Safety data sheet
according to 1907/2006/EC, Article 31

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

1.1 Product identifier
Trade name Calcium hydroxide

Stock number: A12650
CAS Number: 1305-62-0
EC number: 215-137-3

1.2 Relevant identified uses of the substance or mixture and uses advised against.
Identified use: SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier: Thermo Fisher (Kandel) GmbH
Zeppelinstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 8407 300
Email: tech@alfa.com
www.alfa.com
Informing department: Product safety Tel + +049 (0) 7275 988687-0

1.4 Emergency telephone number:
Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)
Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

SECTION 2: Hazards identification

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

GHS05 corrosion
Eye Dam. 1 H318 Causes serious eye damage.

GHS07
Skin Irrit. 2 H315 Causes skin irritation.
STOT SE 3 H335 May cause respiratory irritation.

Other hazards that do not result in classification No information known.

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

Hazard pictograms
GHS05 GHS07

Signal word Danger

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

Precautionary statements
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P305+P361 IF INHALATION: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Substances
CAS# Designation: 1305-62-0 Calcium hydroxide
Identification number(s): EC number: 215-137-3

SECTION 4: First aid measures

4.1 Description of first aid measures

After inhalation
Supply fresh air or oxygen; call for doctor. In case of unconsciousness bring patient into stable side position for transport. Supply fresh air.  If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. Seek immediate medical advice.

After skin contact
Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

After eye contact
Call a doctor immediately. Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing
Drink copious amounts of water and provide fresh air.  Instantly call for doctor. Do not initiate vomiting.

4.2 Most important symptoms and effects, both acute and delayed
Causes skin irritation, Causes serious eye damage. May cause respiratory irritation.
SECTION 5: Firefighting measures

5.1 Extinguishing media
- Suitable extinguishing agents: Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

5.2 Special hazards arising from the substance or mixture
- If this product is involved in a fire, the following can be released:
  - Calcium oxide

5.3 Advice for firefighters
- Protective equipment:
  - Wear self-contained breathing apparatus.
  - Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
- Wear protective equipment. Keep unprotected persons away.
- Ensure adequate ventilation.

6.2 Environmental precautions: Do not allow to enter drainage system, surface or ground water.

6.3 Methods and material for containment and cleaning up:
- Prevent formation of dust.
- Ensure adequate ventilation.

6.4 Reference to other sections
- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
- Handle under dry protective gas.
- Thoroughly remove all dust particles.
- Keep containers tightly sealed.
- Store in cool, dry place in tightly closed containers.
- Ensure good ventilation/exhaustion at the workplace.

7.2 Conditions for safe storage, including any incompatibilities
- Storage
  - Requirements to be met by storerooms and containers: No special requirements.
  - Information about storage in one common storage facility:
    - Store away from oxidising agents.
    - Store away from air.
    - Do not store together with acids.

7.3 Specific end use(s)
- No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
- MAK (Germany) Long-term value: 1E mg/m³
- PEL (USA) Long-term value: 15* 5** mg/m³
- REL (USA) Long-term value: 5 mg/m³
- TLV (USA) Long-term value: 5 mg/m³

8.2 Exposure controls
- General protective and hygienic measures:
  - The usual precautionary measures should be adhered to in handling the chemicals.
  - Keep away from foodstuffs, beverages and food.
  - Thoroughly remove any soiled and impregnated garments.
  - Wash hands during breaks and at the end of the work.
  - Avoid contact with the eyes and skin.
  - Maintain an ergonomically appropriate working environment.

- Breathing equipment: Use breathing protection with high concentrations.
  - Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

- Protection of hands:
  - Check protective gloves prior to each use for their proper condition.
  - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- Material of gloves: Nitrile rubber, NBR
  - Penetration time of glove material (in minutes): 480

- Eye protection:
  - Tightly sealed safety glasses.

- Face protection:
  - Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
- General Information
  - Appearance: Powder
Trade name: Calcium hydroxide

38.0.35

Colour: White
Smell: Odourless
Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition
Melting point/Melting range: Not determined
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined

Flash point: Not applicable
Inflammability (solid, gaseous) Product is not inflammable.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Self-inflammability: Not determined.

Danger of explosion: Product is not explosive.
Critical values for explosion:
Lower: Not determined
Upper: Not determined

Steam pressure at 20 °C: 0 hPa
Density at 20 °C: 2,24 g/cm³
Relative density: Not determined.
Vapour density: Not applicable.
Evaporation rate: Not applicable.
Solubility in water at 20 °C: 1,65 g/l
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
dynamic: Not applicable.
kinematic: Not applicable.

9.2 Other information
No further relevant information available.

SECTION 10: Stability and reactivity
10.1 Reactivity No information known.
10.2 Chemical stability Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided: To avoid thermal decomposition do not overheat.
10.3 Possibility of hazardous reactions No dangerous reactions known
10.4 Conditions to avoid No further relevant information available.
10.5 Incompatible materials:
Acids
Air
10.6 Hazardous decomposition products: Corrosive gases/vapours Calcium oxide

SECTION 11: Toxicological information
11.1 Information on toxicological effects
Acute toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.
LD/LC50 values that are relevant for classification:
Oral [LD50] 7,240 mg/kg (rat)
Skin irritation or corrosion: Causes skin irritation.
Eye irritation or corrosion: Causes serious eye damage.
Sensitization: No sensitizing effect known.
Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.
Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity: No effects known.
Specific target organ system toxicity - repeated exposure: No effects known.
Specific target organ system toxicity - single exposure: May cause respiratory irritation.
Aspiration hazard: No effects known.
Subacute to chronic toxicity: No effects known.
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12: Ecological information
12.1 Toxicity
Aquatic toxicity: No further relevant information available.
12.2 Persistence and degradability No further relevant information available.
12.3 Bioaccumulative potential No further relevant information available.
12.4 Mobility in soil No further relevant information available.
Additional ecological information:
General notes: Must not reach sewage water or drainage ditch undiluted or unneutralized.
Do not allow material to be released to the environment without proper governmental permits.
Water hazard class 1 (Assessment by list): slightly hazardous for water.
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.
Avoid transfer into the environment.
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations
13.1 Waste treatment methods
Recommendation
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.
Consult state, local or national regulations for proper disposal.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information
UN-Number
ADR, ADN, IMDG, IATA Not applicable
Trade name Calcium hydroxide

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14.2 UN proper shipping name
ADR, ADN, IMDG, IATA Not applicable

14.3 Transport hazard class(es)
ADR, ADN, IMDG, IATA Class Not applicable

Packing group
ADR, ADN, IMDG, IATA Not applicable

14.5 Environmental hazards:
Not applicable.

14.6 Special precautions for user
Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

UN "Model Regulation":

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Australian Inventory of Chemical Substances Substance is listed.
Standard for the Uniform Scheduling of Medicines and Poisons Substance is not listed.

National regulations
Information about limitation of use:
For use only by technically qualified individuals.

Classification according to VbF: Not applicable

Water hazard class: Water hazard class 1 (Assessment by list): slightly hazardous for water.

ELINCS (European List of Notified Chemical Substances) Substance is not listed.

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/irritation, Hazard Category 1
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3