## SECTION 1: Identification of the substance/preparation and of the company

### 1.1 Identification of the substance or preparation

| | |
|---|---|
| Substance name: | **Calcium oxide** |
| Synonyms: | Lime, burnt lime, un-slaked lime, building lime, fat lime, chemical lime, fluxing lime, soft burnt lime, pebble lime, calcium oxide, calcium monoxide, calcined limestone.<br>Please note that this list may not be exhaustive. |
| Chemical name and formula: | **Calcium oxide - CaO** |
| Trade name: | **nekafer®** / **nekafin®** / **nekasol®** |
| CAS No.: | 1305-78-8 |
| EC No.: | 215-138-9 |
| Molecular weight: | 56.08 g/mole |
| REACH Registration number: | 01-2119475325-36-0017 |
| REACH EU Only Representative: | GG-Cert e.V. - zertifizierte Produkte - zertifizierte Prozesse -Annastrasse 67-71, 50968 Köln<br>Telefon: +49 221 934674-0<br>E-mail: info@gg-cert.de |

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

**Uses of the substance:**
Steel industry, building material, chemical industry, agriculture, environmental protection, feed, food and pharmaceutical industry, civil engineering.
Please note that this list may not be exhaustive.

| | | |
|---|---|---|
| 1.2.1 | Identified uses: | For identified uses please refer to table 1 of the appendix of this safety data sheet. |
| 1.2.2 | Uses advised against: | There are no uses mentioned in table 1 in the appendix of this safety data sheet advised against. |

### 1.3 Details of the supplier of the safety data sheet

| | |
|---|---|
| Name: | **Kalkfabrik Netstal AG** |
| Address: | **CH-8754 Netstal/Switzerland** |
| Phone: | +41 55 646 91 11 |
| Fax: | +41 55 646 92 66 |
| E-mail of competent person responsible for SDS: | info@kfn.ch |

### 1.4 Emergency telephone number

| | |
|---|---|
| European emergency No. | **112** |
| For inquiries inside Switzerland: | **145** (24 h/d)<br>Tox Info Suisse |
| For inquiries outside Switzerland: | **+49 6131 19240** (24 h/d)<br>Poisons Centre (“Giftinformationszentrum”) Mainz |
| Emergency telephone at the company: | +41 55 646 91 11 |
| Available outside office hours: | No |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or preparation

| | | |
|---|---|---|
| 2.1.1 | Classification according to Regulation (EC) 1272/2008: | Skin Irrit. 2; H315<br>Eye Dam. 1; H318<br>STOT SE 3; H335 - Route of exposure: Inhalation |
| 2.1.2 | Additional information: | For full text of classification and hazard statements: see Section 16. |

### 2.2 Label elements

2.2.1 Labelling according to Regulation (EC) 1272/2008

| | |
|---|---|
| Signal word: | Danger |

Hazard pictogram:

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

Precautionary statements:
P102: Keep out of reach of children.
P261: Avoid breathing dust/spray.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P310: Immediately call a POISON CENTER / doctor / physician.
P302+P352: IF ON SKIN: Wash with plenty of 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.
P501: Dispose of contents/container in accordance with national regulation.

**2.3 Other hazards:**
No other hazards identified.
The substance does not meet the criteria for PBT or vPvB substance according to Regulation (EC) No 1907/2006, Annex XIII.
The substance is not included in the Candidate List of substances of very high concern for Authorisation according to Art. 59 of Regulation (EC) No. 1907/2006. The substance is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

## SECTION 3: Composition/Information on ingredients

**3.1 Substances**

Main constituent:

| CAS number | EC number | REACH Registration No | Identification name | Weight % content (or range) | Classification according to Regulation (EC) No 1272/2008 [CLP] |
|---|---|---|---|---|---|
| 1305-78-8 | 215-138-9 | 01-2119475325-36-0017 | Calcium oxide | 95 - 99% | Skin Irrit. 2 H315<br>Eye Dam 1 H318<br>STOT SE 3 H335 |

## SECTION 4: First-aid measures

**4.1 Description of first aid measures**

General advice:
No known delayed effects. Consult a physician for all exposures except for minor instances.

Following inhalation:
Move source of dust or move person to fresh air. Obtain medical attention immediately.

