



SAFETY DATA SHEET CALCIUM HYDROXIDE SUSPENSION

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

1.1. Product identifier

Product name	CALCIUM HYDROXIDE SUSPENSION
Product number	11323
Synonyms; trade names	KALIC, MILK OF LIME, LIME SLURRY, SLAKED LIME, KALIC HS LIQUID LIME, LIQ LIME (KALIC HS)

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

Identified uses	Chemical
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1.3. Details of the supplier of the safety data sheet

Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	11323

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Skin Irrit. 2 - H315 Eye Dam. 1 - H318 STOT SE 3 - H335
Environmental hazards	Not Classified

2.2. Label elements

Hazard pictograms



Signal word	Danger
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Hazard statements	H315 Causes skin irritation. H318 Causes serious eye damage. H335 May cause respiratory irritation.
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Precautionary statements

P102 Keep out of reach of children.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P261 Avoid breathing spray.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P501 Dispose of contents/ container in accordance with national regulations.

Contains

CALCIUM HYDROXIDE

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

CALCIUM HYDROXIDE		<100%
CAS number: 1305-62-0	EC number: 215-137-3	REACH registration number: 01-2119475151-45-XXXX
Classification Skin Irrit. 2 - H315 Eye Dam. 1 - H318 STOT SE 3 - H335		

The full text for all hazard statements is displayed in Section 16.

Product name CALCIUM HYDROXIDE SUSPENSION

Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air at once. Get medical attention if any discomfort continues.
Ingestion	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention immediately. Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

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

Inhalation	May cause respiratory irritation.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.

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

Notes for the doctor No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is non-combustible. Extinguish with the following media: Dry chemicals. Foam. Carbon dioxide (CO₂). Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards When heated and in case of fire, toxic vapours/gases may be formed.

Hazardous combustion products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of the following substances: Carbon.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Provide adequate ventilation. Keep unnecessary and unprotected personnel away from the spillage. Avoid contact with skin, eyes and clothing. Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of vapours. Follow precautions for safe handling described in this safety data sheet.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb spillage with inert, damp, non-combustible material. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Flush contaminated area with plenty of water. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid contact with skin and eyes. Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of vapours and spray/mists. Provide adequate ventilation. Avoid spilling.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a well-ventilated place. Store away from the following materials: Acids. Organic nitro compounds. Moisture. Keep out of the reach of children. Unsuitable containers: aluminium.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

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8.1. Control parameters

Occupational exposure limits

CALCIUM HYDROXIDE

Long-term exposure limit (8-hour TWA): WEL 5 mg/m³

WEL = Workplace Exposure Limit.

Ingredient comments Observe any occupational exposure limits for the product or ingredients.

CALCIUM HYDROXIDE (CAS: 1305-62-0)

DNEL	Workers - Inhalation; Short term local effects: 4 mg/m³ Workers - Inhalation; Long term local effects: 1 mg/m³ Consumer - Inhalation; Short term local effects: 4 mg/m³ Consumer - Inhalation; Long term local effects: 1 mg/m³
PNEC	- Fresh water; 0.49 mg/l - marine water; 0.32 mg/l - Soil; 1080 mg/kg STP; 3 mg/l

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Nitrile rubber. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection

Wear appropriate clothing to prevent skin contamination.

Hygiene measures

Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Provide eyewash station and safety shower.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. EN 136/140/141/145/143/149

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Viscous liquid.
Colour	White/off-white.
Odour	Odourless.

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Odour threshold	No information available.
pH	pH (concentrated solution): 12.4
Melting point	0°C
Initial boiling point and range	100°C
Flash point	No information available.
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapour pressure	23 mbar
Vapour density	No information available.
Relative density	~ 1.4
Bulk density	No information available.
Solubility(ies)	Soluble in water.
Partition coefficient	No information available.
Auto-ignition temperature	No information available.
Decomposition Temperature	No information available.
Viscosity	1000 mPa.s
Explosive properties	No information available.
Explosive under the influence of a flame	No information available.
Oxidising properties	No information available.

9.2. Other information

Other information	Not determined.
Refractive index	No information available.
Particle size	No information available.
Molecular weight	No information available.
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Reactions with the following materials may generate heat: Acids. Will decompose at temperatures exceeding 580°C. When heated, vapours/gases hazardous to health may be formed. Water Oxides of the following substances: Calcium. Reactions with the following materials may generate heat: Oxides of: Calcium.

10.4. Conditions to avoid

Conditions to avoid Avoid excessive heat for prolonged periods of time. Moisture.

10.5. Incompatible materials

Materials to avoid Strong acids. Aluminium. Moisture.

10.6. Hazardous decomposition products

Hazardous decomposition products Oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ >2000 mg/kg, Oral, Rat OECD 425

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >2500 mg/kg, Dermal, Rabbit OECD 402

Skin corrosion/irritation

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Bacterial reverse mutation test: Negative. OECD 471 Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Reproductive toxicity - fertility This substance has no evidence of toxicity to reproduction.

Specific target organ toxicity - single exposure

STOT - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Based on available data the classification criteria are not met.

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Inhalation	May cause respiratory irritation.
Ingestion	Gastrointestinal symptoms, including upset stomach.
Skin contact	May cause skin irritation.
Eye contact	Causes serious eye damage.

Toxicological information on ingredients.

CALCIUM HYDROXIDE

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ >2000 mg/kg, Oral, Rat OECD 425

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >2500 mg/kg, Dermal, Rabbit OECD 402

Skin corrosion/irritation

Skin corrosion/irritation Irritating to skin. Rabbit

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage. Rabbit

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation No information available.

Germ cell mutagenicity

Genotoxicity - in vitro Ames test Negative. OECD 471

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Irritating to respiratory system.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Not applicable.

Inhalation May cause respiratory system irritation.

Ingestion The product irritates mucous membranes and may cause abdominal discomfort if swallowed.

Skin contact Irritating to skin.

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Eye contact

Causes serious eye damage.

SECTION 12: Ecological information

Ecotoxicity The product is not expected to be hazardous to the environment. However, large or frequent spills may have hazardous effects on the environment.

Ecological information on ingredients.

CALCIUM HYDROXIDE

Ecotoxicity

The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment. The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.

12.1. Toxicity

Toxicity

Not considered toxic to fish.

Acute aquatic toxicity

Acute toxicity - fish

LC₅₀, 96 hours: 50.6 mg/l, Freshwater fish

LC₅₀, 96 hours: 457 mg/l, Marinewater fish

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hours: 49.1 mg/l, Freshwater invertebrates

LC₅₀, 96 hours: 158 mg/l, Marinewater invertebrates

Acute toxicity - aquatic plants

EC₅₀, 72 hours: 184.57 mg/l, Freshwater algae

NOEC, 72 hours: 48 mg/l, Freshwater algae

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates

NOEC, 14 days: 32 mg/l, Marinewater invertebrates

Ecological information on ingredients.

CALCIUM HYDROXIDE

Acute aquatic toxicity

Acute toxicity - fish

LC₅₀, 96 hours: 50.6 mg/l, Freshwater fish

LC₅₀, 96 hours: 457 mg/l, Marinewater fish

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hours: 49.1 mg/l, Freshwater invertebrates

EC₅₀, 48 hours: 158 mg/l, Marinewater invertebrates

Acute toxicity - aquatic plants

EC₅₀, 72 hours: 184.57 mg/l, Freshwater algae

NOEC, 72 hours: 48 mg/l, Freshwater algae

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates

NOEC, 14 days: 32 mg/l, Marinewater invertebrates

12.2. Persistence and degradability

Persistence and degradability The product contains only inorganic substances which are not biodegradable.

Ecological information on ingredients.

CALCIUM HYDROXIDE

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Persistence and degradability

The product contains only inorganic substances which are not biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Partition coefficient No information available.

Ecological information on ingredients.

CALCIUM HYDROXIDE

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not applicable.

12.4. Mobility in soil

Mobility The product is partly miscible with water and may spread in the aquatic environment.

Ecological information on ingredients.

CALCIUM HYDROXIDE

Mobility No information available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Ecological information on ingredients.

CALCIUM HYDROXIDE

Results of PBT and vPvB assessment Not applicable. Substance is inorganic.

12.6. Other adverse effects

Other adverse effects No information required.

Ecological information on ingredients.

CALCIUM HYDROXIDE

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste. Do not puncture or incinerate, even when empty.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

No information required.

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14.2. UN proper shipping name

No information required.

14.3. Transport hazard class(es)

No information required.

14.4. Packing group

No information required.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

No information required.

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

Transport in bulk according to No information required.

