

V80 C45, V160 C45

Version number: 1.0

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

1.1 Product identifier

| | |
|------------------------------------|--------------------------|
| Trade name | V80 C45, V160 C45 |
| Registration number (REACH) | Not relevant (mixture) |
| CAS number | Not relevant (mixture) |

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

| | |
|---------------------------------|-------------------|
| Relevant identified uses | Building material |
|---------------------------------|-------------------|

1.3 Details of the supplier of the safety data sheet

| | |
|-----------------------------------|--|
| PAGEL Spezial-Beton GmbH & Co. KG | Telephone: +49 201/68504-0 |
| Wolfsbankring 9 | Telefax: +49 201/68504-31 |
| 45355 Essen | e-mail: info@pagel.com |
| Germany | Website: www.pagel.com |
| e-mail (competent person) | schempershofe@pagel.de, labor@pagel.de |

1.4 Emergency telephone number

| Poison centre | | |
|---------------|------------------|--------------------|
| Country | Name | Telephone |
| - | Giftnotruf Mainz | +49 (0) 6131-19240 |

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

| Classification | | | | |
|----------------|---|----------|---------------------------|------------------|
| Section | Hazard class | Category | Hazard class and category | Hazard statement |
| 3.2 | skin corrosion/irritation | 2 | Skin Irrit. 2 | H315 |
| 3.3 | serious eye damage/eye irritation | 1 | Eye Dam. 1 | H318 |
| 3.8R | specific target organ toxicity - single exposure (respiratory tract irritation) | 3 | STOT SE 3 | H335 |

For full text of abbreviations: see SECTION 16

2.2 Label elements

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

Signal word danger

Pictograms

GHS05, GHS07



Hazard statements

H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P261 Avoid breathing dust.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous ingredients for labelling

portland cement
 flue dust, portland cement

Additional labelling requirements

see section 15 of the safety data sheet

2.3 Other hazards

The product develops an alkaline pH value with moisture and can cause irritation. The product contains chromate reducer, which results in a content of water-soluble chrome (VI) of less than 0.0002 %. In case of improper storage (moisture ingress) or storage exceeding the recommended storage time, however, the contained chromate reducer may lose its effect prematurely and a sensitising effect of the cement/binder can occur upon skin contact (H317 and EUH203). The preparation is low in chromium. The content of soluble chromium (VI) compounds has been lowered with agent to below 2 ppm in the cement portion. Proper storage and compliance with the expiration date is a prerequisite for the effectiveness of the chromate reduction.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Endocrine disrupting properties

None of the ingredients are listed.





SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture).

3.2 Mixtures

Description of the mixture

| Hazardous ingredients | | | | | |
|----------------------------|--|-----------|---|---|-------|
| Name of substance | Identifier | Wt% | Classification acc. to GHS | Pictograms | Notes |
| quartz | CAS No 14808-60-7 EC No 238-878-4 | 50 – < 75 | - | - | IOELV |
| portland cement | CAS No 65997-15-1 EC No 266-043-4 | 10 – < 25 | Skin Irrit. 2 / H315 Eye Dam. 1 / H318 Skin Sens. 1B / H317 STOT SE 3 / H335 |   | - |
| flue dust, portland cement | CAS No 68475-76-3 EC No 270-659-9 | 1 – < 5 | Skin Irrit. 2 / H315 Eye Dam. 1 / H318 Skin Sens. 1 / H317 STOT SE 3 / H335 |   | - |

Notes

IOELV: Substance with a community indicative occupational exposure limit value

For full text of H-phrases: see SECTION 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Take off immediately all contaminated clothing.

In all cases of doubt, or when symptoms persist, seek medical advice.

In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

In case of respiratory tract irritation, consult a physician.

Following skin contact

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.

Brush off loose particles from skin.

If skin irritation or rash occurs: Get medical advice/attention.

Following eye contact

Rinse immediately carefully and thoroughly with eye shower or water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Get immediate medical advice/attention.

Following ingestion

Rinse mouth immediately and drink plenty of water.

Do NOT induce vomiting.

Get immediate medical advice/attention.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

Cough, pain, choking, and breathing difficulties.

Risk of serious damage to eyes.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

water, foam, alcohol resistant foam, fire extinguishing powder, Co-ordinate firefighting measures to the fire surroundings

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Co-ordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

self-contained breathing apparatus (SCBA)

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Control of dust.

Do not breathe dust.

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

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.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Take up mechanically.

Advice on how to clean up a spill

Take up mechanically.

Collect spillage.

Vacuuming techniques.

Approved industrial vacuum cleaner.

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 Reference to other sections

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room.

When diluting, always stir the product into standing water.

