SAFETY DATA SHEET
HTH TABLETS

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

1.1. Product identifier

Product name	HTH TABLETS
Product number	11828
Synonyms; trade names	CALCIUM HYPOCHLORITE BRIQUETTES, EASIFLO, HTH EASIFLO BRIQUETTE, HTH CALCIUM HYPOCHLORITE TABLETS, CALCIUM HYPOCHLORITE 65% TABL., CONSTANT CHLOR PLUS BRIQUETTES
CAS number	7778-54-3
EU index number	017-012-00-7
EC number	231-908-7

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

Identified uses	Water Treatment Biocide

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

1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	11828

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Ox. Sol. 2 - H272
Health hazards	Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318
Environmental hazards	Aquatic Acute 1 - H400

2.2. Label elements

EC number	231-908-7

HTH TABLETS

Hazard pictograms

Signal word	Danger
Hazard statements	H272 May intensify fire; oxidiser. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H400 Very toxic to aquatic life.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental label information	EUH031 Contact with acids liberates toxic gas. EUH206 Warning! Do not use together with other products. May release dangerous gases (chlorine).
Contains	CALCIUM HYPOCHLORITE, CALCIUM HYDROXIDE

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.1. Substances

CALCIUM HYPOCHLORITE **50 - < 100%**

CAS number: 7778-54-3 EC number: 231-908-7

M factor (Acute) = 10

Classification
Ox. Sol. 2 - H272
Acute Tox. 4 - H302
Skin Corr. 1B - H314
Eye Dam. 1 - H318
Aquatic Acute 1 - H400

CALCIUM HYDROXIDE **< 3%**

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

HTH TABLETS

CALCIUM CHLORIDE		**< 2%**
CAS number: 10043-52-4	EC number: 233-140-8	REACH registration number: 01-2119494219-28-XXXX
Classification		
Eye Irrit. 2 - H319		

CALCIUM CHLORATE		**< 2%**
CAS number: 10137-74-3	EC number: 233-378-2	
Classification		
Ox. Sol. 2 - H272		

CALCIUM CARBONATE		**1-5%**
CAS number: 471-34-1	EC number: 207-439-9	REACH registration number: 01-2119486795-18-XXXX
Classification		
Not Classified		

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

Product name	HTH TABLETS
EU index number	017-012-00-7
CAS number	7778-54-3
EC number	231-908-7
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

General information First aid personnel should wear appropriate protective equipment during any rescue. Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Development of symptoms may be delayed for 24 to 48 hours. Keep affected person under observation.

Inhalation Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse nose and mouth with water. Get medical attention if any discomfort continues. Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention immediately.

Ingestion Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. Get medical attention immediately.

Skin contact Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if symptoms are severe or persist after washing.

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

HTH TABLETS

General information	Development of symptoms may be delayed for 24 to 48 hours. Keep affected person under observation.
Inhalation	Dust in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Coughing. Difficulty in breathing. Nausea, vomiting.
Ingestion	Causes severe burns. May cause burns in mucous membranes, throat, oesophagus and stomach. Harmful if swallowed. Symptoms following overexposure may include the following: Gastrointestinal symptoms, including upset stomach.
Skin contact	Causes severe burns. May cause serious chemical burns to the skin.
Eye contact	Causes serious eye damage. May cause chemical eye burns. May cause permanent damage if eye is not immediately irrigated.

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

Notes for the doctor	No specific recommendations. Treat symptomatically. Development of symptoms may be delayed for 24 to 48 hours. Keep affected person under observation.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	Do not use the following: Dry chemicals. Powder.

5.2. Special hazards arising from the substance or mixture

Specific hazards	May intensify fire; oxidiser. When heated and in case of fire, toxic vapours/gases may be formed. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Very toxic to aquatic life. Contact with acids liberates toxic gas. Warning! Do not use together with other products. May release dangerous gases (chlorine).
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO2). Carbon monoxide (CO). Hydrogen chloride (HCl). Chlorine. Toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting	No action shall be taken without appropriate training or involving any personal risk. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Control run-off water by containing and keeping it out of sewers and watercourses. Contain and collect extinguishing water.
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	No action shall be taken without appropriate training or involving any personal risk. Follow precautions for safe handling described in this safety data sheet. Keep unnecessary and unprotected personnel away from the spillage. Provide adequate ventilation. Avoid inhalation of dust and contact with skin and eyes. Do not touch or walk into spilled material. Contact with acids liberates toxic gas. Warning! Do not use together with other products. May release dangerous gases (chlorine).