Following skin contact:
Carefully and gently brush the contaminated body surfaces in order to remove all traces of product. Wash affected area immediately with plenty of water. Remove contaminated clothing. If necessary seek medical advice.

Following eye contact:
Rinse eyes immediately with plenty of water and seek medical advice.

Following ingestion:
Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Obtain medical attention.

Self-protection of the first aid
Avoid contact with skin, eyes, and clothing – wear suitable protective equipment (see section 8.2.2).
Avoid inhalation of dust – ensure that sufficient ventilation or suitable respiratory protective equipment is used, wear suitable protective equipment (see section 8.2.2).

| | | |
|---|---|---|
| **4.2** | **Most important symptoms and effects, both acute and delayed:** | Calcium oxide is not acutely toxic via the oral, dermal, or inhalation route. The substance is classified as irritating to skin and the respiratory tract, and entails a risk of serious damage to the eye. There is no concern for adverse systemic effects because local effects (pH-effect) are the major health hazard. |
| **4.3** | **Indication of any immediate medical attention and special treatment needed:** | Follow the advices given in section 4.1. |

## SECTION 5: Fire fighting measures

| | | |
|---|---|---|
| **5.1** | **Extinguishing media** | |
| 5.1.1 | Suitable extinguishing media: | The product is not combustible or flammable. Use a dry powder, foam or $CO_2$ fire extinguisher to extinguish the surrounding fire.<br>Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| 5.1.2 | Unsuitable extinguishing media: | Do not use water. Avoid humidification. |
| **5.2** | **Special hazards arising from the substance or mixture:** | Calcium oxide reacts with water and generates heat. This may cause risk to flammable material. |
| **5.3** | **Advice for fire-fighters:** | Avoid generation of dust. Use self-contained breathing apparatus. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |

## SECTION 6: Accidental release measures

| | | |
|---|---|---|
| **6.1** | **Personal precautions protective equipment and emergency procedures** | |
| 6.1.1 | For non-emergency personnel: | Ensure adequate ventilation.<br>Keep dust levels to a minimum.<br>Keep unprotected persons away.<br>Avoid contact with skin, eyes, and clothing – wear suitable protective equipment (see section 8).<br>Avoid inhalation of dust – ensure that sufficient ventilation or suitable respiratory protective equipment is used, wear suitable protective equipment (see section 8).<br>Avoid humidification. |
| 6.1.2 | For emergency responders: | Ensure adequate ventilation.<br>Keep dust levels to a minimum.<br>Keep unprotected persons away.<br>Avoid contact with skin, eyes, and clothing – wear suitable protective equipment (see section 8).<br>Avoid inhalation of dust – ensure that sufficient ventilation or suitable respiratory protective equipment is used, wear suitable protective equipment (see section 8).<br>Avoid humidification. |
| **6.2** | **Environmental precautions:** | Contain the spillage. Keep the material dry if possible. Cover area if possible to avoid unnecessary dust hazard. Avoid uncontrolled spills to watercourses and drains (pH rising). Any large spillage into watercourses must be alerted to the Environment Agency or other regulatory body. |
| **6.3** | **Methods and material for containment and cleaning up:** | In all cases avoid dust formation.<br>Keep the material dry if possible.<br>Pick up the product mechanically in a dry way.<br>Use vacuum suction unit, or shovel into bags. |
| **6.4** | **Reference to other sections:** | For more information on exposure controls/personal protection or disposal considerations, please check section 8 and 13 and the annex of this safety data sheet. |

## SECTION 7: Handling and storage

| | | |
|---|---|---|
| **7.1** | **Precautions for a save handling** | |
| 7.1.1 | Protective measures: | Avoid contact with skin and eyes. Wear protective equipment (refer to section 8 Do not wear contact lenses. It is also advisable to have individual pocket eyewash. Keep dust levels to a minimum. Minimize dust generation. Enclose dust sources, use exhaust ventilation. |

Handling systems should preferably be enclosed. When handling bags usual precautions should be paid to the risks outlined in Swiss Labour Law ArGV 3, Art. 25 and the Council Directive 90/269/EEC.