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Remove contaminated clothing and protective equipment before entering eating areas.

Do not breathe dust.

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

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards

None.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

humidity

Consideration of other advice

Keep away from food, drink and animal feeding stuffs.

Store in a dry place. Store in a closed container.

Ventilation requirements

Provision of sufficient ventilation.

Packaging compatibilities

Keep only in original container.

Unsuitable materials: Aluminium.

7.3 Specific end use(s)

Industry or sector specific available guidance(s): GISCODE ZP 1.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

| Occupational exposure limit values (Workplace Exposure Limits) | | | | | | | | | |
|--|---------------|--------|------------|-----------|-------------|------------|--------------|----------|----------|
| Country | Name of agent | CAS No | Identifier | TWA [ppm] | TWA [mg/m³] | STEL [ppm] | STEL [mg/m³] | Notation | Source |
| DE | dust | - | AGW | - | 1,25 | - | 2,5 | Y, r | TRGS 900 |
| DE | dust | - | AGW | - | 10 | - | 20 | Y, i | TRGS 900 |
| DE | dust | - | MAK | - | 0,3 | - | 2,4 | r | DFG |
| DE | dust | - | MAK | - | 4 | - | - | i | DFG |

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| Occupational exposure limit values (Workplace Exposure Limits) | | | | | | | | | |
|--|---------------------|------------|------------|-----------|--------------------------|------------|---------------------------|----------------|--------------|
| Country | Name of agent | CAS No | Identifier | TWA [ppm] | TWA [mg/m ³] | STEL [ppm] | STEL [mg/m ³] | Notation | Source |
| DE | Quarzhaltiger Staub | 14808-60-7 | AGW | - | 0,05 | - | 0,4 | - | TRGS 559 |
| DE | silica fume | 69012-64-2 | AGW | - | 0,3 | - | - | r, DE-AGW-1, Y | TRGS 900 |
| EU | silica, crystalline | 14808-60-7 | IOELV | - | 0,1 | - | - | r | 2017/2398/EU |

Notation

- DE-AGW-1 Kieselguren können, je nach Herkunft, Anteile von Quarz enthalten. Das Brennen bzw. Calcinieren von Kieselguren führt zu steigenden Cristobalitanteilen, Aktivierter Kieselgur kann bis zu 60 Massen-% Cristobalit enthalten. Bei der Beurteilung der Exposition gegenüber (gebrannten) Kieselguren sind sowohl der amorphe Anteil (Grenzwert für Kieselgur bzw. gebrannte Kieselgur) als auch die Summe der Anteile an Cristobalit und Quarz (krebserzeugend nach TRGS 906) zu ermitteln und zu bewerten. Auch in Kieselrauchen kann produktionsbedingt Quarz enthalten sein, der neben dem Kieselrauch gesondert zu ermitteln und zu bewerten ist.
- 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 (unless otherwise specified)
- Y a risk of developmental toxicity does not need to be expected if the occupational exposure limit value and the biological limit value (BGW) are adhered to

| Relevant DNELs of components of the mixture | | | | | | |
|---|------------|----------|------------------------|------------------------------------|-------------------|-------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
| flue dust, portland cement | 68475-76-3 | DNEL | 0,84 mg/m ³ | human, inhalatory | worker (industry) | chronic - local effects |

| Relevant PNECs of components of the mixture | | | | |
|---|------------|----------|-----------------|------------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Environmental compartment |
| flue dust, portland cement | 68475-76-3 | PNEC | 282 µg/l | freshwater |
| flue dust, portland cement | 68475-76-3 | PNEC | 28 µg/l | marine water |
| flue dust, portland cement | 68475-76-3 | PNEC | 6 mg/l | sewage treatment plant (STP) |
| flue dust, portland cement | 68475-76-3 | PNEC | 875 µg/kg | freshwater sediment |
| flue dust, portland cement | 68475-76-3 | PNEC | 88 µg/kg | marine sediment |

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| Relevant PNECs of components of the mixture | | | | |
|---|------------|----------|-----------------|---------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Environmental compartment |
| flue dust, portland cement | 68475-76-3 | PNEC | 5 mg/kg | sediments |

8.2 Exposure controls

Appropriate engineering controls

Use local and general ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection. (EN 166).

Hand protection

| Protective gloves | | |
|-------------------------------------|--------------------|--|
| Material | Material thickness | Breakthrough times of the glove material |
| NBR: acrylonitrile-butadiene rubber | ≥ 0,15 mm | no information available |

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

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.

Other protection measures

Protective clothing for use against solid particulates.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Particulate filter device (EN 143).

P1 (filters at least 80 % of airborne particles, colour code: White).