Annex II of MARPOL 73/78

and the IBC Code

SECTION 15: Regulatory information

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

EU legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Commission Regulation (EU) No 2015/830 of 28 May 2015.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

CALCIUM HYDROXIDE SUSPENSION

Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
 CAS: Chemical Abstracts Service.
 DNEL: Derived No Effect Level.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 Kow: Octanol-water partition coefficient.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 PBT: Persistent, Bioaccumulative and Toxic substance.
 PNEC: Predicted No Effect Concentration.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 vPvB: Very Persistent and Very Bioaccumulative.
 IARC: International Agency for Research on Cancer.
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 cATpE: Converted Acute Toxicity Point Estimate.
 BCF: Bioconcentration Factor.
 BOD: Biochemical Oxygen Demand.
 EC₅₀: 50% of maximal Effective Concentration.
 LOAEC: Lowest Observed Adverse Effect Concentration.
 LOAEL: Lowest Observed Adverse Effect Level.
 NOAEC: No Observed Adverse Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 NOEC: No Observed Effect Concentration.
 LOEC: Lowest Observed Effect Concentration.
 DMEL: Derived Minimal Effect Level.
 EL50: Exposure Limit 50
 hPa: Hectopascal
 LL50: Lethal Loading fifty
 OECD: Organisation for Economic Co-operation and Development
 POW: Octanol-water partition coefficient
 SCBA: self-contained breathing apparatus
 STP: Sewage Treatment Plant
 VOC: Volatile Organic Compounds

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
 Aquatic Acute = Hazardous to the aquatic environment (acute)
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Key literature references and sources for data

Supplier's information.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

24/10/2018

Version number

2.000

Supersedes date

28/05/2015

SDS number

11323

CALCIUM HYDROXIDE SUSPENSION

SDS status

Approved.

Hazard statements in full

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

Signature

Lisa Bland



Exposure scenario
Manufacture and industrial uses of aqueous solutions of lime substances

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Manufacture and industrial uses of aqueous solutions of lime substances
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Manufacture and industrial uses of aqueous solutions of lime substances

Product category	PC1 Adhesives, sealants. PC2 Adsorbents. PC3 Air care products. PC7 Base metals and alloys. PC8 Biocidal products PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC11 Explosives. PC12 Lawn and garden preparations (- fertilizers). PC13 Fuels. PC14 Metal surface treatment products PC15 Non-metal-surface treatment products. PC16 Heat transfer fluids. PC17 Hydraulic fluids. PC18 Ink and toners. PC19 Intermediate. PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC21 Laboratory chemicals. PC23 Leather treatment products PC24 Lubricants, greases and release products. PC25 Metal working fluids. PC26 Paper and board treatment products PC27 Plant protection products. PC28 Perfumes, fragrances. PC29 Pharmaceuticals PC30 Photochemicals. PC31 Polishes and wax blends. PC32 Polymer preparations and compounds. PC33 Semiconductor. PC34 Textile dyes and impregnating products PC35 Washing and cleaning products PC36 Water softeners. PC37 Water treatment chemicals. PC38 Welding and soldering products, flux products PC39 Cosmetics, personal care. PC40 Extraction agents.
Article category	AC1 Vehicles AC2 Machinery, mechanical appliances, electrical/electronic articles AC3 Electrical batteries and accumulators AC4 Stone, plaster, cement, glass and ceramic articles AC5 Fabrics, textiles and apparel AC6 Leather articles AC7 Metal articles AC8 Paper articles AC10 Rubber articles AC11 Wood articles AC13 Plastic articles
Main sector	SU3 Industrial uses

Manufacture and industrial uses of aqueous solutions of lime substances

Sector of use

SU1 Agriculture, forestry, fishery
 SU2a Mining (without offshore industries)
 SU2b Offshore industries
 SU4 Manufacture of food products
 SU5 Manufacture of textiles, leather, fur
 SU6a Manufacture of wood and wood products
 SU6b Manufacture of pulp, paper and paper products
 SU7 Printing and reproduction of recorded media
 SU8 Manufacture of bulk, large-scale chemicals (including petroleum products)
 SU9 Manufacture of fine chemicals
 SU10 Formulation [mixing] of preparations and/or re-packaging
 SU11 Manufacture of rubber products
 SU12 Manufacture of plastics products, including compounding and conversion
 SU13 Manufacture of other non-metallic mineral products
 SU14 Manufacture of basic metals, including alloys
 SU15 Manufacture of fabricated metal products, except machinery and equipment
 SU16 Manufacture of computer, electronic and optical products, electrical equipment
 SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
 SU18 Manufacture of furniture
 SU19 Building and construction work
 SU20 Health services
 SU23 Electricity, steam, gas, water supply and sewage treatment
 SU24 Scientific research and development

Environment

Environmental release category

ERC1 Manufacture of the substance
 ERC2 Formulation into mixture
 ERC3 Formulation into solid matrix
 ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
 ERC5 Use at industrial site leading to inclusion into/onto article
 ERC6a Use of intermediate
 ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
 ERC6c Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)
 ERC6d Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)
 ERC7 Use of functional fluid at industrial site
 ERC10a Widespread use of articles with low release (outdoor)
 ERC10b Widespread use of articles with high or intended release (outdoor)
 ERC11a Widespread use of articles with low release (indoor)
 ERC11b Widespread use of articles with high or intended release (indoor)
 ERC12a Processing of articles at industrial sites with low release
 ERC12b Processing of articles at industrial sites with high release

Worker

Manufacture and industrial uses of aqueous solutions of lime substances

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC7 Industrial spraying PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC12 Use of blow agents in manufacture of foam. PROC13 Treatment of articles by dipping and pouring. PROC14 Tableting, compression, extrusion, pelletisation, granulation PROC15 Use as laboratory reagent. PROC16 Use of fuels PROC17 Lubrication at high energy conditions in metal working operations PROC18 General greasing/lubrication at high kinetic energy conditions PROC19 Manual activities involving hand contact
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state Liquid (aqueous)

Frequency and duration of use

Intermittent release.
Emission days: <12 days/year
, or:
Continuous release.

Environmental factors not influenced by risk management measures

Dilution Receiving surface water flow: 18000 m³/day

Risk management measures

Good practice Carefully handle the substance to minimise releases.

STP type Onsite STP.

STP details Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air No air emission controls required; required removal efficiency is 0%.

Water pH adjustment Prevent discharge of undissolved substance to or recover from onsite waste water.

Soil Not applicable - no direct release to soil.
Prevent environmental discharge consistent with regulatory requirements.

Conditions and measures related to external treatment of waste for disposal

Waste treatment Dispose of waste in accordance with environmental legislation.

Manufacture and industrial uses of aqueous solutions of lime substances

Disposal method Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid (aqueous)

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).
PROC7 Industrial spraying
Covers daily exposure up to 4hours

Other given operational conditions affecting workers exposure

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures PROC7 Industrial spraying Local exhaust ventilation - efficiency of at least [%]: 78

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear suitable working clothes.
Use suitable eye protection and gloves.
PROC7 Industrial spraying
Filtering half-face mask (DIN EN 149)
with filter for particulates: FFP1.

3. Exposure estimation (Environment 1)

Substance will dissociate upon contact with water, the only effect is the pH effect, therefore, after passing through the STP, exposure is considered negligible and with no risk.

3. Exposure estimation (Health 1)

Assessment method MEASE

Exposure Worker - inhalation: Exposure 0.66 mg/m³, DNEL 1 mg/m³, RCR 0.66

Worst case assumption Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.



Exposure scenario
Manufacture and industrial uses of low dusty solids/powders of lime substances

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Manufacture and industrial uses of low dusty solids/powders of lime substances
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Manufacture and industrial uses of low dusty solids/powders of lime substances

Product category	PC1 Adhesives, sealants. PC2 Adsorbents. PC3 Air care products. PC7 Base metals and alloys. PC8 Biocidal products PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC11 Explosives. PC12 Lawn and garden preparations (- fertilizers). PC13 Fuels. PC14 Metal surface treatment products PC15 Non-metal-surface treatment products. PC16 Heat transfer fluids. PC17 Hydraulic fluids. PC18 Ink and toners. PC19 Intermediate. PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC21 Laboratory chemicals. PC23 Leather treatment products PC24 Lubricants, greases and release products. PC25 Metal working fluids. PC26 Paper and board treatment products PC27 Plant protection products. PC28 Perfumes, fragrances. PC29 Pharmaceuticals PC30 Photochemicals. PC31 Polishes and wax blends. PC32 Polymer preparations and compounds. PC33 Semiconductor. PC34 Textile dyes and impregnating products PC35 Washing and cleaning products PC36 Water softeners. PC37 Water treatment chemicals. PC38 Welding and soldering products, flux products PC39 Cosmetics, personal care. PC40 Extraction agents.
Article category	AC1 Vehicles AC2 Machinery, mechanical appliances, electrical/electronic articles AC3 Electrical batteries and accumulators AC4 Stone, plaster, cement, glass and ceramic articles AC5 Fabrics, textiles and apparel AC6 Leather articles AC7 Metal articles AC8 Paper articles AC10 Rubber articles AC11 Wood articles AC13 Plastic articles
Main sector	SU3 Industrial uses

Manufacture and industrial uses of low dusty solids/powders of lime substances

Sector of use

SU1 Agriculture, forestry, fishery
 SU2a Mining (without offshore industries)
 SU2b Offshore industries
 SU4 Manufacture of food products
 SU5 Manufacture of textiles, leather, fur
 SU6a Manufacture of wood and wood products
 SU6b Manufacture of pulp, paper and paper products
 SU7 Printing and reproduction of recorded media
 SU8 Manufacture of bulk, large-scale chemicals (including petroleum products)
 SU9 Manufacture of fine chemicals
 SU10 Formulation [mixing] of preparations and/or re-packaging
 SU11 Manufacture of rubber products
 SU12 Manufacture of plastics products, including compounding and conversion
 SU13 Manufacture of other non-metallic mineral products
 SU14 Manufacture of basic metals, including alloys
 SU15 Manufacture of fabricated metal products, except machinery and equipment
 SU16 Manufacture of computer, electronic and optical products, electrical equipment
 SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
 SU18 Manufacture of furniture
 SU19 Building and construction work
 SU20 Health services
 SU23 Electricity, steam, gas, water supply and sewage treatment
 SU24 Scientific research and development