7.1.2 Advice on general occupational hygiene: Avoid inhalation or ingestion and contact with skin and eyes. General occupational hygiene measures are required to ensure safe handling of the substance. These measures involve good personal and housekeeping practices (i.e. regular cleaning with suitable cleaning devices), no drinking, eating and smoking at the workplace. Shower and change clothes at end of work shift. Do not wear contaminated clothing at home.

**7.2 Conditions for safe storage, including any incompatibilities:** The substance should be stored under dry conditions. Any contact with air and moisture should be avoided. Bulk storage should be in purpose–designed silos. Keep away from acids, significant quantities of paper, straw, and nitro compounds. Keep out of reach of children. Do not use aluminium for transport or storage if there is a risk of contact with water.

**7.3 Specific end use(s):** Please check the identified uses in table 1 of the Appendix of this SDS. For more information please see the relevant exposure scenario given in the Appendix.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Occupational exposure standard (OES):

**Switzerland**: 1 mg/m³ (E)
4 mg/m³ (E) STEL; *Measuring method: NIOSH; critical toxicity: upper respiratory tract* $SS_c$
*[MAK/SUVA Grenzwerte am Arbeitsplatz / limit values at the workplace]*

**Germany**: **occupational exposure limit calcium oxide**

| Limit | Peak limit / Short term exposure factor | Legal basis | Control method |
|---|---|---|---|
| 1 mg/m³ (E) 8 h | 2 (I) | TRGS 900 | TRGS 402 |
| General dust exposure limit - (Germany) | | | |
| Limit | Peak limit / Short term exposure factor | Legal basis | Control method |
| 1.25 mg/m³ (A) 8 h<br>10 mg/m³ (E) 15 Min. | 2 (II) | TRGS 900 | TRGS 402 |

**Austria**: 1 mg/m³, (E) daily average
4 mg/m³ (E) short time
Duration 5 min, 8 x frequency per shift, momentary value

A = alveolar dust fraction
E = inhalable dust fraction

**EC indicative occupational exposure limit value (OELVs),** Directive (EU) 2017/164:
Long term exposure limit value (8 hours): 1 mg/m³ respirable fraction
Short term exposure limit value (15 min): 4 mg/m³ respirable fraction

DNELs :

| **Workers** | | | | |
|---|---|---|---|---|
| **Route of exposure** | **Acute effect local** | **Acute effects systemic** | **Chronic effects local** | **Chronic effects systemic** |
| **Oral** | Not required | | | |
| **Inhalation** | 4 mg/m³ (A-dust) | No hazard identified | 1 mg/m³ (A-dust) | No hazard identified |
| **Dermal** | Hazard identified but no DNEL available | No hazard identified | Hazard identified but no DNEL available | No hazard identified |

| **Consumers** |
|---|

| Route of exposure | Acute effect local | Acute effects systemic | Chronic effects local | Chronic effects systemic |
|---|---|---|---|---|
| **Oral** | No exposure expected | No hazard identified | No exposure expected | No hazard identified |
| **Inhalation** | 4 mg/m³ (A-dust) | No hazard identified | 1 mg/m³ (A-dust) | No hazard identified |
| **Dermal** | Hazard identified but no DNEL available | No hazard identified | Hazard identified but no DNEL available | No hazard identified |

PNECs:

| Environment protection target | PNEC | Remarks |
|---|---|---|
| **Fresh water** | 0.37 mg/L | |
| **Freshwater sediments** | No PNEC available | Insufficient data available |
| **Marine water** | 0.24 mg/L | |
| **Marine sediments** | No PNEC available | Insufficient data available |
| **Food (bioaccumulation)** | No hazard identified | No potential for bioaccumulation |
| **Microorganisms in sewage treatment** | 2.27 mg/L | |
| **Soil (agricultural)** | 817.4 mg/kg soil dw | |
| **Air** | No hazard identified | |

**8.2 Exposure controls:** Generation of dust should be avoided. Further, appropriate protective equipment is recommended. Eye protection equipment (e.g. goggles or visors) must be worn, unless potential contact with the eye can be excluded by the nature and type of application (i.e. closed process). Additionally, face protection, protective clothing and safety shoes are required to be worn as appropriate.
Please check the relevant exposure scenario, given in the Appendix.