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6.2. Environmental precautions

Environmental precautions Very toxic to aquatic life.
Warning! Do not use together with other products. May release dangerous gases (chlorine). Contact with acids liberates toxic gas.
Avoid 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 Very toxic to aquatic life. Avoid the spillage or runoff entering drains, sewers or watercourses. Remove spillage with vacuum cleaner or collect with a shovel and broom, or similar. Collect and place in suitable waste disposal containers and seal securely. Clean contaminated objects and areas thoroughly, observing environmental regulations.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. Collect and dispose of spillage as indicated in Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Handle all packages and containers carefully to minimise spills. Avoid handling which leads to dust formation. Wear protective clothing as described in Section 8 of this safety data sheet. May intensify fire; oxidiser. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Warning! Do not use together with other products. May release dangerous gases (chlorine). Contact with acids liberates toxic gas.
Provide adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid inhalation of dust and contact with skin and eyes. Container must be kept tightly closed when not in use.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Eye wash facilities and emergency shower must be available when handling this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Avoid excessive heat for prolonged periods of time. Keep away from food, drink and animal feeding stuffs. Keep away from heat, sparks and open flame. Container must be kept tightly closed when not in use.
Keep at temperature not exceeding 35°C.
Store away from the following materials: Acids. Reducing agents. Flammable/combustible materials. Strong oxidising agents. Alcohols. Amines. Alkalis.

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

8.1. Control parameters

Occupational exposure limits

CALCIUM HYDROXIDE

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

CALCIUM CARBONATE

HTH TABLETS

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ inhalable dust
Long-term exposure limit (8-hour TWA): WEL 4 mg/m³ respirable dust
WEL = Workplace Exposure Limit.

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

DNEL
Workers - Inhalation; Long term systemic effects: 4.4 mg/m³
Workers - Dermal; Long term systemic effects: 6.33 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 1.82 mg/m³
Consumer - Dermal; Long term systemic effects: 3.77 mg/kg/day
Consumer - Oral; Long term systemic effects: 3.77 mg/kg/day

PNEC
Fresh water; 0.001 mg/l
marine water; 0.001 mg/l
Sediment (Freshwater); 13.63 mg/kg
Sediment (Marinewater); 14.54 mg/kg
STP; 0.44 mg/l
Soil; 7.8 mg/kg

CALCIUM HYPOCHLORITE (CAS: 7778-54-3)

Ingredient comments No exposure limits known for ingredient(s).

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

CALCIUM CHLORIDE (CAS: 10043-52-4)

DNEL
Industry - Inhalation; Long term : 5 mg/m³
Industry - Inhalation; Short term : 10 mg/m³
Consumer - Inhalation; Long term : 2.5 mg/m³
Consumer - Inhalation; Short term : 5 mg/m³

CALCIUM CARBONATE (CAS: 471-34-1)

Ingredient comments WEL = Workplace Exposure Limits

DNEL
Workers - Inhalation; Long term local effects: 4.26 mg/m³
Consumer - Inhalation; Long term local effects: 1.06 mg/m³
Workers - Inhalation; Long term systemic effects: 10 mg/m³
Consumer - Inhalation; Long term systemic effects: 10 mg/m³
Consumer - Oral; Long term systemic effects: 6.1 mg/kg/day
Consumer - Oral; Short term systemic effects: 6.1 mg/kg/day

PNEC STP; 100 mg/l

SODIUM CHLORIDE (CAS: 7647-14-5)