Environment

Environmental release category

ERC1 Manufacture of the substance
 ERC2 Formulation into mixture
 ERC3 Formulation into solid matrix
 ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
 ERC5 Use at industrial site leading to inclusion into/onto article
 ERC6a Use of intermediate
 ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
 ERC6c Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)
 ERC6d Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)
 ERC7 Use of functional fluid at industrial site
 ERC10a Widespread use of articles with low release (outdoor)
 ERC10b Widespread use of articles with high or intended release (outdoor)
 ERC11a Widespread use of articles with low release (indoor)
 ERC11b Widespread use of articles with high or intended release (indoor)
 ERC12a Processing of articles at industrial sites with low release
 ERC12b Processing of articles at industrial sites with high release

Worker

Manufacture and industrial uses of low dusty solids/powders of lime substances

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC6 Calendering operations. PROC7 Industrial spraying PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC13 Treatment of articles by dipping and pouring. PROC14 Tableting, compression, extrusion, pelletisation, granulation PROC15 Use as laboratory reagent. PROC16 Use of fuels PROC17 Lubrication at high energy conditions in metal working operations PROC18 General greasing/lubrication at high kinetic energy conditions PROC19 Manual activities involving hand contact PROC21 Low energy manipulation and handling of substances bound in/on materials or articles PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature PROC23 Open processing and transfer operations at substantially elevated temperature PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles PROC25 Other hot work operations with metals PROC26 Handling of solid inorganic substances at ambient temperature PROC27a Production of metal powders (hot processes) PROC27b Production of metal powders (wet processes)
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state Solid at STP, liquid at elevated operating temperature, vapour pressure < 0.5 kPa

Frequency and duration of use

Intermittent release.
 Emission days: <12 days/year
 , or:
 Continuous release.

Environmental factors not influenced by risk management measures

Dilution Receiving surface water flow: 18000 m³/day

Risk management measures

Good practice Carefully handle the substance to minimise releases.

STP type Onsite STP.

STP details Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Manufacture and industrial uses of low dusty solids/powders of lime substances

Air	No air emission controls required; required removal efficiency is 0%.
Water	pH adjustment Prevent discharge of undissolved substance to or recover from onsite waste water.
Soil	Not applicable - no direct release to soil. Prevent environmental discharge consistent with regulatory requirements.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	Dispose of waste in accordance with environmental legislation.
Disposal method	Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Solid at STP, liquid at elevated operating temperature, vapour pressure < 0.5 kPa Solid, low dustiness
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Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).
PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature
Covers daily exposure up to 4hours

Other given operational conditions affecting workers exposure

Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature PROC23 Open processing and transfer operations at substantially elevated temperature PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles PROC25 Other hot work operations with metals PROC26 Handling of solid inorganic substances at ambient temperature PROC27a Production of metal powders (hot processes) Local exhaust ventilation - efficiency of at least [%]: 78
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
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Risk management measures

Wear suitable working clothes.
Use suitable eye protection and gloves.
PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature
PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles
PROC27a Production of metal powders (hot processes)
Filtering half-face mask (DIN EN 149)
with filter for particulates: FFP1.

3. Exposure estimation (Environment 1)

Substance will dissociate upon contact with water, the only effect is the pH effect, therefore, after passing through the STP, exposure is considered negligible and with no risk.

Manufacture and industrial uses of low dusty solids/powders of lime substances

3. Exposure estimation (Health 1)

Assessment method MEASE

Exposure Worker - inhalation: Exposure 0.83 mg/m³, DNEL 1 mg/m³, RCR 0.83

Worst case assumption Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.



Exposure scenario

Manufacture and industrial uses of medium dusty solids/powders of lime substances

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Manufacture and industrial uses of medium dusty solids/powders of lime substances
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Manufacture and industrial uses of medium dusty solids/powders of lime substances

Product category	PC1 Adhesives, sealants. PC2 Adsorbents. PC3 Air care products. PC7 Base metals and alloys. PC8 Biocidal products PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC11 Explosives. PC12 Lawn and garden preparations (- fertilizers). PC13 Fuels. PC14 Metal surface treatment products PC15 Non-metal-surface treatment products. PC16 Heat transfer fluids. PC17 Hydraulic fluids. PC18 Ink and toners. PC19 Intermediate. PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC21 Laboratory chemicals. PC23 Leather treatment products PC24 Lubricants, greases and release products. PC25 Metal working fluids. PC26 Paper and board treatment products PC27 Plant protection products. PC28 Perfumes, fragrances. PC29 Pharmaceuticals PC30 Photochemicals. PC31 Polishes and wax blends. PC32 Polymer preparations and compounds. PC33 Semiconductor. PC34 Textile dyes and impregnating products PC35 Washing and cleaning products PC36 Water softeners. PC37 Water treatment chemicals. PC38 Welding and soldering products, flux products PC39 Cosmetics, personal care. PC40 Extraction agents.
Article category	AC1 Vehicles AC2 Machinery, mechanical appliances, electrical/electronic articles AC3 Electrical batteries and accumulators AC4 Stone, plaster, cement, glass and ceramic articles AC5 Fabrics, textiles and apparel AC6 Leather articles AC7 Metal articles AC8 Paper articles AC10 Rubber articles AC11 Wood articles AC13 Plastic articles
Main sector	SU3 Industrial uses

Manufacture and industrial uses of medium dusty solids/powders of lime substances

Sector of use

SU1 Agriculture, forestry, fishery
 SU2a Mining (without offshore industries)
 SU2b Offshore industries
 SU4 Manufacture of food products
 SU5 Manufacture of textiles, leather, fur
 SU6a Manufacture of wood and wood products
 SU6b Manufacture of pulp, paper and paper products
 SU7 Printing and reproduction of recorded media
 SU8 Manufacture of bulk, large-scale chemicals (including petroleum products)
 SU9 Manufacture of fine chemicals
 SU10 Formulation [mixing] of preparations and/or re-packaging
 SU11 Manufacture of rubber products
 SU12 Manufacture of plastics products, including compounding and conversion
 SU13 Manufacture of other non-metallic mineral products
 SU14 Manufacture of basic metals, including alloys
 SU15 Manufacture of fabricated metal products, except machinery and equipment
 SU16 Manufacture of computer, electronic and optical products, electrical equipment
 SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
 SU18 Manufacture of furniture
 SU19 Building and construction work
 SU20 Health services
 SU23 Electricity, steam, gas, water supply and sewage treatment
 SU24 Scientific research and development

Environment

Environmental release category

ERC1 Manufacture of the substance
 ERC2 Formulation into mixture
 ERC3 Formulation into solid matrix
 ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
 ERC5 Use at industrial site leading to inclusion into/onto article
 ERC6a Use of intermediate
 ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
 ERC6c Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)
 ERC6d Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)
 ERC7 Use of functional fluid at industrial site
 ERC10a Widespread use of articles with low release (outdoor)
 ERC10b Widespread use of articles with high or intended release (outdoor)
 ERC11a Widespread use of articles with low release (indoor)
 ERC11b Widespread use of articles with high or intended release (indoor)
 ERC12a Processing of articles at industrial sites with low release
 ERC12b Processing of articles at industrial sites with high release

Worker

Manufacture and industrial uses of medium dusty solids/powders of lime substances

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC7 Industrial spraying PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC13 Treatment of articles by dipping and pouring. PROC14 Tableting, compression, extrusion, pelletisation, granulation PROC15 Use as laboratory reagent. PROC16 Use of fuels PROC17 Lubrication at high energy conditions in metal working operations PROC18 General greasing/lubrication at high kinetic energy conditions PROC19 Manual activities involving hand contact PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature PROC23 Open processing and transfer operations at substantially elevated temperature PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles PROC25 Other hot work operations with metals PROC26 Handling of solid inorganic substances at ambient temperature PROC27a Production of metal powders (hot processes) PROC27b Production of metal powders (wet processes)
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state Solid at STP, liquid at elevated operating temperature, vapour pressure < 0.5 kPa

Frequency and duration of use

Intermittent release.
 Emission days: <12 days/year
 , or:
 Continuous release.

Environmental factors not influenced by risk management measures

Dilution Receiving surface water flow: 18000 m³/day

Risk management measures

Good practice Carefully handle the substance to minimise releases.

STP type Onsite STP.

STP details Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air No air emission controls required; required removal efficiency is 0%.

Manufacture and industrial uses of medium dusty solids/powders of lime substances

Water	pH adjustment Prevent discharge of undissolved substance to or recover from onsite waste water.
Soil	Not applicable - no direct release to soil. Prevent environmental discharge consistent with regulatory requirements.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	Dispose of waste in accordance with environmental legislation.
Disposal method	Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Solid at STP, liquid at elevated operating temperature, vapour pressure < 0.5 kPa Solid, medium dustiness
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Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).
 PROC7 Industrial spraying
 PROC17 Lubrication at high energy conditions in metal working operations
 PROC18 General greasing/lubrication at high kinetic energy conditions
 PROC19 Manual activities involving hand contact
 PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature
 Covers daily exposure up to 4hours

Other given operational conditions affecting workers exposure

Ventilation rate	Local exhaust ventilation - efficiency of at least [%]: 78 Unless otherwise stated. PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC13 Treatment of articles by dipping and pouring. PROC14 Tableting, compression, extrusion, pelletisation, granulation Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC15 Use as laboratory reagent. PROC19 Manual activities involving hand contact PROC27b Production of metal powders (wet processes) Not applicable.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
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Risk management measures

Manufacture and industrial uses of medium dusty solids/powders of lime substances

Wear suitable working clothes.
 Use suitable eye protection and gloves.
 PROC4 Chemical production where opportunity for exposure arises
 PROC5 Mixing or blending in batch processes
 PROC7 Industrial spraying
 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
 PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
 PROC10 Roller application or brushing
 PROC16 Use of fuels
 PROC17 Lubrication at high energy conditions in metal working operations
 PROC18 General greasing/lubrication at high kinetic energy conditions
 PROC19 Manual activities involving hand contact
 PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature
 PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles
 PROC27a Production of metal powders (hot processes)
 Filtering half-face mask (DIN EN 149)
 with filter for particulates: FFP1.