8.2.1 Appropriate engineering controls: If user operations generate dust, use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

8.2.2 Individual protection measures, such as personal protective equipment

8.2.2.1 Eye/face protection: Do not wear contact lenses. Tight fitting goggles with side shields (frame goggles), or wide vision full goggles in accordance with EN 166:2002, at least optical class 2, mechanical strength F It is also advisable to have individual pocket eyewash.

8.2.2.2 Skin protection: Since calcium oxide is classified as irritating to skin, dermal exposure has to be minimised as far as technically feasible. The use of protective gloves (nitrile (NBR) in accordance with EN ISO 374-1: 2018/type A or B (test chemical K, at least 0,2 mm thick), protective standard working clothes fully covering skin, full length trousers, long sleeved overalls, with close fittings at openings and shoes resistant to caustics and avoiding dust penetration are required to be worn.

8.2.2.3 Respiratory protection: Local ventilation to control airborne dust levels below occupational exposure limits is recommended. A suitable particle filter mask is recommended, depending on the expected exposure levels (low dust level: FFP1 mask; medium dust level: FFP2 mask; high dust level: FFP3 mask) please check the relevant exposure scenario, given in the appendix.

8.2.2.4 Thermal hazards: If used appropriately, there are no thermal hazards.

8.2.3 Environmental exposure controls: All ventilation systems should be filtered before discharge to atmosphere.
Avoid releasing to the environment.
Contain the spillage. Any large spillage into watercourses must be alerted to the Environment Agency or other regulatory body.
For detailed explanations of the risk management measures that adequately control exposure of the environment to the substance please check the relevant exposure scenario in the appendix of this SDS.

## SECTION 9: Physical and chemical properties

**9.1 Information on basic physical and chemical properties**

| | | |
|---|---|---|
| a) | Physical state: | **solid**<br>**nekafer®: lumps**<br>**nekafin® / nekasol®: powder** |
| b) | Colour: | **white** |
| c) | Odour: | **odourless** |
| d) | Melting point: | **> 450 °C** (study result, EU A.1 method) |
| e) | Boiling point or boiling start and boiling range: | **not applicable** (solid with a melting point > 450 °C) |
| f) | Flammability: | **non flammable** (study result, EU A.10 method) |
| g) | Explosion limits: | **non explosive** |
| h) | Flash point: | **not applicable** to solids (melting point > 450 °C) |
| i) | Auto ignition temperature: | **not applicable** to solids |
| j) | Decomposition temperature: | Decomposes at temperatures **> 450 °C** |
| k) | pH value: | **12.3** (saturated solution of Ca(OH)2 at 20 °C) |
| l) | Kinematic Viscosity: | **not applicable** (solid with a melting point > 450 °C) |
| m) | Solubility in water: | **1337.6 mg/L** (study results, EU A.6 method) |
| n) | Partition coefficient: n - Octanol/water (log value) | **not applicable** (inorganic substance) |
| o) | Vapour pressure: | **not applicable** (solid with a melting point > 450 °C) |
| p) | Density and/or relative density: | **3.31 kg/dm3** (study result, EU A.3 method) |
| q) | Relative vapour density: | **not applicable** |
| r) | Particle characteristics: | **nekafer 15: lump lime 5-15 mm**<br>**nekafer 80: lump lime 30-80 mm**<br>**Powder** with laser diffractometry Sympatec Helos, dry dispersion Rodos:<br>**nekafin / nekasol 2: x (90%) ca. 80-100 µm**<br>**nekafin 0: x (90%) ca. 60-80 µm** |

**9.2 Other information:** Not available

## SECTION 10: Stability and reactivity

**10.1 Reactivity:** Calcium oxide reacts exothermically with water to form calcium hydroxide.

**10.2 Chemical stability:** Under normal conditions of use and storage (dry conditions), calcium oxide is stable.

**10.3 Possibility of hazardous reactions:** Calcium oxide reacts exothermically with acids to form calcium salts. This may cause risk for flammable material.