HTH TABLETS

Ingredient comments	No exposure limits known for ingredient(s).
DNEL	Workers - Dermal; Short term systemic effects: 295.52 mg/kg/day Workers - Inhalation; Short term systemic effects: 2068.62 mg/m³ Workers - Dermal; Long term systemic effects: 295.52 mg/kg/day Workers - Inhalation; Long term systemic effects: 2068.62 mg/m³ General population - Dermal; Short term systemic effects: 126.65 mg/kg/day General population - Inhalation; Short term systemic effects: 443.28 mg/m³ General population - Oral; Short term systemic effects: 126.65 mg/kg/day General population - Oral; Long term systemic effects: 126.65 mg/kg/day General population - Inhalation; Long term systemic effects: 443.28 mg/m³ General population - Dermal; Long term systemic effects: 126.65 mg/kg/day
PNEC	Fresh water; 5 mg/l Soil; 4.86 mg/kg STP; 500 mg/l

8.2. Exposure controls

Protective equipment

Appropriate engineering controls	Provide adequate ventilation. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Avoid inhalation of dust and contact with skin and eyes. Eye wash facilities and emergency shower must be available when handling this product.
Eye/face protection	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Chemical splash goggles or face shield.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, gloves should comply with European Standard EN374. 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. The selected gloves should have a breakthrough time of at least 8 hours. Wear protective gloves made of the following material: Chloroprene rubber.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of skin contact.
Hygiene measures	Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Care should be taken to avoid contact with contaminants when removing contaminated clothing. Wash contaminated clothing before reuse.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Particulate filter, type P2. EN 136/140/141/145/143/149

SECTION 9: Physical and chemical properties

HTH TABLETS

9.1. Information on basic physical and chemical properties

Appearance	Pellets.
Colour	White/off-white.
Odour	Characteristic.
pH	pH (diluted solution): 11.5 1% solution
Melting point	100°C
Initial boiling point and range	No information available.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	The product is not flammable.
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	1.3
Solubility(ies)	217 g/l water @ 20°C
Partition coefficient	No information available.
Auto-ignition temperature	No information available.
Decomposition Temperature	170 - 180°C
Viscosity	Not applicable.
Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	Not determined.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	May intensify fire; oxidiser.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended. Keep at temperature not exceeding 35°C. Will decompose at temperatures exceeding 170 - 180°C. May generate heat.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Contact with acids liberates toxic gas. Warning! Do not use together with other products. May release dangerous gases (chlorine).

10.4. Conditions to avoid

Conditions to avoid	Avoid excessive heat for prolonged periods of time. Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

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Materials to avoid	Avoid contact with the following materials: Acids. Reducing agents. Flammable/combustible materials. Strong oxidising agents. Alcohols. Amines. Alkalis.

10.6. Hazardous decomposition products

Hazardous decomposition products	Will decompose at temperatures exceeding > 160°C. Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO2). Carbon monoxide (CO). Hydrogen chloride (HCl). Chlorine. Toxic gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD_{50})	Harmful if swallowed.
ATE oral (mg/kg)	625.0

Acute toxicity - dermal

Notes (dermal LD_{50})	No specific test data are available.

Acute toxicity - inhalation

Notes (inhalation LC_{50})	No specific test data are available.

Skin corrosion/irritation

Skin corrosion/irritation	Causes severe burns.

Serious eye damage/irritation

Serious eye damage/irritation	Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation	Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation	Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro	Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Based on available data the classification criteria are not met.

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

Specific target organ toxicity - single exposure

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

Specific target organ toxicity - repeated exposure

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

Aspiration hazard

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

HTH TABLETS

Inhalation	Dust in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Coughing. Difficulty in breathing. Nausea, vomiting.
Ingestion	Causes severe burns. May cause burns in mucous membranes, throat, oesophagus and stomach. Harmful if swallowed. Symptoms following overexposure may include the following: Gastrointestinal symptoms, including upset stomach.
Skin contact	Causes severe burns. May cause serious chemical burns to the skin.
Eye contact	Causes serious eye damage. May cause chemical eye burns. May cause permanent damage if eye is not immediately irrigated.
Acute and chronic health hazards	Development of symptoms may be delayed for 24 to 48 hours. Keep affected person under observation.

Toxicological information on ingredients.

CALCIUM HYPOCHLORITE

Acute toxicity - oral

Notes (oral LD_{50})	LD_{50} 850 mg/kg, Oral, Rat
ATE oral (mg/kg)	500.0

Acute toxicity - dermal

Notes (dermal LD_{50})	LD_{50} > 2000 mg/kg, Dermal, Rabbit

Acute toxicity - inhalation

Notes (inhalation LC_{50})	LC_{50} 1300 mg/cm², Inhalation, Rat

Skin corrosion/irritation

Skin corrosion/irritation	Causes severe burns.