3. Exposure estimation (Environment 1)

Substance will dissociate upon contact with water, the only effect is the pH effect, therefore, after passing through the STP, exposure is considered negligible and with no risk.

3. Exposure estimation (Health 1)

Assessment method	MEASE
Exposure	Worker - inhalation: Exposure 0.88 mg/m ³ , DNEL 1 mg/m ³ , RCR 0.88 Worst case assumption Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.



Exposure scenario
Manufacture and industrial uses of high dusty solids/powders of lime substances

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Manufacture and industrial uses of high dusty solids/powders of lime substances
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Manufacture and industrial uses of high dusty solids/powders of lime substances

Product category	PC1 Adhesives, sealants. PC2 Adsorbents. PC3 Air care products. PC7 Base metals and alloys. PC8 Biocidal products PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC11 Explosives. PC12 Lawn and garden preparations (- fertilizers). PC13 Fuels. PC14 Metal surface treatment products PC15 Non-metal-surface treatment products. PC16 Heat transfer fluids. PC17 Hydraulic fluids. PC18 Ink and toners. PC19 Intermediate. PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC21 Laboratory chemicals. PC23 Leather treatment products PC24 Lubricants, greases and release products. PC25 Metal working fluids. PC26 Paper and board treatment products PC27 Plant protection products. PC28 Perfumes, fragrances. PC29 Pharmaceuticals PC30 Photochemicals. PC31 Polishes and wax blends. PC32 Polymer preparations and compounds. PC33 Semiconductor. PC34 Textile dyes and impregnating products PC35 Washing and cleaning products PC36 Water softeners. PC37 Water treatment chemicals. PC38 Welding and soldering products, flux products PC39 Cosmetics, personal care. PC40 Extraction agents.
Article category	AC1 Vehicles AC2 Machinery, mechanical appliances, electrical/electronic articles AC3 Electrical batteries and accumulators AC4 Stone, plaster, cement, glass and ceramic articles AC5 Fabrics, textiles and apparel AC6 Leather articles AC7 Metal articles AC8 Paper articles AC10 Rubber articles AC11 Wood articles AC13 Plastic articles
Main sector	SU3 Industrial uses

Manufacture and industrial uses of high dusty solids/powders of lime substances

Sector of use

SU1 Agriculture, forestry, fishery
 SU2a Mining (without offshore industries)
 SU2b Offshore industries
 SU4 Manufacture of food products
 SU5 Manufacture of textiles, leather, fur
 SU6a Manufacture of wood and wood products
 SU6b Manufacture of pulp, paper and paper products
 SU7 Printing and reproduction of recorded media
 SU8 Manufacture of bulk, large-scale chemicals (including petroleum products)
 SU9 Manufacture of fine chemicals
 SU10 Formulation [mixing] of preparations and/or re-packaging
 SU11 Manufacture of rubber products
 SU12 Manufacture of plastics products, including compounding and conversion
 SU13 Manufacture of other non-metallic mineral products
 SU14 Manufacture of basic metals, including alloys
 SU15 Manufacture of fabricated metal products, except machinery and equipment
 SU16 Manufacture of computer, electronic and optical products, electrical equipment
 SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
 SU18 Manufacture of furniture
 SU19 Building and construction work
 SU20 Health services
 SU23 Electricity, steam, gas, water supply and sewage treatment
 SU24 Scientific research and development

Environment

Environmental release category

ERC1 Manufacture of the substance
 ERC2 Formulation into mixture
 ERC3 Formulation into solid matrix
 ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
 ERC5 Use at industrial site leading to inclusion into/onto article
 ERC6a Use of intermediate
 ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
 ERC6c Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)
 ERC6d Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)
 ERC7 Use of functional fluid at industrial site
 ERC10a Widespread use of articles with low release (outdoor)
 ERC10b Widespread use of articles with high or intended release (outdoor)
 ERC11a Widespread use of articles with low release (indoor)
 ERC11b Widespread use of articles with high or intended release (indoor)
 ERC12a Processing of articles at industrial sites with low release
 ERC12b Processing of articles at industrial sites with high release

Worker

Manufacture and industrial uses of high dusty solids/powders of lime substances

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC7 Industrial spraying PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC13 Treatment of articles by dipping and pouring. PROC14 Tableting, compression, extrusion, pelletisation, granulation PROC15 Use as laboratory reagent. PROC16 Use of fuels PROC17 Lubrication at high energy conditions in metal working operations PROC18 General greasing/lubrication at high kinetic energy conditions PROC19 Manual activities involving hand contact PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature PROC23 Open processing and transfer operations at substantially elevated temperature PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles PROC25 Other hot work operations with metals PROC26 Handling of solid inorganic substances at ambient temperature PROC27a Production of metal powders (hot processes) PROC27b Production of metal powders (wet processes)
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state Solid at STP, liquid at elevated operating temperature, vapour pressure < 0.5 kPa

Frequency and duration of use

Intermittent release.
Emission days: <12 days/year
, or:
Continuous release.

Environmental factors not influenced by risk management measures

Dilution Receiving surface water flow: 18000 m³/day

Risk management measures

Good practice Carefully handle the substance to minimise releases.

STP type Onsite STP.

STP details Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air No air emission controls required; required removal efficiency is 0%.

Manufacture and industrial uses of high dusty solids/powders of lime substances

Water	pH adjustment Prevent discharge of undissolved substance to or recover from onsite waste water.
Soil	Not applicable - no direct release to soil. Prevent environmental discharge consistent with regulatory requirements.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	Dispose of waste in accordance with environmental legislation.
Disposal method	Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Solid at STP, liquid at elevated operating temperature, vapour pressure < 0.5 kPa Solid, high dustiness
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Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).
 PROC7 Industrial spraying
 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
 PROC17 Lubrication at high energy conditions in metal working operations
 PROC18 General greasing/lubrication at high kinetic energy conditions
 PROC19 Manual activities involving hand contact
 PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature
 Covers daily exposure up to 4hours

Other given operational conditions affecting workers exposure

Ventilation rate	Local exhaust ventilation - efficiency of at least [%]: 78 Unless otherwise stated. PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC19 Manual activities involving hand contact Not applicable.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
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Risk management measures

Manufacture and industrial uses of high dusty solids/powders of lime substances

Wear suitable working clothes.
 Use suitable eye protection and gloves.
 PROC4 Chemical production where opportunity for exposure arises
 PROC5 Mixing or blending in batch processes
 PROC7 Industrial spraying
 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
 PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
 PROC17 Lubrication at high energy conditions in metal working operations
 PROC18 General greasing/lubrication at high kinetic energy conditions
 Wear a half-mask respirator, selected in accordance with EN529.
 with filter for particulates: FFP2.
 PROC10 Roller application or brushing
 PROC13 Treatment of articles by dipping and pouring.
 PROC14 Tableting, compression, extrusion, pelletisation, granulation
 PROC15 Use as laboratory reagent.
 PROC16 Use of fuels
 PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature
 PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles
 PROC26 Handling of solid inorganic substances at ambient temperature
 PROC27a Production of metal powders (hot processes)
 Wear a half-mask respirator, selected in accordance with EN529.
 with filter for particulates: FFP1.
 PROC19 Manual activities involving hand contact
 Wear a half-mask respirator, selected in accordance with EN529.
 with filter for particulates: FFP3.

3. Exposure estimation (Environment 1)

Substance will dissociate upon contact with water, the only effect is the pH effect, therefore, after passing through the STP, exposure is considered negligible and with no risk.

3. Exposure estimation (Health 1)

Assessment method MEASE

Exposure Worker - inhalation: Exposure 0.96 mg/m³, DNEL 1 mg/m³, RCR 0.96

Worst case assumption Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.



