SAFETY DATA SHEET
90.0%
CALCIUM HYDROXIDE

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. PRODUCT IDENTIFIER

Product name:	Calcium Hydroxide
Product No.:	CAHY
CAS-No.:	1305-62-0
EC No.:	215-137-3
REACH:	01-2119475151-45-0192
Synonym:	Slaked lime, Air slaked lime, Building lime, Fat lime, Chemical lime, Finishing lime, Mason's lime, Calcium dihydroxide, Calcium hydroxide, Calcium hydrate, Lime, Lime water
Chemical Formula:	$Ca(OH)_2$

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Recommended use: Used in the manufacture of mortar, render, plaster and whitewash;

As a flocculant in water and sewage treatment;

As a chemical alkali;

Lime improves, modifies and stabilises clay soils;

Lime dries wet soils;

As a disinfectant;

Manufacture of dry mix paints.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

HD Chemicals LTD
UNIT 9 Scott Business Park
PL2 2PB Plymouth UK

Contact Person responsible for SDS: Mr Peter Konefal, e-mail: contact@hdchemicals.co.uk

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification 67/548/EEC: Xi: R37, R38, R41

Classification – EC 1272/2008: Skin Corrosion/irritation; Category 2 (H315)
Serious Eye Damage; Category 1 (H318)
Specific target organ toxicity - (single exposure); Category 3 (H335)

2.2. LABEL ELEMENTS

SIGNAL WORDS
Danger

RISK PHRASES

R37	Irritating to respiratory system
R38	Irritating to skin
R41	Risk of serious damage to eyes

HAZARD PHRASES

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

PROTECTION PHRASES

P102	Keep out of reach of children
P261	Avoid breathing dust/fumes/gas/mist/vapours/spray

P280	Wear protective gloves/protective clothing/eye protection/face protection
P302+P352	IF ON SKIN: Wash with plenty of water
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310	Immediately call a POISON CENTER or doctor/ physician
P501	Dispose of contents/container to comply with local, state and federal regulations

SAFETY PHRASES

None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

67/548/EEC/1999/45/EC

Composition information – main constituents						
Substance name	**Mol. Formula**	**REACH**	**Typical conc. (%w/w)**	**EINECS No.**	**CAS-No.**	**Classification**
Calcium Hydroxide	$Ca(OH)_2$	01-2119475151-45-0192	90.0%	215-137-3	1305-62-0	Xi: R37, R38, R41

EC 1272/2008

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SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

First-aid measures general: If symptoms persist, call a physician.

Inhalation: Remove person to fresh air. If not breathing, give artificial respiration. Seek medical attention.

Ingestion: DO NOT INDUCE VOMITING. Clean mouth with water and drink afterwards plenty of water. Seek medical attention.

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

Eye contact: Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Inhalation: Harmful by inhalation.

Ingestion: Harmful if swallowed.

Skin contact: May cause irritation and dermatitis to skin.

Eye contact: May cause serious irritation to eyes.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media: Do not use water.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Contact with metals may evolve flammable hydrogen gas. Thermal decomposition can lead to release of irritating gases and vapours.

5.3. ADVICE FOR FIRE-FIGHTERS

Wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Avoid generation of dust. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing.

6.2. ENVIRONMENTAL PRECAUTIONS

Contain the spillage. Keep the material dry if possible. Cover area if possible to avoid unnecessary dust hazard. Avoid uncontrolled spills to watercourses and drains (pH increase). Any large spillage into watercourses must be alerted to the Environment Agency or other regulatory body.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Keep the material dry if possible. Ensure adequate ventilation.

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Wear protective equipment. Do not wear contact lenses when handling this product. It is also advisable to have individual pocket eyewash. Keep dust levels to a minimum. Minimize dust generation. Use exhaust ventilation (dust collector at handling points). Handling systems should preferably be enclosed. When handling bags usual precautions should be paid to the risks outlined in the Council Directive 90/269/EEC.

Avoid inhalation or ingestion and contact with skin and eyes. General occupational hygiene measures are required to ensure safe handling of the substance. No drinking, eating and smoking at the workplace. Shower and change clothes at end of work shift. Do not wear contaminated clothing at home.

For precautions see section 2.2.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

The substance should be stored under dry conditions. Any contact with air and moisture should be avoided. Bulk storage should be in purpose – designed silos. Keep away from acids, significant quantities

of paper, straw, and nitro compounds. Keep out of reach of children. Do not use aluminium for transport or storage if there is a risk of contact with water.

7.3. SPECIFIC END USE(S)

See section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS/EXPOSURE GUIDELINES

Occupational Exposure Limit Values (Calcium Hydroxide):

CAS NO	Exposure limit	Value	Name of Agent
1305-62-0	TWA – 8 Hrs	1 mg/m^3	dust
1305-62-0	STEL – 15 Min	4 mg/m^3	dust

Engineering controls: Ensure that eyewash stations and safety showers are close to the workstation location. Use only under a chemical fume hood. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Protective equipment: Use protective goggles (European standard - EN 166), gloves (European standard - EN 374) and long sleeved clothing.