P2 (filters at least 94 % of airborne particles, colour code: White).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|---|--------------------------------------|
| Physical state | solid |
| Colour | grey - white |
| Odour | characteristic |
| Melting point/freezing point | >1.250 °C |
| Boiling point or initial boiling point and boiling range | not determined |
| Flammability | non-combustible |
| Lower and upper explosion limit | not applicable (solid) |
| Flash point | not applicable |
| Auto-ignition temperature | not applicable (solid) |
| Decomposition temperature | not relevant |
| pH (value) | alkaline (suspension) |
| Viscosity | not relevant (solid) |
| Solubility(ies) | |
| Water solubility | not determined |
| Partition coefficient n-octanol/water (log value) | not determined |
| Vapour pressure | not determined |
| Density and/or relative density | |
| Density | 2,7 – 3,2 g/cm ³ at 20 °C |
| Relative vapour density | not applicable |
| Particle characteristics | no data available |

9.2 Other information

| | |
|---|--|
| Information with regard to physical hazard classes | hazard classes acc. to GHS (physical hazards): not relevant |
| Other safety characteristics | there is no additional information |

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

Reactions with light metals to form hydrogen.

10.4 Conditions to avoid

Protect from moisture.

10.5 Incompatible materials

acids, aluminium, ammonium compounds, metals

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

SECTION 11: Toxicological information

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

If not otherwise specified the classification is based on:

Ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)**Acute toxicity**

Test data are not available for the complete mixture.

Acute toxicity of components of the mixture

| Name of substance | CAS No | Exposure route | End-point | Value | Species | Method | Source |
|----------------------------|------------|----------------|-----------|--------------|---------|--------------------|--------|
| flue dust, portland cement | 68475-76-3 | oral | LD0 | >1.848 mg/kg | rat | OECD Guideline 422 | ECHA |
| flue dust, portland cement | 68475-76-3 | dermal | LD0 | ≥2.000 mg/kg | rat | OECD Guideline 402 | ECHA |

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| Name of substance | CAS No | Exposure route | End-point | Value | Species | Method | Source |
|----------------------------|------------|-----------------------|-----------|---------------|---------|--------------------|--------|
| flue dust, portland cement | 68475-76-3 | inhalation: dust/mist | LC50 | >6,04 mg/l/4h | rat | OECD Guideline 436 | ECHA |

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Skin sensitisation

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Respiratory sensitisation

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Carcinogenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Reproductive toxicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients are listed.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Test data are not available for the complete mixture.

Aquatic toxicity (acute) of components of the mixture

| Name of substance | CAS No | Endpoint | Exposure time | Value | Species | Method | Source |
|-----------------------------|------------|----------|---------------|-----------|-----------------------------------|--------------------|--------|
| flue dust, port-land cement | 68475-76-3 | ErC50 | 72 h | 28,2 mg/l | algae (Desmod-esmus sub-spicatus) | OECD Guideline 201 | ECHA |
| flue dust, port-land cement | 68475-76-3 | ErC50 | 72 h | 22,4 mg/l | algae (Desmod-esmus sub-spicatus) | OECD Guideline 201 | ECHA |

Aquatic toxicity (chronic)

Test data are not available for the complete mixture.

Aquatic toxicity (chronic) of components of the mixture

| Name of substance | CAS No | Endpoint | Exposure time | Value | Species | Method | Source |
|-----------------------------|------------|----------|---------------|-----------|--------------------------|--------------------|--------|
| flue dust, port-land cement | 68475-76-3 | EL10 | 21 d | 68,2 mg/l | daphnia magna | OECD Guideline 211 | ECHA |
| flue dust, port-land cement | 68475-76-3 | NOEC | 48 h | 100 mg/l | daphnia magna | OECD Guideline 202 | ECHA |
| flue dust, port-land cement | 68475-76-3 | NOEC | 96 h | 11,1 mg/l | zebra fish (Danio rerio) | OECD Guideline 203 | ECHA |

12.2 Persistence and degradability

Biodegradation

The study does not need to be conducted, the relevant substances in the mixture are inorganic.

Persistence

No data available.

12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

12.7 Other adverse effects

Data are not available.

Remarks

Wassergefährdungsklasse, WGK (water hazard class): 2

SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Completely emptied packages can be recycled.

Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

| | | |
|------|---|--------------|
| 14.1 | UN number or ID number | not assigned |
| 14.2 | UN proper shipping name | - |
| 14.3 | Transport hazard class(es) | - |
| 14.4 | Packing group | - |
| 14.5 | Environmental hazards | - |
| 14.6 | Special precautions for user | - |
| 14.7 | Maritime transport in bulk according to IMO instruments | - |

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**Relevant provisions of the European Union (EU)****Restrictions according to REACH, Annex XVII**

| Name | Name acc. to inventory | CAS No | Restriction |
|----------------------------|------------------------|--------|-------------|
| flue dust, portland cement | chromium(VI) compounds | - | R47 |

Legend

- R47
1. Cement and cement-containing mixtures shall not be placed on the market, or used, if they contain, when hydrated, more than 2 mg/kg (0,0002 %) soluble chromium VI of the total dry weight of the cement.
 2. If reducing agents are used, then without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of cement or cement-containing mixtures is visibly, legibly and indelibly marked with information on the packing date, as well as on the storage conditions and the storage period appropriate to maintaining the activity of the reducing agent and to keeping the content of soluble chromium VI below the limit indicated in paragraph 1.
 3. By way of derogation, paragraphs 1 and 2 shall not apply to the placing on the market for, and use in, controlled closed and totally automated processes in which cement and cement-containing mixtures are handled solely by machines and in which there is no possibility of contact with the skin.
 4. The standard adopted by the European Committee for Standardization (CEN) for testing the water-soluble chromium (VI) content of cement and cement-containing mixtures shall be used as the test method for demonstrating conformity with paragraph 1.
 5. Leather articles coming into contact with the skin shall not be placed on the market where they contain chromium VI in concentrations equal to or greater than 3 mg/kg (0,0003 % by weight) of the total dry weight of the leather.
 6. Articles containing leather parts coming into contact with the skin shall not be placed on the market where any of those leather parts contains chromium VI in concentrations equal to or greater than 3 mg/kg (0,0003 % by weight) of the total dry weight of that leather part.
 7. Paragraphs 5 and 6 shall not apply to the placing on the market of second-hand articles which were in end-use in the Union before 1 May 2015.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

None of the ingredients are listed.

Seveso Directive

Not assigned.

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

None of the ingredients are listed.

Regulation on the marketing and use of explosives precursors

None of the ingredients are listed.

Regulation on drug precursors

None of the ingredients are listed.

Regulation on substances that deplete the ozone layer (ODS)

None of the ingredients are listed.

Regulation concerning the export and import of hazardous chemicals (PIC)

None of the ingredients are listed.

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

National regulations (Germany)

Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV)

Wassergefährdungsklasse, WGK 2
(water hazard class) - classification acc. to annex 1 (AwSV)

Technical instructions on air quality control (Germany)

Not assigned.

Storage of hazardous substances in non-stationary containers (TRGS 510) (Germany)

Storage class (LGK) 13
(non-combustible solids)

Other information

Observe employment restrictions for young people according to § 22 ArbSchG.

Observe occupational restrictions for mothers acc. to § 11 MuSchG!

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|--------------|---|
| 2017/2398/EU | Directive of the European Parliament and of the Council amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work |
| 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 Waterways) |
| ADR | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road) |
| AGW | Workplace exposure limit |
| 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 |

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| Abbr. | Descriptions of used abbreviations |
|-------------|---|
| DFG | Deutsche Forschungsgemeinschaft MAK-und BAT-Werte-Liste, Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Wiley-VCH, Weinheim |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| EC No | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union) |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| ErC50 | ≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control |
| Eye Dam. | Seriously damaging to the eye |
| Eye Irrit. | Irritant to the eye |
| 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) |
| 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 |
| IOELV | Indicative occupational exposure limit value |
| LC50 | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval |
| LGK | Lagerklasse (storage class according to TRGS 510, Germany) |
| NLP | No-Longer Polymer |
| NOEC | No Observed Effect Concentration |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| ppm | Parts per million |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| Skin Corr. | Corrosive to skin |
| Skin Irrit. | Irritant to skin |
| Skin Sens. | Skin sensitisation |
| STEL | Short-term exposure limit |

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| Abbr. | Descriptions of used abbreviations |
|----------|--|
| STOT SE | Specific target organ toxicity - single exposure |
| SVHC | Substance of Very High Concern |
| TRGS | Technische Regeln für Gefahrstoffe (technical rules for hazardous substances, Germany) |
| TRGS 900 | Arbeitsplatzgrenzwerte (TRGS 900) |
| TWA | Time-weighted average |
| vPvB | Very Persistent and very Bioaccumulative |

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
Regulation (EC) No. 1907/2006 (REACH).

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

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties.

Health hazards.

Environmental hazards.

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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

| Code | Text |
|------|--------------------------------------|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H335 | May cause respiratory irritation. |

Responsible for the safety data sheet

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Disclaimer

This information is based upon the present state of our knowledge.

This SDS has been compiled and is solely intended for this product.