Exposure scenario
Manufacture and industrial uses of massive objects containing lime substances

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Manufacture and industrial uses of massive objects containing lime substances
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Manufacture and industrial uses of massive objects containing lime substances

Product category	PC1 Adhesives, sealants. PC2 Adsorbents. PC3 Air care products. PC7 Base metals and alloys. PC8 Biocidal products PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC11 Explosives. PC12 Lawn and garden preparations (- fertilizers). PC13 Fuels. PC14 Metal surface treatment products PC15 Non-metal-surface treatment products. PC16 Heat transfer fluids. PC17 Hydraulic fluids. PC18 Ink and toners. PC19 Intermediate. PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC21 Laboratory chemicals. PC23 Leather treatment products PC24 Lubricants, greases and release products. PC25 Metal working fluids. PC26 Paper and board treatment products PC27 Plant protection products. PC28 Perfumes, fragrances. PC29 Pharmaceuticals PC30 Photochemicals. PC31 Polishes and wax blends. PC32 Polymer preparations and compounds. PC33 Semiconductor. PC34 Textile dyes and impregnating products PC35 Washing and cleaning products PC36 Water softeners. PC37 Water treatment chemicals. PC38 Welding and soldering products, flux products PC39 Cosmetics, personal care. PC40 Extraction agents.
Article category	AC1 Vehicles AC2 Machinery, mechanical appliances, electrical/electronic articles AC3 Electrical batteries and accumulators AC4 Stone, plaster, cement, glass and ceramic articles AC5 Fabrics, textiles and apparel AC6 Leather articles AC7 Metal articles AC8 Paper articles AC10 Rubber articles AC11 Wood articles AC13 Plastic articles
Main sector	SU3 Industrial uses

Manufacture and industrial uses of massive objects containing lime substances

Sector of use

SU1 Agriculture, forestry, fishery
 SU2a Mining (without offshore industries)
 SU2b Offshore industries
 SU4 Manufacture of food products
 SU5 Manufacture of textiles, leather, fur
 SU6a Manufacture of wood and wood products
 SU6b Manufacture of pulp, paper and paper products
 SU7 Printing and reproduction of recorded media
 SU8 Manufacture of bulk, large-scale chemicals (including petroleum products)
 SU9 Manufacture of fine chemicals
 SU10 Formulation [mixing] of preparations and/or re-packaging
 SU11 Manufacture of rubber products
 SU12 Manufacture of plastics products, including compounding and conversion
 SU13 Manufacture of other non-metallic mineral products
 SU14 Manufacture of basic metals, including alloys
 SU15 Manufacture of fabricated metal products, except machinery and equipment
 SU16 Manufacture of computer, electronic and optical products, electrical equipment
 SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
 SU18 Manufacture of furniture
 SU19 Building and construction work
 SU20 Health services
 SU23 Electricity, steam, gas, water supply and sewage treatment
 SU24 Scientific research and development

Environment

Environmental release category

ERC1 Manufacture of the substance
 ERC2 Formulation into mixture
 ERC3 Formulation into solid matrix
 ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
 ERC5 Use at industrial site leading to inclusion into/onto article
 ERC6a Use of intermediate
 ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
 ERC6c Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)
 ERC6d Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)
 ERC7 Use of functional fluid at industrial site
 ERC10a Widespread use of articles with low release (outdoor)
 ERC10b Widespread use of articles with high or intended release (outdoor)
 ERC11a Widespread use of articles with low release (indoor)
 ERC11b Widespread use of articles with high or intended release (indoor)
 ERC12a Processing of articles at industrial sites with low release
 ERC12b Processing of articles at industrial sites with high release

Worker

Process category

PROC6 Calendering operations.
 PROC14 Tableting, compression, extrusion, pelletisation, granulation
 PROC21 Low energy manipulation and handling of substances bound in/on materials or articles
 PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature
 PROC23 Open processing and transfer operations at substantially elevated temperature
 PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles
 PROC25 Other hot work operations with metals

Manufacture and industrial uses of massive objects containing lime substances

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state Solid

Frequency and duration of use

Intermittent release.
Emission days: <12 days/year
, or:
Continuous release.

Environmental factors not influenced by risk management measures

Dilution Receiving surface water flow: 18000 m³/day

Risk management measures

Good practice Carefully handle the substance to minimise releases.

STP type Onsite STP.

STP details Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air No air emission controls required; required removal efficiency is 0%.

Water pH adjustment Prevent discharge of undissolved substance to or recover from onsite waste water.

Soil Not applicable - no direct release to soil.

Prevent environmental discharge consistent with regulatory requirements.

Conditions and measures related to external treatment of waste for disposal

Waste treatment Dispose of waste in accordance with environmental legislation.

Disposal method Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Solid

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).
PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature
Covers daily exposure up to 4hours

Other given operational conditions affecting workers exposure

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature
PROC23 Open processing and transfer operations at substantially elevated temperature
PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles
PROC25 Other hot work operations with metals
Local exhaust ventilation - efficiency of at least [%]: 78

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Manufacture and industrial uses of massive objects containing lime substances

Risk management measures

Wear suitable working clothes.
Use suitable eye protection and gloves.
PROC22 Manufacturing and processing of minerals and/or metals at substantially elevated temperature
Filtering half-face mask (DIN EN 149)
with filter for particulates: FFP1.

3. Exposure estimation (Environment 1)

Substance will dissociate upon contact with water, the only effect is the pH effect, therefore, after passing through the STP, exposure is considered negligible and with no risk.

3. Exposure estimation (Health 1)

Assessment method	MEASE
Exposure	Worker - inhalation: Exposure 0.44 mg/m ³ , DNEL 1 mg/m ³ , RCR 0.44 Worst case assumption Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.



Exposure scenario
Professional uses of aqueous solutions of lime substances

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Professional uses of aqueous solutions of lime substances
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Professional uses of aqueous solutions of lime substances

Product category	PC1 Adhesives, sealants. PC2 Adsorbents. PC3 Air care products. PC7 Base metals and alloys. PC8 Biocidal products PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC11 Explosives. PC12 Lawn and garden preparations (- fertilizers). PC13 Fuels. PC14 Metal surface treatment products PC15 Non-metal-surface treatment products. PC16 Heat transfer fluids. PC17 Hydraulic fluids. PC18 Ink and toners. PC19 Intermediate. PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC21 Laboratory chemicals. PC23 Leather treatment products PC24 Lubricants, greases and release products. PC25 Metal working fluids. PC26 Paper and board treatment products PC27 Plant protection products. PC28 Perfumes, fragrances. PC29 Pharmaceuticals PC30 Photochemicals. PC31 Polishes and wax blends. PC32 Polymer preparations and compounds. PC33 Semiconductor. PC34 Textile dyes and impregnating products PC35 Washing and cleaning products PC36 Water softeners. PC37 Water treatment chemicals. PC38 Welding and soldering products, flux products PC39 Cosmetics, personal care. PC40 Extraction agents.
Article category	AC1 Vehicles AC2 Machinery, mechanical appliances, electrical/electronic articles AC3 Electrical batteries and accumulators AC4 Stone, plaster, cement, glass and ceramic articles AC5 Fabrics, textiles and apparel AC6 Leather articles AC7 Metal articles AC8 Paper articles AC10 Rubber articles AC11 Wood articles AC13 Plastic articles
Main sector	SU22 Professional uses

Professional uses of aqueous solutions of lime substances

Sector of use	SU1 Agriculture, forestry, fishery
	SU5 Manufacture of textiles, leather, fur
	SU6a Manufacture of wood and wood products
	SU6b Manufacture of pulp, paper and paper products
	SU7 Printing and reproduction of recorded media
	SU10 Formulation [mixing] of preparations and/or re-packaging
	SU11 Manufacture of rubber products
	SU12 Manufacture of plastics products, including compounding and conversion
	SU13 Manufacture of other non-metallic mineral products
	SU16 Manufacture of computer, electronic and optical products, electrical equipment
	SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
	SU18 Manufacture of furniture
	SU19 Building and construction work
	SU20 Health services
	SU23 Electricity, steam, gas, water supply and sewage treatment
	SU24 Scientific research and development

Environment

Environmental release category	ERC2 Formulation into mixture
	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
	ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
	ERC8c Widespread use leading to inclusion into/onto article (indoor)
	ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
	ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)
	ERC8f Widespread use leading to inclusion into/onto article (outdoor)

Worker

Process category	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
	PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
	PROC4 Chemical production where opportunity for exposure arises
	PROC5 Mixing or blending in batch processes
	PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
	PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
	PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
	PROC10 Roller application or brushing
	PROC11 Non industrial spraying
	PROC12 Use of blow agents in manufacture of foam.
	PROC13 Treatment of articles by dipping and pouring.
	PROC15 Use as laboratory reagent.
	PROC16 Use of fuels
	PROC17 Lubrication at high energy conditions in metal working operations
	PROC18 General greasing/lubrication at high kinetic energy conditions
	PROC19 Manual activities involving hand contact

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid (aqueous)
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Amounts used

Professional uses of aqueous solutions of lime substances

Annual amount per site: 238208 kg

Release area: 10000 m²

Frequency and duration of use

Emission days: 1 days/year

Risk management measures

Good practice Carefully handle the substance to minimise releases.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Water No discharge of substance into waste water.

Soil Controlled application to agricultural soil.

Prevent environmental discharge consistent with regulatory requirements.

Conditions and measures related to external treatment of waste for disposal

Waste treatment Dispose of waste in accordance with environmental legislation.

Disposal method Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid (aqueous)

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

PROC11 Non industrial spraying

Covers daily exposure up to 4hours

Other given operational conditions affecting workers exposure

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures No specific risk management measure identified beyond those operational conditions stated.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear suitable working clothes.

Use suitable eye protection and gloves.

PROC11 Non industrial spraying

Filtering half-face mask (DIN EN 149)

with filter for particulates: FFP3.

PROC17 Lubrication at high energy conditions in metal working operations

Filtering half-face mask (DIN EN 149)

with filter for particulates: FFP1.