Respiratory equipment: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly. Local ventilation to keep levels below established threshold values is recommended.

Skin and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact.

Eye/Face protection: Use a safety goggles or face shield affording complete eye protection.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Powder
Colour:	White or off white (beige) fine
Odour:	Odourless
Initial boiling point (°C):	No data available
Melting point (°C):	580^{o}C
Freezing point:	No data available
Relative density:	2.21 g/cm
Specific gravity / density:	Not available
Vapour density:	Not available
Vapour pressure:	Not available
Flash point (°C):	Not available
Molecular mass:	74.09 g/mol
Auto-ignition temperature:	Not applicable
Oxidizing properties:	Not available
Decomposition temperature:	Not available
Molecular formula:	$Ca(OH)_2$

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

In aqueous media calcium hydroxide dissociates resulting in the formation of calcium cations and hydroxyl anions (when below the limit of water solubility).

10.2. CHEMICAL STABILITY

Calcium hydroxide is stable under normal temperature conditions and under recommended usage and storage.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Reacts exothermically with acids. When heated above 580°C, calcium hydroxide decomposes to produce calcium oxide (CaO) and water (H_2O): $Ca(OH)_2 \rightarrow CaO + H_2O$. Calcium oxide reacts with water and generates heat. This may cause risk to flammable material.

10.4. CONDITIONS TO AVOID

Minimise exposure to air and moisture to avoid degradation.

10.5. INCOMPATIBLE MATERIALS

Calcium hydroxide reacts exothermically with acids to form salts and reacts with aluminium and brass in the presence of moisture leading to the production of hydrogen. $Ca(OH)_2 + 2\ Al + 6\ H_2O \rightarrow Ca[Al(OH)_4]_2 + 3\ H_2$.

10.6. HAZARDOUS DECOMPOSITION

None.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

TOXIC DOSE	**LD50 Oral – Rat – > 2000 mg/kg**
	LD50 Dermal – Rabbit – > 2500 mg/kg
Inhalation:	Harmful by inhalation.
Ingestion:	Harmful if swallowed.
Skin contact:	May cause irritation and dermatitis to skin.
Eye contact:	May cause serious irritation to eyes.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Aquatic Toxicity:

Toxicity to fish:	LC50: 50.6 mg/l, 96h static (freshwater fish)
	LC50: 457 mg/l, 96h (marine water fish)
	LC50: 160 mg/l, 96h (Gambusia affinis)
Toxicity to aquatic plants:	EC50: 184.57 mg/l, 72h (freshwater algae)
	NOEC: 48 mg/l, 72h (freshwater algae)
Toxicity to aquatic:	EC50: 49.1 mg/l, 48h (freshwater invertebrates)

12.2. Persistence and degradability

Not relevant for inorganic substances.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely.

12.4. Mobility

Calcium hydroxide, which is sparingly soluble, presents a low mobility in most soils.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal recommendations: Disposal of calcium hydroxide should be in accordance with local and national legislation. Processing, use or contamination of this product may change the waste management options. Dispose of container and unused contents in accordance with applicable member state and local requirements. The used packing is only meant for packing this product; it should not be reused for other purposes. After usage, empty the packing completely.

Uncleaned packaging: Disposal must be made according to official regulations.

SECTION 14: TRANSPORT INFORMATION

IMDG

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

ADR/RID

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

IATA

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

SECTION 15: REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

The following regulations have been used:

- Directive 67/548/EEC and its adaptations

- Directive 1999/45/EC and its adaptations

- Regulation EC 1272/2008 - Classification and Labelling of Substances and Preparations Dangerous for Supply, modified by regulation EC 618/2012

- EU Regulation No. 1272/2008 - Classification and Labelling of Substances and Preparations Dangerous for Supply, amended by EU Regulation No. 758/2013.

15.2 CHEMICAL SAFETY ASSESSMENT

Chemical safety Assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION

General information

The information contained in this safety data sheet is provided in accordance with the requirements of the regulations. The product should not be used for purposes other than those shown in section 1 without first referring to the supplier and obtaining written handling instruction. As the specific conditions of use of the product are outside the suppliers control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

Revision Comments

This information is provided in a revised format to that previously produced.

Revision Date: 01/10/2018

Revision: 01

Safety Data Sheet Status Approved.

Date printed 01/10/2018

Signature Initials P.K.

DISCLAIMER:

If this product is re-distributed and re-formulated for sale, details of its hazards and recommended methods for safe handling must be passed to customers. Customers are urged to ensure that the product is entirely suitable for their own purpose. It is the customer's responsibility to ensure that a suitable and sufficient assessment of the risks created by a work activity using this product is undertaken before this product is used.

NOTE:

The information contained in this Safety Data Sheet does not constitute the users own assessment of workplace risk as required by other Health & Safety Legislation (e.g. the Health and Safety at Work Act,1974;the control of Substances Hazardous to Health Regulations,1988). The data given here is based on current knowledge and experience. The purpose of this data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.