**10.4 Conditions to avoid:** Minimise exposure to air and moisture to avoid degradation.

**10.5 Incompatible materials:** Calcium oxide reacts exothermically with water to form calcium hydroxide: $CaO + H_2O \rightarrow Ca(OH)_2 + 1155$ kJ/kg CaO
Calcium oxide reacts exothermically with acids to form calcium salts.
Calcium oxide reacts with aluminium and brass in the presence of moisture leading to the production of hydrogen: $CaO + 2\ Al + 7\ H_2O \rightarrow Ca[Al(OH)_4]_2 + 3\ H_2$.

**10.6 Hazardous decomposition products:** None.
Further information: Calcium oxide absorbs moisture and carbon dioxide from air to form calcium carbonate, which is a common material in nature.

## SECTION 11: Toxicological information

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

| | Toxicity endpoints | Outcome of the effects assessment |
|---|---|---|
| **a.** | **Acute toxicity:** | Oral: LD50 > 2000 mg/kg bw (OECD 425, rat)<br>Dermal: LD50 > 2500 mg/kg bw (calcium hydroxide, OECD 402, rabbit); by read across these results are also applicable to calcium oxide, since in contact with moisture calcium hydroxide is formed.<br>Inhalation: No data available.<br>Calcium oxide is not acutely toxic. |
| **b.** | **Skin corrosion/irritation:** | Calcium oxide is irritating to skin (in vivo, rabbit).<br>Calcium hydroxide is not corrosive to skin (in vitro, OECD 431). By read across these results are also applicable to calcium oxide. |
| **c.** | **Serious eye damage/irritation:** | Calcium oxide entails a risk of serious damage to the eye (in vivo, rabbit). |
| **d.** | **Respiratory and skin sensitisation:** | No data available.<br>Calcium oxide is considered not to be a skin sensitizer, based on the nature of the effect (pH shift) and the essential requirement of calcium for human nutrition. |
| **e.** | **Germ cell mutagenicity:** | Calcium hydroxide is not genotoxic (in vitro, OECD 471, 473 and 476). By read across these results are also applicable to calcium oxide.<br>In view of the omnipresence and essentiality of Ca and of the physiological non-relevance of any pH shift induced by calcium oxide in aqueous media, CaO is obviously void of any genotoxic potential. |
| **f.** | **Carcinogenicity:** | Calcium (administered as Ca-lactate) is not carcinogenic (experimental result, rat).<br>The pH effect of calcium oxide does not give rise to a carcinogenic risk (human epidemiological data available). |
| **g.** | **Reproductive toxicity:** | Calcium (administered as Ca-carbonate) is not toxic to reproduction (experimental result, mouse).<br>The pH effect does not give rise to a reproductive risk (human epidemiological data are available). |
| **h.** | **STOT-single exposure:** | From human data it is concluded that calcium oxide is irritating to the respiratory tract [SCOEL recommendation (Anonymous, 2008)]. |
| i. | **STOT-repeated exposure:** | The UL (tolerable upper intake level) of calcium via the oral route has been determined by the Scientific Committee on Food (SCF), being UL = 2500 mg/d, corresponding to 36 mg/kg bw/d (70 kg person).<br>Toxicity of CaO via the dermal route is not considered as relevant in view of the anticipated insignificant absorption through skin and due to local irritation as the primary health effect.<br>Toxicity of CaO via inhalation (local effect, irritation of mucous membranes) is addressed by an 8-h TWA determined by the Scientific Committee on Occupational Exposure Limits (SCOEL) of 1 mg/m³ (A dust).<br>An irritating impact on mucous membranes has been determined as primary local effect. |
| j. | **Aspiration hazard:** | Calcium oxide is not known to present an aspiration hazard. |

### 11.2 Information on other hazards

| | | |
|---|---|---|
| 11.2.1 | Endocrine disrupting properties | Available data for the substance have been considered against the criteria laid down in Regulations ((EC) No 1907/2006, (EU) 2017/2100, (EU) 2018/605) and found not to apply. |
| 11.2.2 | Other information | None |