3. Exposure estimation (Environment 1)

Environmental exposure Fresh water: Exposure 0.00748 mg/l, PNEC 0.490 mg/l, RCR 0.015
Soil: Exposure 701 mg/l, PNEC 1080 mg/l, RCR 0.65

Worst case assumption

Professional uses of aqueous solutions of lime substances

3. Exposure estimation (Health 1)

Assessment method MEASE

Exposure Worker - inhalation: Exposure 0.66 mg/m³, DNEL 1 mg/m³, RCR 0.66
Worst case assumption Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.



Exposure scenario
Professional uses of low dusty solids/powders of lime substances

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Professional uses of low dusty solids/powders of lime substances
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Professional uses of low dusty solids/powders of lime substances

Product category	PC1 Adhesives, sealants. PC2 Adsorbents. PC3 Air care products. PC7 Base metals and alloys. PC8 Biocidal products PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC11 Explosives. PC12 Lawn and garden preparations (- fertilizers). PC13 Fuels. PC14 Metal surface treatment products PC15 Non-metal-surface treatment products. PC16 Heat transfer fluids. PC17 Hydraulic fluids. PC18 Ink and toners. PC19 Intermediate. PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC21 Laboratory chemicals. PC23 Leather treatment products PC24 Lubricants, greases and release products. PC25 Metal working fluids. PC26 Paper and board treatment products PC27 Plant protection products. PC28 Perfumes, fragrances. PC29 Pharmaceuticals PC30 Photochemicals. PC31 Polishes and wax blends. PC32 Polymer preparations and compounds. PC33 Semiconductor. PC34 Textile dyes and impregnating products PC35 Washing and cleaning products PC36 Water softeners. PC37 Water treatment chemicals. PC38 Welding and soldering products, flux products PC39 Cosmetics, personal care. PC40 Extraction agents.
Article category	AC1 Vehicles AC2 Machinery, mechanical appliances, electrical/electronic articles AC3 Electrical batteries and accumulators AC4 Stone, plaster, cement, glass and ceramic articles AC5 Fabrics, textiles and apparel AC6 Leather articles AC7 Metal articles AC8 Paper articles AC10 Rubber articles AC11 Wood articles AC13 Plastic articles
Main sector	SU22 Professional uses

Professional uses of low dusty solids/powders of lime substances

Sector of use	SU1 Agriculture, forestry, fishery SU5 Manufacture of textiles, leather, fur SU6a Manufacture of wood and wood products SU6b Manufacture of pulp, paper and paper products SU7 Printing and reproduction of recorded media SU10 Formulation [mixing] of preparations and/or re-packaging SU11 Manufacture of rubber products SU12 Manufacture of plastics products, including compounding and conversion SU13 Manufacture of other non-metallic mineral products SU16 Manufacture of computer, electronic and optical products, electrical equipment SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment SU18 Manufacture of furniture SU19 Building and construction work SU20 Health services SU23 Electricity, steam, gas, water supply and sewage treatment SU24 Scientific research and development
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Environment

Environmental release category	ERC2 Formulation into mixture ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor) ERC8c Widespread use leading to inclusion into/onto article (indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor) ERC8f Widespread use leading to inclusion into/onto article (outdoor)
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Worker

Process category	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC11 Non industrial spraying PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent. PROC16 Use of fuels PROC17 Lubrication at high energy conditions in metal working operations PROC18 General greasing/lubrication at high kinetic energy conditions PROC19 Manual activities involving hand contact PROC21 Low energy manipulation and handling of substances bound in/on materials or articles PROC25 Other hot work operations with metals PROC26 Handling of solid inorganic substances at ambient temperature
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Professional uses of low dusty solids/powders of lime substances

Physical state Solid, low dustiness PROC25 Other hot work operations with metals Solid at STP, liquid at elevated operating temperature, vapour pressure < 0.5 kPa

Amounts used

Annual amount per site: 238208 kg

Release area: 10000 m²

Frequency and duration of use

Emission days: 1 days/year

Risk management measures

Good practice Carefully handle the substance to minimise releases.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Water No discharge of substance into waste water.

Soil Controlled application to agricultural soil.

Prevent environmental discharge consistent with regulatory requirements.

Conditions and measures related to external treatment of waste for disposal

Waste treatment Dispose of waste in accordance with environmental legislation.

Disposal method Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Solid, low dustiness PROC25 Other hot work operations with metals Solid at STP, liquid at elevated operating temperature, vapour pressure < 0.5 kPa

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

PROC17 Lubrication at high energy conditions in metal working operations

Covers daily exposure up to 4hours

Other given operational conditions affecting workers exposure

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures No specific risk management measure identified beyond those operational conditions stated.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Professional uses of low dusty solids/powders of lime substances

Wear suitable working clothes.
 Use suitable eye protection and gloves.
 PROC4 Chemical production where opportunity for exposure arises
 PROC5 Mixing or blending in batch processes
 PROC11 Non industrial spraying
 PROC26 Handling of solid inorganic substances at ambient temperature
 Filtering half-face mask (DIN EN 149)
 with filter for particulates: FFP1.
 PROC16 Use of fuels
 PROC17 Lubrication at high energy conditions in metal working operations
 PROC18 General greasing/lubrication at high kinetic energy conditions
 PROC25 Other hot work operations with metals
 Filtering half-face mask (DIN EN 149)
 with filter for particulates: FFP2.

3. Exposure estimation (Environment 1)

Environmental exposure Fresh water: Exposure 0.00748 mg/l, PNEC 0.490 mg/l, RCR 0.015
 Soil: Exposure 701 mg/l, PNEC 1080 mg/l, RCR 0.65
 Worst case assumption

3. Exposure estimation (Health 1)

Assessment method MEASE
Exposure Worker - inhalation: Exposure 0.75 mg/m³, DNEL 1 mg/m³, RCR 0.75
 Worst case assumption Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.



Exposure scenario
Professional uses of medium dusty solids/powders of lime substances

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Professional uses of medium dusty solids/powders of lime substances
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Professional uses of medium dusty solids/powders of lime substances

Product category	PC1 Adhesives, sealants. PC2 Adsorbents. PC3 Air care products. PC7 Base metals and alloys. PC8 Biocidal products PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC11 Explosives. PC12 Lawn and garden preparations (- fertilizers). PC13 Fuels. PC14 Metal surface treatment products PC15 Non-metal-surface treatment products. PC16 Heat transfer fluids. PC17 Hydraulic fluids. PC18 Ink and toners. PC19 Intermediate. PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC21 Laboratory chemicals. PC23 Leather treatment products PC24 Lubricants, greases and release products. PC25 Metal working fluids. PC26 Paper and board treatment products PC27 Plant protection products. PC28 Perfumes, fragrances. PC29 Pharmaceuticals PC30 Photochemicals. PC31 Polishes and wax blends. PC32 Polymer preparations and compounds. PC33 Semiconductor. PC34 Textile dyes and impregnating products PC35 Washing and cleaning products PC36 Water softeners. PC37 Water treatment chemicals. PC38 Welding and soldering products, flux products PC39 Cosmetics, personal care. PC40 Extraction agents.
Article category	AC1 Vehicles AC2 Machinery, mechanical appliances, electrical/electronic articles AC3 Electrical batteries and accumulators AC4 Stone, plaster, cement, glass and ceramic articles AC5 Fabrics, textiles and apparel AC6 Leather articles AC7 Metal articles AC8 Paper articles AC10 Rubber articles AC11 Wood articles AC13 Plastic articles
Main sector	SU22 Professional uses

Professional uses of medium dusty solids/powders of lime substances

Sector of use	SU1 Agriculture, forestry, fishery SU5 Manufacture of textiles, leather, fur SU6a Manufacture of wood and wood products SU6b Manufacture of pulp, paper and paper products SU7 Printing and reproduction of recorded media SU10 Formulation [mixing] of preparations and/or re-packaging SU11 Manufacture of rubber products SU12 Manufacture of plastics products, including compounding and conversion SU13 Manufacture of other non-metallic mineral products SU16 Manufacture of computer, electronic and optical products, electrical equipment SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment SU18 Manufacture of furniture SU19 Building and construction work SU20 Health services SU23 Electricity, steam, gas, water supply and sewage treatment SU24 Scientific research and development
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Environment

Environmental release category	ERC2 Formulation into mixture ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor) ERC8c Widespread use leading to inclusion into/onto article (indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor) ERC8f Widespread use leading to inclusion into/onto article (outdoor)
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Worker

Process category	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC11 Non industrial spraying PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent. PROC16 Use of fuels PROC17 Lubrication at high energy conditions in metal working operations PROC18 General greasing/lubrication at high kinetic energy conditions PROC19 Manual activities involving hand contact PROC25 Other hot work operations with metals PROC26 Handling of solid inorganic substances at ambient temperature
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Professional uses of medium dusty solids/powders of lime substances

Physical state Solid, medium dustiness PROC25 Other hot work operations with metals Solid at STP, liquid at elevated operating temperature, vapour pressure < 0.5 kPa

Amounts used

Annual amount per site: 238208 kg

Release area: 10000 m²

Frequency and duration of use

Emission days: 1 days/year

Risk management measures

Good practice Carefully handle the substance to minimise releases.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Water No discharge of substance into waste water.

Soil Controlled application to agricultural soil.

Prevent environmental discharge consistent with regulatory requirements.

Conditions and measures related to external treatment of waste for disposal

Waste treatment Dispose of waste in accordance with environmental legislation.