Serious eye damage/irritation

Serious eye damage/irritation	Causes serious eye damage.

CALCIUM HYDROXIDE

Acute toxicity - oral

Notes (oral LD_{50})	LD_{50} >2000 mg/kg, Oral, Rat OECD 425

Acute toxicity - dermal

Notes (dermal LD_{50})	LD_{50} >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

HTH TABLETS

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.
Eye contact	Causes serious eye damage.

CALCIUM CHLORIDE

Acute toxicity - oral

Notes (oral LD_{50})	LD_{50} 2301 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD_{50})	LD_{50} > 5000 mg/kg, Dermal, Rabbit

Acute toxicity - inhalation

Notes (inhalation LC_{50})	No specific test data are available.

Skin corrosion/irritation

Skin corrosion/irritation	Not irritating. Rabbit OECD 404

Serious eye damage/irritation

Serious eye damage/irritation	Causes serious eye irritation. Rabbit OECD 405

Respiratory sensitisation

Respiratory sensitisation	Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation	Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative. Chromosome aberration: Negative.
Genotoxicity - in vivo	Does not contain any substances known to be mutagenic.

HTH TABLETS

Carcinogenicity

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

Reproductive toxicity

Reproductive toxicity - fertility No evidence of reproductive toxicity in animal studies.

Reproductive toxicity - development No evidence of reproductive toxicity in animal studies.

Specific target organ toxicity - single exposure

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

Specific target organ toxicity - repeated exposure

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

Aspiration hazard

Aspiration hazard Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation Dust in high concentrations may irritate the respiratory system.

Ingestion May cause discomfort if swallowed.

Skin contact Prolonged skin contact may cause temporary irritation.

Eye contact Causes serious eye irritation. May cause permanent damage if eye is not immediately irrigated.

SECTION 12: Ecological information

Ecotoxicity Very toxic to aquatic life.

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.

CALCIUM CHLORIDE

Ecotoxicity The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Toxicity Very toxic to aquatic life.

Ecological information on ingredients.

CALCIUM HYPOCHLORITE

Toxicity Very toxic to aquatic organisms.

Acute aquatic toxicity

$LE(C)_{50}$ 0.01 < L(E)C50 ≤ 0.1

HTH TABLETS

M factor (Acute)	10
Acute toxicity - fish	LC50, 96 hours: 0.16 mg/l, Oncorhynchus mykiss (Rainbow trout) LC_{50}, 96 hour: 0.088 mg/l, Lepomis macrochirus (Bluegill)
Acute toxicity - aquatic invertebrates	LC_{50}, 48 hour: 0.11 mg/l, Daphnia magna

CALCIUM HYDROXIDE

Acute aquatic toxicity

Acute toxicity - fish	LC50, 96 hours: 50.6 mg/l, Freshwater fish LC_{50}, 96 hours: 457 mg/l, Marinewater fish
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 49.1 mg/l, Freshwater invertebrates EC_{50}, 48 hours: 158 mg/l, Marinewater invertebrates
Acute toxicity - aquatic plants	EC_{50}, 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

CALCIUM CHLORIDE

Acute aquatic toxicity

Acute toxicity - fish	LC_{50}, 96 hours: 13 400 mg/l, Fish LC_{50}, 96 hour: 4630 mg/l, Pimephales promelas (Fat-head Minnow) LC_{50}, 48 hour: > 6560 mg/l, Pimephales promelas (Fat-head Minnow) LC_{50}, 24 hour: > 6660 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	LC_{50}, 48 hour: 2400 mg/l, Daphnia magna OECD 202
Acute toxicity - aquatic plants	EyC50, 72 hour: 2900 mg/l, Selenastrum capricornutum OECD 201 ErC50, 72 hour: > 4000 mg/l, Selenastrum capricornutum OECD 201 EC_{20}, 72 hour: 1000 mg/l, Selenastrum capricornutum OECD 201

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates	EC_{50}, 21 day: 610 mg/l, Daphnia magna , EC16, 21 day: 320 mg/l, Daphnia magna LC_{50}, 21 day: 920 mg/l, Daphnia magna

12.2. Persistence and degradability

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

Ecological information on ingredients.