## SECTION 12: Ecological information

### 12.1 Toxicity

| | | |
|---|---|---|
| 12.1.1 | Acute/prolonged toxicity to fish: | $LC_{50}$ (96h) for freshwater fish: 50.6 mg/l (calcium hydroxide).<br>$LC_{50}$ (96h) for marine water fish: 457 mg/l (calcium hydroxide). |

| | | |
|---|---|---|
| 12.1.2 | Acute/prolonged toxicity to aquatic invertebrates: | $EC_{50}$ (48h) for freshwater invertebrates: 49.1 mg/l (calcium hydroxide).<br>$LC_{50}$ (96h) for marine water invertebrates: 158 mg/l (calcium hydroxide). |
| 12.1.3 | Acute/prolonged toxicity to aquatic plants: | $EC_{50}$ (72h) for freshwater algae: 184.57 mg/l (calcium hydroxide).<br>NOEC (72h) for freshwater algae: 48 mg/l (calcium hydroxide). |
| 12.1.4 | Toxicity to micro-organisms, e.g. bacteria: | At high concentration, through the rise of temperature and pH, calcium oxide is used for disinfection of sewage sludges. |
| 12.1.5 | Chronic toxicity to aquatic organisms: | NOEC (14d) for marine water invertebrates: 32 mg/l (calcium hydroxide). |
| 12.1.6 | Toxicity to soil dwelling organisms: | $EC_{10}$/$LC_{10}$ or NOEC for soil macroorganisms: 2000 mg/kg soil dw (calcium hydroxide).<br>$EC_{10}$/$LC_{10}$ or NOEC for soil microorganisms: 12000 mg/kg soil dw (calcium hydroxide). |
| 12.1.7 | Toxicity to terrestrial plants: | NOEC (21d) for terrestrial plants: 1080 mg/kg (calcium hydroxide). |
| 12.1.8 | General effect: | Acute pH-effect. Although this product is useful to correct water acidity, an excess of more than 1 g/l may be harmful to aquatic life. pH-value of > 12 will rapidly decrease as result of dilution and carbonation. |
| 12.1.9 | Further information: | The results regarding calcium hydroxide by read across are also applicable to calcium oxide, since in contact with moisture calcium hydroxide is formed. |
| **12.2** | **Persistence and degradability:** | Not relevant for inorganic substances. |
| **12.3** | **Bioaaccumulative potential:** | Not relevant for inorganic substances. |
| **12.4** | **Mobility in soils:** | Calcium oxide reacts with water and/or carbon dioxide to form respectively calcium hydroxide and/or calcium carbonate, which are sparingly soluble, and so present a low mobility in most ground. Moreover those products are used as fertilisers. |
| **12.5** | **Results of PBT and vPvB assessment:** | Not relevant for inorganic substances. |
| **12.6** | **Endocrine disrupting properties** | Available data for the substance have been considered against the criteria laid down in Regulations ((EC) No 1907/2006, (EU) 2017/2100, (EU) 2018/605) and found not to apply. |
| **12.7** | **Other adverse effects:** | According to the criteria of the European classification and labelling system, the substance does not require classification as hazardous for the environment. |

## SECTION 13: Disposal considerations

| | | |
|---|---|---|
| **13.1** | **Waste treatment methods:** | Disposal of calcium oxide as well as containers/packing which have been used for transport or storage has to be in accordance with national and regional legislation.<br>Unconsumed residual substance: Pick up the product mechanically in a dry way. Store product in labelled containers and re-use it considering maximum shelf life, if possible.<br>Moist product and product sludges: prevent spillage into sewage or water bodies.<br>After usage, empty the packing completely and recycle it.<br>Disposal of completely emptied packing according to European Waste Catalogue (e.g. 15 01 02 plastic packing) |
| | VeVA code / Code according to European Waste Catalogue: | 10 13 04 (Waste from calcination and hydration of burnt lime)<br>Because of multiple applications and disposal considerations by the user, different VeVA codes could be applicable under certain circumstances. |

## SECTION 14: Transport information:

Calcium oxide is not classified as hazardous good according to ADR (road), RID (rail), ADN (inland waterways) and IMDG (sea).
Calcium oxide is classified as hazardous good for air transport (ICAO/IATA).

| | | |
|---|---|---|
| **14.1** | **UN Number or ID number:** | UN 1910 |
| **14.2** | **UN proper shipping name:** | Calcium oxide |
| **14.3** | **Transport hazard class(es):** | Class 8 (ICAO/IATA) |
| **14.4** | **Packing group:** | Group III (ICAO/IATA) |

| | | |
|---|---|---|
| **14.5** | **Environmental hazards:** | None |
| **14.6** | **Special precautions for use:** | Avoid any release of dust during transportation, by using tight tanks for powders and covered trucks for pebbles |
| **14.7** | **Maritime transport in bulk according to IMO instruments:** | Not relevant |