Disposal method Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Solid, medium dustiness PROC25 Other hot work operations with metals Solid at STP, liquid at elevated operating temperature, vapour pressure < 0.5 kPa

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

PROC11 Non industrial spraying

PROC16 Use of fuels

PROC17 Lubrication at high energy conditions in metal working operations

PROC18 General greasing/lubrication at high kinetic energy conditions

PROC19 Manual activities involving hand contact

Covers daily exposure up to 4hours

Other given operational conditions affecting workers exposure

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures PROC11 Non industrial spraying PROC16 Use of fuels PROC17 Lubrication at high energy conditions in metal working operations PROC18 General greasing/lubrication at high kinetic energy conditions Local exhaust ventilation - efficiency of at least [%]: 72

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Professional uses of medium dusty solids/powders of lime substances

Wear suitable working clothes.

Use suitable eye protection and gloves.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC11 Non industrial spraying

PROC16 Use of fuels

PROC19 Manual activities involving hand contact

Filtering half-face mask (DIN EN 149)

with filter for particulates: FFP1.

PROC4 Chemical production where opportunity for exposure arises

PROC5 Mixing or blending in batch processes

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC10 Roller application or brushing

PROC13 Treatment of articles by dipping and pouring.

PROC17 Lubrication at high energy conditions in metal working operations

PROC18 General greasing/lubrication at high kinetic energy conditions

PROC25 Other hot work operations with metals

PROC26 Handling of solid inorganic substances at ambient temperature

Filtering half-face mask (DIN EN 149)

with filter for particulates: FFP2.

3. Exposure estimation (Environment 1)

Environmental exposure

Fresh water: Exposure 0.00748 mg/l, PNEC 0.490 mg/l, RCR 0.015

Soil: Exposure 701 mg/l, PNEC 1080 mg/l, RCR 0.65

Worst case assumption

3. Exposure estimation (Health 1)

Assessment method

MEASE

Exposure

Worker - inhalation: Exposure 0.825 mg/m³, DNEL 1 mg/m³, RCR 0.825

Worst case assumption Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.



Exposure scenario
Professional uses of high dusty solids/powders of lime substances

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Professional uses of high dusty solids/powders of lime substances
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Professional uses of high dusty solids/powders of lime substances

Product category	PC1 Adhesives, sealants. PC2 Adsorbents. PC3 Air care products. PC7 Base metals and alloys. PC8 Biocidal products PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC11 Explosives. PC12 Lawn and garden preparations (- fertilizers). PC13 Fuels. PC14 Metal surface treatment products PC15 Non-metal-surface treatment products. PC16 Heat transfer fluids. PC17 Hydraulic fluids. PC18 Ink and toners. PC19 Intermediate. PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC21 Laboratory chemicals. PC23 Leather treatment products PC24 Lubricants, greases and release products. PC25 Metal working fluids. PC26 Paper and board treatment products PC27 Plant protection products. PC28 Perfumes, fragrances. PC29 Pharmaceuticals PC30 Photochemicals. PC31 Polishes and wax blends. PC32 Polymer preparations and compounds. PC33 Semiconductor. PC34 Textile dyes and impregnating products PC35 Washing and cleaning products PC36 Water softeners. PC37 Water treatment chemicals. PC38 Welding and soldering products, flux products PC39 Cosmetics, personal care. PC40 Extraction agents.
Article category	AC1 Vehicles AC2 Machinery, mechanical appliances, electrical/electronic articles AC3 Electrical batteries and accumulators AC4 Stone, plaster, cement, glass and ceramic articles AC5 Fabrics, textiles and apparel AC6 Leather articles AC7 Metal articles AC8 Paper articles AC10 Rubber articles AC11 Wood articles AC13 Plastic articles
Main sector	SU22 Professional uses

Professional uses of high dusty solids/powders of lime substances

Sector of use	SU1 Agriculture, forestry, fishery SU5 Manufacture of textiles, leather, fur SU6a Manufacture of wood and wood products SU6b Manufacture of pulp, paper and paper products SU7 Printing and reproduction of recorded media SU10 Formulation [mixing] of preparations and/or re-packaging SU11 Manufacture of rubber products SU12 Manufacture of plastics products, including compounding and conversion SU13 Manufacture of other non-metallic mineral products SU16 Manufacture of computer, electronic and optical products, electrical equipment SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment SU18 Manufacture of furniture SU19 Building and construction work SU20 Health services SU23 Electricity, steam, gas, water supply and sewage treatment SU24 Scientific research and development
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Environment

Environmental release category	ERC2 Formulation into mixture ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor) ERC8c Widespread use leading to inclusion into/onto article (indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor) ERC8f Widespread use leading to inclusion into/onto article (outdoor)
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Worker

Process category	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC11 Non industrial spraying PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent. PROC16 Use of fuels PROC17 Lubrication at high energy conditions in metal working operations PROC18 General greasing/lubrication at high kinetic energy conditions PROC19 Manual activities involving hand contact PROC25 Other hot work operations with metals PROC26 Handling of solid inorganic substances at ambient temperature
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Solid, high dustiness
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Professional uses of high dusty solids/powders of lime substances

Amounts used

Annual amount per site: 238208 kg

Release area: 10000 m²

Frequency and duration of use

Emission days: 1 days/year

Risk management measures

Good practice Carefully handle the substance to minimise releases.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Water No discharge of substance into waste water.

Soil Controlled application to agricultural soil.

Prevent environmental discharge consistent with regulatory requirements.

Conditions and measures related to external treatment of waste for disposal

Waste treatment Dispose of waste in accordance with environmental legislation.

Disposal method Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Solid, high dustiness

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

PROC4 Chemical production where opportunity for exposure arises

PROC5 Mixing or blending in batch processes

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC10 Roller application or brushing

PROC16 Use of fuels

PROC17 Lubrication at high energy conditions in metal working operations

PROC18 General greasing/lubrication at high kinetic energy conditions

PROC19 Manual activities involving hand contact

PROC26 Handling of solid inorganic substances at ambient temperature

Covers daily exposure up to 4hours

PROC11 Non industrial spraying

Covers daily exposure up to 1hour

Other given operational conditions affecting workers exposure

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Professional uses of high dusty solids/powders of lime substances

Technical protective measures PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC11 Non industrial spraying PROC16 Use of fuels PROC17 Lubrication at high energy conditions in metal working operations PROC18 General greasing/lubrication at high kinetic energy conditions PROC26 Handling of solid inorganic substances at ambient temperature Local exhaust ventilation - efficiency of at least [%]: 72 PROC19 Manual activities involving hand contact Avoid using without an operating fan and open windows. , or: Ensure operation is undertaken outdoors.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear suitable working clothes.
 Use suitable eye protection and gloves.
 Filtering half-face mask (DIN EN 149)
 with filter for particulates: FFP2.
 PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
 PROC26 Handling of solid inorganic substances at ambient temperature
 Filtering half-face mask (DIN EN 149)
 with filter for particulates: FFP1.
 PROC11 Non industrial spraying
 PROC17 Lubrication at high energy conditions in metal working operations
 PROC18 General greasing/lubrication at high kinetic energy conditions
 PROC19 Manual activities involving hand contact
 Filtering half-face mask (DIN EN 149)
 with filter for particulates: FFP3.

3. Exposure estimation (Environment 1)

Environmental exposure Fresh water: Exposure 0.00748 mg/l, PNEC 0.490 mg/l, RCR 0.015
 Soil: Exposure 701 mg/l, PNEC 1080 mg/l, RCR 0.65
 Worst case assumption

3. Exposure estimation (Health 1)

Assessment method MEASE

Exposure Worker - inhalation: Exposure 0.825 mg/m³, DNEL 1 mg/m³, RCR 0.825
 Worst case assumption Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.



Exposure scenario

Professional use of lime substances in soil treatment

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Professional use of lime substances in soil treatment
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC2 Formulation into mixture ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor) ERC8c Widespread use leading to inclusion into/onto article (indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor) ERC8f Widespread use leading to inclusion into/onto article (outdoor)
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Worker

Process category	PROC5 Mixing or blending in batch processes PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC11 Non industrial spraying PROC26 Handling of solid inorganic substances at ambient temperature
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Solid
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Amounts used

Annual amount per site: 238208 kg

Professional use of lime substances in soil treatment

Release area: 10000 m²

Frequency and duration of use

Emission days: 1 days/year

Risk management measures

Good practice Carefully handle the substance to minimise releases.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Water No discharge of substance into waste water.

Soil Controlled application to agricultural soil.

Prevent environmental discharge consistent with regulatory requirements.

Conditions and measures related to external treatment of waste for disposal

Waste treatment Dispose of waste in accordance with environmental legislation.

Disposal method Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Solid

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).
Milling, grinding and similar activities.
Loading of application equipment
Covers daily exposure up to 4hours

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Controlled application to agricultural soil. Apply within a vented cab supplied with filtered air under positive pressure and with a protection factor of > 20.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear suitable working clothes.
Use suitable eye protection and gloves.
Milling, grinding and similar activities.
Loading of application equipment
Wear a half-mask respirator, selected in accordance with EN529.
with filter for particulates: FFP3.

3. Exposure estimation (Environment 1)

Environmental exposure Fresh water: Exposure 0.00748 mg/l, PNEC 0.490 mg/l, RCR 0.015
Soil: Exposure 701 mg/l, PNEC 1080 mg/l, RCR 0.65

Worst case assumption

3. Exposure estimation (Health 1)

Assessment method MEASE

Professional use of lime substances in soil treatment

Exposure

Worker - inhalation: Exposure 0.880 mg/m³, DNEL 1 mg/m³, RCR 0.88

Worst case assumption Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.



