information on this property is not available.

Decomposition temperature 280 °C (ECHA)

Viscosity not relevant (solid matter)

Explosive properties Shall not be classified as explosive

Oxidising properties none

## Other information

There is no additional information.

# SECTION 10: Stability and reactivity

## Reactivity

This material is not reactive under normal ambient conditions.

## Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of tem- perature and pressure.

## Possibility of hazardous reactions

No known hazardous reactions

## Conditions to avoid

Decompostion takes place from temperatures above: 280 °C.

## Incompatible materials

There is no additional information.

## Hazardous decomposition products

Hazardous combustion products: see section 5.

# SECTION 11: Toxicological information

## Information on toxicological effects Acute toxicity

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Exposure route** | **Endpoint** | **Value** | **Species** | **Source** |
| oral | LD50 | 664 mg/kg | rat | ECHA |
| inhalation: dust/mist | LC50 | >5,08 mg/l/4h | rat | ECHA |

**Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin.

## Serious eye damage/eye irritation

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

## Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause sensitization by skin contact. May cause sensitization by inhalation.

## Summary of evaluation of the CMR properties Germ cell mutagenicity:

Suspected of causing genetic defects

## Carcinogenicity:

May cause cancer by inhalation

## Reproductive toxicity:

May damage fertility

## Specific target organ toxicity - single exposure

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

## Specific target organ toxicity - repeated exposure

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

## Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

## Symptoms related to the physical, chemical and toxicological characteristics

* + - **If swallowed**

data are not available

## If in eyes

data are not available

## If inhaled

data are not available

## If on skin

data are not available **Other information**None

# SECTION 12: Ecological information

## Toxicity

Very toxic to aquatic life with long lasting effects.

## Aquatic toxicity (acute)

Very toxic to aquatic organisms.

## Aquatic toxicity (chronic)

May cause long-term adverse effects in the aquatic environment.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Endpoint** | **Value** | **Species** | **Source** | **Exposure time** |
| EC50 | 0,182 mg/l | algae |  | 7 d |

## Process of degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

## Bioaccumulative potential

The substance fulfils the very bioaccumulative criterion.

BCF 180 - 4.000

## Mobility in soil

Data are not available.

## Results of PBT and vPvB assessment

Data are not available.

## Other adverse effects

Data are not available.

# SECTION 13: Disposal considerations

## Waste treatment methods

This material and its container must be disposed of as hazardous waste. Dispose of con- tents/container in accordance with local/regional/national/international regulations.

## Sewage disposal-relevant information

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

## Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

## Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

## Remarks

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

# SECTION 14: Transport information

* 1. UN number **3077**
	2. UN proper shipping name **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.**

Hazardous ingredients Cobalt(II) carbonate

* 1. Transport hazard class(es)

Class 9 (miscellaneous dangerous substances and articles) (envir- onmentally hazardous)

* 1. Packing group III (substance presenting low danger)
	2. Environmental hazards hazardous to the aquatic environment

## Special precautions for user

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

## Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

## Information for each of the UN Model Regulations

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

UN number 3077

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Particulars in the transport document UN3077, ENVIRONMENTALLY HAZARDOUS SUB-

STANCE, SOLID, N.O.S., (Cobalt(II) carbonate), 9, III, (-)

Class 9

Classification code M7

Packing group III

Danger label(s) 9 + "fish and tree"

Environmental hazards yes (hazardous to the aquatic environment)

Special provisions (SP) 274, 335, 375, 601

Excepted quantities (EQ) E1

Limited quantities (LQ) 5 kg

Transport category (TC) 3

Tunnel restriction code (TRC) -

Hazard identification No 90

## International Maritime Dangerous Goods Code (IMDG)

UN number 3077

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Particulars in the shipper's declaration UN3077, ENVIRONMENTALLY HAZARDOUS SUB-

STANCE, SOLID, N.O.S., (Cobalt(II) carbonate), 9, III

Class 9

Marine pollutant yes (hazardous to the aquatic environment)

Packing group III

Danger label(s) 9 + "fish and tree"

Special provisions (SP) 274, 335, 966, 967, 969

Excepted quantities (EQ) E1

Limited quantities (LQ) 5 kg

EmS F-A, S-F

Stowage category A

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

UN number 3077

Proper shipping name Environmentally hazardous substance, solid, n.o.s.

Particulars in the shipper's declaration UN3077, Environmentally hazardous substance,

solid, n.o.s., (Cobalt(II) carbonate), 9, III

Class 9

Environmental hazards yes (hazardous to the aquatic environment)

Packing group III

9 + "fish and tree"

Special provisions (SP) A97, A158, A179, A197, 274

Excepted quantities (EQ) E1

Limited quantities (LQ) 30 kg

# SECTION 15: Regulatory information

## Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)

* + - **Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)**

Not listed.

## Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)

Not listed.

## Regulation 850/2004/EC on persistent organic pollutants (POP)

Not listed.