CALCIUM HYPOCHLORITE

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

CALCIUM HYDROXIDE

HTH TABLETS

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

CALCIUM CHLORIDE

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

12.3. Bioaccumulative potential

Bioaccumulative potential No information available.

Partition coefficient No information available.

Ecological information on ingredients.

CALCIUM HYPOCHLORITE

Bioaccumulative potential No data available on bioaccumulation.

CALCIUM HYDROXIDE

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not applicable.

CALCIUM CHLORIDE

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient No information available.

12.4. Mobility in soil

Mobility No information available.

Ecological information on ingredients.

CALCIUM HYPOCHLORITE

Mobility No information available.

CALCIUM HYDROXIDE

Mobility No information available.

CALCIUM CHLORIDE

Mobility The product is soluble in water. The product contains substances which are bound to particulate matter and are retained in soil.

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. Substance is inorganic.

Ecological information on ingredients.

CALCIUM HYPOCHLORITE

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

HTH TABLETS

CALCIUM HYDROXIDE

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

CALCIUM CHLORIDE

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

12.6. Other adverse effects

Other adverse effects Not determined.

Ecological information on ingredients.

CALCIUM HYPOCHLORITE

Other adverse effects Not known.

CALCIUM HYDROXIDE

Other adverse effects Not determined.

CALCIUM CHLORIDE

Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste. Very toxic to aquatic life. Do not discharge into drains or watercourses or onto the ground. Contact with acids liberates toxic gas. Warning! Do not use together with other products. May release dangerous gases (chlorine). Do not puncture or incinerate, even when empty. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

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

14.1. UN number

UN No. (ADR/RID) 1748

UN No. (IMDG) 1748

UN No. (ICAO) 1748

UN No. (ADN) 1748

14.2. UN proper shipping name

Proper shipping name (ADR/RID) CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY

Proper shipping name (IMDG) CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY

Proper shipping name (ICAO) CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY

Proper shipping name (ADN) CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY

HTH TABLETS

14.3. Transport hazard class(es)

ADR/RID class	5.1
ADR/RID classification code	O2
ADR/RID label	5.1
IMDG class	5.1
ICAO class/division	5.1
ADN class	5.1

Transport labels

14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III
ADN packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS	F-H, S-Q
ADR transport category	3
Emergency Action Code	2X
Hazard Identification Number (ADR/RID)	50
Tunnel restriction code	(E)

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

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. This product may impact SEVESO storage regulations.

HTH TABLETS

Restrictions (Annex XVII Regulation 1907/2006)

CAUTION - Chemical may be subject to REACH RESTRICTIONS - see Annex XVII. This product is/contains a substance that is included in REGULATION (EC) No 1907/2006 (REACH) ANNEX XVII - RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES. Entry number: 3

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

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.
LC_{50}: Lethal Concentration to 50 % of a test population.
LD_{50}: 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.
EC_{50}: 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

HTH TABLETS

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	07/05/2020
Version number	5.000
Supersedes date	10/09/2015
SDS number	11828
SDS status	Approved.
Hazard statements in full	H272 May intensify fire; oxidiser. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H400 Very toxic to aquatic life.
Signature	Jacq Pattinson

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

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 Tabletting, 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

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

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 Tabletting, 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)

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

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).

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

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.
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

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 Tabletting, 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)

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

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 Tabletting, 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.

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

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/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
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

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 Tabletting, 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)

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

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.

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

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 Tabletting, 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

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 Tabletting, 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/m³, DNEL 1 mg/m³, 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

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)

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

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

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
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

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

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

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
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

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

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

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
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

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

Product characteristics

Physical state

Solid, high dustiness

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)

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

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

Product characteristics

Physical state	Solid

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

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

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

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.

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

Product characteristics

Physical state	Solid

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)

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)

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 CO2 absorbent in breathing apparatuses
Product category	PC2 Adsorbents.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)

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)

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 m³/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 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. 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.

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)

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)

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 m³/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.

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. 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.

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)

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)

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 m³/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 cm². Application Both hands. Covers skin contact area up to 860 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. 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.

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)

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)

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 m³/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.