Exposure scenario
Professional uses of articles/containers containing lime substances

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Professional uses of articles/containers containing lime substances
Article category	AC1 Vehicles AC2 Machinery, mechanical appliances, electrical/electronic articles AC3 Electrical batteries and accumulators AC4 Stone, plaster, cement, glass and ceramic articles AC5 Fabrics, textiles and apparel AC6 Leather articles AC7 Metal articles AC8 Paper articles AC10 Rubber articles AC11 Wood articles AC13 Plastic articles
Main sector	SU22 Professional uses

Professional uses of articles/containers containing lime substances

Sector of use	SU1 Agriculture, forestry, fishery SU5 Manufacture of textiles, leather, fur SU6a Manufacture of wood and wood products SU6b Manufacture of pulp, paper and paper products SU7 Printing and reproduction of recorded media SU10 Formulation [mixing] of preparations and/or re-packaging SU12 Manufacture of plastics products, including compounding and conversion SU13 Manufacture of other non-metallic mineral products SU16 Manufacture of computer, electronic and optical products, electrical equipment SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment SU18 Manufacture of furniture SU19 Building and construction work SU20 Health services SU23 Electricity, steam, gas, water supply and sewage treatment
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Environment

Environmental release category	ERC10a Widespread use of articles with low release (outdoor) ERC10b Widespread use of articles with high or intended release (outdoor) ERC11a Widespread use of articles with low release (indoor) ERC11b Widespread use of articles with high or intended release (indoor) ERC12a Processing of articles at industrial sites with low release ERC12b Processing of articles at industrial sites with high release
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Worker

Process category	PROC0 Other process or activity. PROC21 Low energy manipulation and handling of substances bound in/on materials or articles PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles PROC25 Other hot work operations with metals
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Solid
	Low environmental release

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Air emission controls are not applicable as there is no direct release to air.
Water	No discharge of substance into waste water.
Soil	Not applicable - no direct release to soil.

Conditions and measures related to external treatment of waste for disposal

Disposal method	Contain and dispose of waste according to local regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Solid
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Frequency and duration of use

Professional uses of articles/containers containing lime substances

Covers daily exposures up to 8 hours (unless stated differently).

PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles

PROC25 Other hot work operations with metals

Covers daily exposure up to 4hours

Technical conditions and measures at process level (source) to prevent release

Technical protective measures No specific risk management measure identified beyond those operational conditions stated.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear suitable working clothes.

Use suitable eye protection and gloves.

PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles

PROC25 Other hot work operations with metals

Wear a half-mask respirator, selected in accordance with EN529.

with filter for particulates: FFP1.

3. Exposure estimation (Environment 1)

Low environmental release

3. Exposure estimation (Health 1)

Assessment method MEASE

Exposure Worker - inhalation: Exposure 0.825 mg/m³, DNEL 1 mg/m³, RCR 0.825

Worst case assumption Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.



Exposure scenario

Consumer use of building and construction material

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Consumer use of building and construction material
Product category	PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8c Widespread use leading to inclusion into/onto article (indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor) ERC8f Widespread use leading to inclusion into/onto article (outdoor)
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2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Not relevant.

Frequency and duration of use

Not relevant.

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 (Default)
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Risk management measures

Good practice	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.

Consumer use of building and construction material

STP details

Assumed domestic sewage treatment plant flow: 2000 m³/day

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state

Solid , or: Solid in solution

Concentration details

Covers concentrations up to 100 %. Unless otherwise stated. PC9b_1 Fillers and putty Covers concentrations up to 55 %. PC9b_2 Plasters and floor equalisers Covers concentrations up to 40 %. High-solid paint Covers concentrations up to 30 %.

Amounts used

PC9b_1 Fillers and putty
Amount per use: 1 kg
PC9b_2 Plasters and floor equalisers
High-solid paint
Amount per use: 25 kg

Frequency and duration of use

Covers frequency up to 2 days/year, , .
Preparation of material for application
Application duration: 1.33 minutes
Application
Application duration: 8 hours

Human factors not influenced by risk management

Potentially exposed body parts

Powder products Palm of both hands. Covers skin contact area up to 430 cm². Liquid products Hands and forearms. Covers skin contact area up to 1900 cm².

Other given operational conditions affecting Non-industrial exposure

Setting

Indoor.

Other given operational conditions affecting Non-industrial exposure

Consumer information

Use suitable eye protection and gloves. Avoid splashing.

3. Exposure estimation (Environment 1)

Substance will dissociate upon contact with water, the only effect is the pH effect, therefore, after passing through the STP, exposure is considered negligible and with no risk.

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use. Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.



Exposure scenario

Consumer use of CO₂ absorbent in breathing apparatuses

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Consumer use of CO ₂ absorbent in breathing apparatuses
Product category	PC ₂ Adsorbents.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
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2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Not relevant.

Frequency and duration of use

Not relevant.

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 (Default)
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Risk management measures

Good practice	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Consumer use of CO₂ absorbent in breathing apparatuses

Physical state	Solid
Concentration details	Covers concentrations up to 84 %.

Amounts used

Amount per use: 3 kg

Frequency and duration of use

Covers use up to 4 times per day.
Preparation of material for application
Application equipment cleaning
Application duration: 15 minutes
Application
Application duration: 2 hours

Human factors not influenced by risk management

Potentially exposed body parts	Both hands. Covers skin contact area up to 840 cm ² .
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Other given operational conditions affecting Non-industrial exposure

Setting	Indoor.
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Other given operational conditions affecting Non-industrial exposure

Consumer information	Use suitable eye protection and gloves. Filtering half-face mask (DIN EN 149) with filter for particulates: FFP2. When not in use, keep containers tightly closed. Avoid direct eye contact with product, also via contamination on hands.
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3. Exposure estimation (Environment 1)

Substance will dissociate upon contact with water, the only effect is the pH effect, therefore, after passing through the STP, exposure is considered negligible and with no risk.

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.



Exposure scenario

Consumer use of garden lime/fertilizer

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Consumer use of garden lime/fertilizer
Product category	PC12 Lawn and garden preparations (- fertilizers). PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)
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2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Annual amount for wide dispersive uses: 2244 kg/ha

Frequency and duration of use

Emission days: 1 days/year

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 (Default)
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Risk management measures

Good practice	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Consumer use of garden lime/fertilizer

Product characteristics

Physical state	Solid
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

Covers use up to 1 task per year.
Covers exposure up to 2 hours per event.

Human factors not influenced by risk management

Potentially exposed body parts	Hands and forearms. Covers skin contact area up to 1900 cm².
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Other given operational conditions affecting Non-industrial exposure

Setting	Indoor.
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Other given operational conditions affecting Non-industrial exposure

Consumer information	Use suitable eye protection and gloves. Filtering half-face mask (DIN EN 149) with filter for particulates: FFP2. When not in use, keep containers tightly closed. Avoid direct eye contact with product, also via contamination on hands.
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3. Exposure estimation (Environment 1)

Substance will dissociate upon contact with water, the only effect is the pH effect, therefore, after passing through the STP, exposure is considered negligible and with no risk.

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.



Exposure scenario

Consumer use of lime substances as water treatment chemicals

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Consumer use of lime substances as water treatment chemicals
Product category	PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC37 Water treatment chemicals.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
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2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Not relevant.

Frequency and duration of use

Not relevant.

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 (Default)
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Risk management measures

Good practice	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Consumer use of lime substances as water treatment chemicals

Product characteristics

Physical state	Solid
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

Covers use up to 1 task per week.
 Preparation of material for application
 Application duration: 1.33 minutes
 Application
 Application duration: 2 hours

Human factors not influenced by risk management

Potentially exposed body parts	Preparation of material for application Palm of both hands. Covers skin contact area up to 430 cm ² . Application Both hands. Covers skin contact area up to 860 cm ² .
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Other given operational conditions affecting Non-industrial exposure

Setting	Indoor.
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Other given operational conditions affecting Non-industrial exposure

Consumer information	Use suitable eye protection and gloves. Filtering half-face mask (DIN EN 149) with filter for particulates: FFP2. When not in use, keep containers tightly closed. Avoid direct eye contact with product, also via contamination on hands.
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3. Exposure estimation (Environment 1)

Substance will dissociate upon contact with water, the only effect is the pH effect, therefore, after passing through the STP, exposure is considered negligible and with no risk.

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.



Exposure scenario

Consumer use of cosmetics containing lime substances

Identification

Product name	Calcium Hydroxide
REACH registration number	01-2119475151-45-XXXX
CAS number	1305-62-0
EC number	215-137-3
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Consumer use of cosmetics containing lime substances
Product category	PC39 Cosmetics, personal care.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
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2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Not relevant.

Frequency and duration of use

Not relevant.

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 (Default)
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Risk management measures

Good practice	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Control of Non-industrial exposure

Consumer use of cosmetics containing lime substances

In accordance to the Article 14 (5b) of the REACH Regulation (EC) No 1907/2006, exposure estimation and risk characterisation for human health does not need to be performed for end uses in cosmetic products within the scope of Directive 76/768/EEC.

3. Exposure estimation (Environment 1)

Substance will dissociate upon contact with water, the only effect is the pH effect, therefore, after passing through the STP, exposure is considered negligible and with no risk.