

Uniclass L623/4:C506	EPIC F212:Y44	May 07
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Health and Safety data sheet



Health & Safety guidelines for the use of:
Hydrated Lime
Natural Hydraulic Lime
Lime Putty
Hydraulic Lime Mortar
Fine Lime Plaster

1. Identification of substance

1.1 Product names

Castle Hydrated Lime, Castle Natural Hydraulic Lime, Castle Lime Putty, Castle Moderately Hydraulic Lime Mortar, Castle Eminently Hydraulic Lime Mortar and Castle Fine Lime Plaster.

1.2 Description

Hydrated lime: An odourless white powder soluble in water. When mixed with cement, sand and water it becomes a binder for building applications (e.g. mortars and renders).

Natural hydraulic lime: An odourless white powder. When mixed with sand and water it becomes a binder for building applications (e.g. mortars and renders).

Lime putty: An aqueous suspension of calcium hydroxide. When mixed with sand it becomes a binder for building applications (e.g. mortars and renders).

Hydraulic lime mortar: A mixture of aggregate and natural hydraulic lime. When mixed with water it becomes a binder for building applications (e.g. mortars and renders).

Fine lime plaster: An aqueous suspension of calcium hydroxide and aggregate which forms a binder for building applications (e.g. mortars and plasters).

2. Supplier/manufacturer

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3. Composition/information on ingredients

3.1 Chemical description

The principle constituent of Castle lime products is calcium hydroxide $\text{Ca}(\text{OH})_2$. Natural hydraulic limes also contain some calcium silicates, aluminates, ferro-aluminates and sulfates, small quantities of magnesium and other trace elements.

Additional constituents may also be present e.g. dried sands in Castle Moderately Hydraulic Lime Mortar, Castle Eminently Hydraulic Lime Mortar and Castle Fine Lime Plaster.

3.2 Hazardous ingredients

Hazardous ingredient – calcium hydroxide.

4. Hazards identification

4.1 Irritating to eyes and skin. Can cause burns in the presence of moisture. It is advisable to ensure that eye wash is available when hydrated lime, natural hydraulic lime, lime putty, hydraulic lime mortar or fine lime plaster is handled.

5. First aid measures/ emergency first aid procedures

5.1 Eye contact

Irrigate with water for at least 20 minutes. SEEK MEDICAL ATTENTION. SPEED IS ESSENTIAL.

5.2 Skin contact

Wash affected area immediately with plenty of water. Remove contaminated clothing.

5.3 Ingestion

Do not induce vomiting. Wash mouth with water and drink copious quantities of water. Seek medical advice if necessary.

5.4 Inhalation

Irrigate nose and throat with water for at least 20 minutes. It is advisable to seek medical attention. Remove patient from prolonged and repeated inhalation of high exposure.

5.5 Further medical treatment

No known delayed effects. Prolonged or repeated contact with skin may result in severe irritation or dermatitis. Prolonged or repeated inhalation of high dust concentrations may cause ulceration and perforation of the nasal septum and pneumonitis.

6. Fire-fighting measures

6.1 Hydrated lime, natural hydraulic lime, lime putty, hydraulic lime mortar and fine lime plaster are not combustible. No special fire-fighting equipment is required. No extinguishing media or explosion hazard is identified.

7. Accidental release measures

7.1 Personal precautions

See 9.3

7.2 Cleaning up

Contain the spillage. Keep the material dry or allow to dry if lime putty or fine lime plaster. Act to minimise dust. Avoid contamination of drains or water courses. Spillage into water courses must be alerted to the Environmental Agency. Keep children away from clean up operation.

8. Storage and handling

8.1 General

Keep dust levels to a minimum. Avoid contact with eyes and skin. Use barrier cream if necessary.

8.2 Ventilation requirements

Ventilation equipment should be used in buildings to ensure dust levels are kept below the WEL (see 9.1). All ventilation systems should be filtered before discharge to atmosphere.

8.3 Storage

Minimise contact with air and moisture. Keep separate from flammable materials and chemicals with which it might react. Store in properly designed bunkers or silos. Packed products should not be in contact with flammable materials and storage should be in masonry or concrete structures. Bags and tubs should be stacked in a safe and stable manner. Lime putty and fine lime plaster should be stored under cool, frost free conditions. This is necessary as the water in the putty/plaster freezes in temperatures below 0°C, and could lead to separation. Part used tubs should have the lids tightly sealed to prevent carbonation.

8.4 Handling

When handling packed products, due regard should be paid to the risks outlined in the Manual Handling Operations Regulations. Some bags may have a small amount of lime on the outer surface. Appropriate personal protective clothing (see 9.3) should therefore be used whilst handling.