## SECTION 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance**

Authorisations acc. to REACH: None.
Restrictions on use acc. to REACH: None.
Calcium oxide is not a substance according to directive 96/82/EC ("SEVESO"), not an ozone depleting substance and not a persistent organic pollutant.
National regulations:
Calcium oxide does not belong to group 1 or group 2 according to annex 5 ChemV.
Water endangering class B in Switzerland (substances that can pollute water if released in large quantities, Ca hydroxide solution)
Water endangering class WGK 1 in Germany (slightly water endangering) acc. to AwSV.
Storage Class LGK 13 acc. to TRGS 510 (non-inflammable solid)

**15.2 Chemical safety assessment:** A chemical safety assessment has been carried out for this substance during REACH registration..

## SECTION 16: Other information

Data are based on our latest knowledge but do not constitute a guarantee for any specific product features and do not establish a legally valid contractual relationship.

**16.1 Classification and hazard statements**

Hazard class
3.2 Skin Irrit. 2; H315 - skin irritant category 2; Causes skin irritation.
3.3 Eye Dam. 1; H318 - serious eye damage/irritation category 1; Causes serious eye damage.
3.8 STOT SE 3; H335 – specific target organ toxicity (single exposure) category 3; May cause respiratory irritation.

**16.2 Precautionary Statements**

P102: Keep out of reach of children.
P261: Avoid breathing dust/spray.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P310: Immediately call a POISON CENTER / doctor / physician.
P302+P352: IF ON SKIN: Wash with plenty of 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.
P501: Dispose of contents/container in accordance with national regulation.

**16.3 Abbreviations**

$EC_{50}$: Median effective concentration.
$LC_{50}$: Median lethal concentration.
AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on Installations for the Handling of Substances Hazardous to Water)
$LD_{50}$: Median lethal dose.
MAK: Maximum concentration in the workplace.
NIOSH: National Institute for Occupational Safety and Health
NOEC: No observable effect concentration.
OEL: Occupational exposure limit.
PBT: Persistent, bioaccumulative, toxic chemical.
PNEC: Predicted no-effect concentration.
STEL: Short-term exposure limit.
TWA: Time weighted average.

vPvB: Very persistent, very bioaccumulative chemical.
VeVA: Regulation on handling waste (Verordnung über den Verkehr mit Abfällen)

**16.4 Key literature references**

Anonymous, 2006: Tolerable upper intake levels for vitamins and minerals Scientific Committee on Food, European Food Safety Authority, ISBN: 92-9199-014-0 [SCF document]
Anonymous, 2008: Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL) for calcium oxide (CaO) and calcium dihydroxide (Ca(OH)2), European Commission, DG Employment, Social Affairs and Equal Opportunities, SCOEL/SUM/137 February 2008

**16.5 Revision**

The following sections have been revised:

| | |
|---|---|
| 1.2 | Relevant identified uses of the substance or mixture and uses advised against |
| 2.3 | Other hazards |
| 3. | Composition/Information on ingredients |
| 4.1 | Description of first aid measures |
| 8.1 | Control parameters |
| 8.2.2.1 | Eye/face protection |
| 8.2.2.2 | Skin protection |
| 8.2.2.3 | Respiratory protection |
| 9.1. r) | Particle characteristics |
| 11.2.1 | Endocrine disrupting properties |
| 11.2.2 | Other information |
| 14.7 | Transport in bulk according to IMO instruments |
| 15.1 | Safety, health and environmental regulations/legislation specific for the substance |

**16.8 Disclaimer**

Information and instructions provided in this SDS are based on the current state of scientific and technical knowledge at the date of issue indicated. It should not be construed as any guarantee of technical performance, suitability for particular applications, and does not establish a legally valid contractual relationship.

**Annex with** exposure scenarios: 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 9.11, 9.12, 9.13, 9.14, 9.15, 9.16

End of the safety data sheet.