## List of substances subject to authorisation (REACH, Annex XIV)

|  |  |  |  |
| --- | --- | --- | --- |
| **Name acc. to inventory** | **CAS No** | **Listed in** | **Remarks** |
| cobalt carbonate | 513-79-1 | Candidate list | Carc. A57a Repr. A57c |

**Legend**

candidate list Substances meeting the criteria referred to in Article 57 and for eventual inclusion in Annex XIV Carc. A57a Carcinogenic (article 57a)

Repr. A57c Toxic for reproduction (article 57c)

## Seveso Directive

|  |
| --- |
| **2012/18/EU (Seveso III)** |
| **No** | **Dangerous substance/hazard categories** | **Qualifying quantity (tonnes) for the ap- plication of lower and upper-tier re- quirements** | **Notes** |
| E1 | environmental hazards (hazardous to the aquatic en- vironment, cat. 1) | 100 200 | 56) |

**Notation**

56) Hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

## Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

not listed

## Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

## Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

not listed

## National inventories

Substance is listed in the following national inventories:

* EINECS/ELINCS/NLP (Europe)
* REACH (Europe)

## Chemical Safety Assessment

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

# SECTION 16: Other information

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

|  |  |  |
| --- | --- | --- |
| **Section** | **Former entry (text/value)** | **Actual entry (text/value)** |
| 3.1 |  | Molecular formula: CoCO₃ |
| 3.1 |  | Molargmass:118,9 /mol |
| 5.2 |  | Hazardous combustion products:In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO2) |
| 8.1 |  | Occupational exposure limit values (Workplace Ex- posure Limits):change in the listing (table) |
| 9.1 | Melting point/freezing point: not determined | Melting point/freezing point: 200 °C slow decomposition |
| 9.1 | Dengsity:4.2 /cm³ at 20 °C | Densgity:4,13 /cm³ at 20 °C |
| 9.1 | Water solubility: insoluble | Watger solubility: 1,1 /l at 15 °C |
| 11.1 |  | Acute toxicity:change in the listing (table) |
| 12.1 | Toxicity:Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. | Toxicity:Very toxic to aquatic life with long lasting effects. |
| 12.1 |  | Aquatic toxicity (chronic): change in the listing (table) |
| 12.3 | Bioaccumulative potential | Bioaccumulative potential:The substance fulfils the very bioaccumulative cri- terion. |
| 14.8 | Particulars in the transport document:UN3077, ENVIRONMENTALLY HAZARDOUS SUB- STANCE, SOLID, N.O.S., (Cobalt(II) carbonate), 9, III, (E) | Particulars in the transport document:UN3077, ENVIRONMENTALLY HAZARDOUS SUB- STANCE, SOLID, N.O.S., (Cobalt(II) carbonate), 9, III, (-) |
| 14.8 | Tunnel restriction code (TRC): E | Tunnel restriction code (TRC):- |
| 14.8 |  | * International Civil Aviation Organization (ICAO- IATA/DGR)
 |
| 14.8 |  | UN number:3077 |
| 14.8 |  | Proper shipping name:Environmentally hazardous substance, solid, n.o.s. |
| 14.8 |  | Particulars in the shipper's declaration:UN3077, Environmentally hazardous substance, sol- id, n.o.s., (Cobalt(II) carbonate), 9, III |
| 14.8 |  | Class:9 |
| 14.8 |  | Environmental hazards:yes (hazardous to the aquatic environment) |
| 14.8 |  | Packing group:III9 + "fish and tree" |

|  |  |  |
| --- | --- | --- |
| **Section** | **Former entry (text/value)** | **Actual entry (text/value)** |
| 14.8 |  | Packing group:change in the listing (table) |
| 14.8 |  | Special provisions (SP): A97, A158, A179, A197, 274 |
| 14.8 |  | Excepted quantities (EQ): E1 |
| 14.8 |  | Limited quantities (LQ): 30 kg |
| 16 |  | Abbreviations and acronyms: change in the listing (table) |

**Abbreviations and acronyms**

|  |  |
| --- | --- |
| **Abbr.** | **Descriptions of used abbreviations** |
| ADN | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Wa- terways) |
| ADR | Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road) |
| BCF | bioconcentration factor |
| Carc. | carcinogenicity |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures |
| CMR | Carcinogenic, Mutagenic or toxic for Reproduction |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DMEL | Derived Minimal Effect Level |
| DNEL | Derived No-Effect Level |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| IMDG | International Maritime Dangerous Goods Code |
| index No | the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 |
| MARPOL | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| Repr. | reproductive toxicity |

|  |  |
| --- | --- |
| **Abbr.** | **Descriptions of used abbreviations** |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| S.I. No. 619 of 2001 | Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 |
| STEL | short-term exposure limit |
| TWA | time-weighted average |
| vPvB | very Persistent and very Bioaccumulative |

**Key literature references and sources for data**

* Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
* Regulation (EC) No. 1272/2008 (CLP, EU GHS)

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

|  |  |
| --- | --- |
| **Code** | **Text** |
| H302 | harmful if swallowed |
| H317 | may cause an allergic skin reaction |
| H334 | may cause allergy or asthma symptoms or breathing difficulties if inhaled |
| H341 | suspected of causing genetic defects |
| H350i | may cause cancer by inhalation |
| H360F | may damage fertility |
| H400 | very toxic to aquatic life |
| H410 | very toxic to aquatic life with long lasting effects |

**Disclaimer**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The in- formation cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.