9. Exposure controls/personal protection

9.1 Workplace Exposure Limit (WEL)

Recommended limit 4mg/m³ (8 hour Time Weighted Average).

9.2 Engineering measures

Handling systems should preferably be enclosed or suitable ventilation installed to maintain atmospheric dust below WEL.

9.3 Personal protective equipment

Long-sleeved overalls, boots and fabric/composite gloves should be worn, along with wide vision goggles with anti-mist for eye protection. If atmospheric dust exceeds WEL, approved dust respirators or air-streamed helmets should be worn.

10. Physical/chemical properties

10.1 Form

Hydrated lime and natural hydraulic lime – fine dry powder.

Lime putty – an aqueous suspension of calcium hydroxide.

Hydraulic lime mortar – powder with solids of varying sizes.

Fine lime plaster – an aqueous suspension of calcium hydroxide and solids of varying sizes.

11. Stability and reactivity

Stable.

Avoid exposure to moisture.

Reacts to acids with the evolution of heat.

12. Toxicological information

12.1 Short term effects

- Eye contact – can be very painful. May cause partial or total loss of sight if untreated.
- Skin contact – irritating to skin. May cause burns in the presence of moisture.
- Ingestion – cause corrosion of and damage to gastrointestinal tract.
- Inhalation – irritant to respiratory tract.

12.2 Long term effects

May cause irritation to skin and dermatitis. Prolonged and repeated inhalation of high concentrations may damage the respiratory tract.

13. Ecological information

13.1 Mobility

Soluble in water as hydroxide to form alkaline solution. Low mobility in most ground conditions.

13.2 Persistence and degradability

Non biodegradable – reacts with atmospheric carbon dioxide to form calcium carbonate (limestone).

13.3 Bioaccumulative potential

Aquatic toxicity – non toxic LC50 aquatic toxicity values are > 100mg/litre

Colour – white to off-white or grey

Odour – possible earthy odour

pH – 11.5 – 13 (as aqueous solution approximately 2g/litre)

Melting point – 580°C

Vapour pressure – 0mmHg at 20°C

Bulk density – 480kg/m³ (loose), 590kg/m³ (compacted)

Solubility in water – 1.76g/litre saturated solution at 100°C

Concentrations of hydrated lime have a sterilisation effect in treatment works.

Product used in treatment of acid wastes and sewage sludges.

14. Disposal considerations

Hydrated lime, natural hydraulic lime, lime putty, hydraulic lime mortar, fine lime plaster and empty packaging can normally be disposed of only at licensed waste facilities. Disposal should be in accordance with local and national legislation. Keep out of reach of children.

15. Transport information

Not classified as hazardous for transport by road and rail.

16. Regulatory information

16.1 The Chemicals (Hazard Information & Packaging) Regulations

Classification for supply: Irritant
Classification for conveyance: None

16.2 Risk/safety phrases

Risk phrases

- Risk of serious damage to eyes.
- Contact with wetted Hydrated Lime, wetted Natural Hydraulic Lime, wetted Hydraulic Lime Mortar, Lime Putty or Fine Lime Plaster may cause irritation, dermatitis or burns.
- Contact between Hydrated Lime, Natural Hydraulic Lime or Hydraulic Lime Mortar powder and body fluids (e.g. sweat and eye fluid) may cause skin and respiratory irritation, dermatitis or burns.

Safety phrases

- Avoid eye and skin contact by wearing suitable eye protection, waterproof clothing, waterproof footwear and waterproof gloves.
- Clothing contaminated by wetted Hydrated Lime, wetted Natural Hydraulic Lime, wetted Hydraulic Lime Mortar, Lime Putty or Fine Lime Plaster should be removed immediately and washed before re-use.
- Avoid breathing dust.
- Keep out of reach of children.

- On contact with eyes or skin, rinse immediately with plenty of clean water. Seek medical advice after eye contact.

17. Legislation and other information

- Health and Safety at Work etc Act 1974
- Control of Substances Hazardous to Health (Regulations)
- HSE Occupational Exposure Criteria Document Summaries 1993 Edition (ISBN 01 18821202)
- HSE Guidance Note EH26 (Occupational Skin Diseases – Health and Safety Precautions)
- HSE Guidance Note EH40 (Workplace Exposure Limits)
- Any authorised manual on First Aid by St. John's/St. Andrew's/Red Cross
- Manual Handling Operations Regulations
- Environmental Protection Act
- Data sheet prepared in accordance with Directive 91/155/ECC

For further information please contact:

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