

NATURAL HYDRAULIC LIMES

1. Identification of substance

1.1 Product names

SOCLI Natural Hydraulic Limes (NHL 2 CE, NHL 3.5 CE White, NHL 3.5 CE Grey, NHL 5 CE bright), according to EN 459-1 standards.

1.2 Description

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

2. Supplier

Heritage Traditional Building Products Ltd.

The Yard

46-48 Doury Road

Ballymena

Co. Antrim

BT43 6JB

tel: +44 (0)28 2568 5055

fax: +44 (0)28 2568 5831

e-mail: info@heritageltd.com

3. Composition/information on ingredients

3.1 Chemical description

Calcium hydroxide Ca(OH)_2 with some calcium silicates, aluminates, ferro-aluminates and sulfates, small quantities of magnesium and other organic trace elements.

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 natural hydraulic lime is used.

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 Natural hydraulic lime is not combustible.

No special fire-fighting equipment is required. No extinguishing media or explosion hazard is identified.

6.2. Ways of extinction: Carbon dioxide

Inadvisable ways of extinction: Water

Special dangers: NHL is not combustible. There is no special risk in case of fire.

Don't discharge the water of extinction in the environment.

Use appropriate protection equipment.

7. Accidental release measures

7.1 Personal precautions

See 9.3

Avoid any contact with eyes and skin. Do not breathe dust.

7.2 Cleaning up

Contain the spillage. Keep the material dry. 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 OEL (see 9.1). All ventilation systems should be filtered before discharge to atmosphere.

8.3 Storage

Minimise contact with air, water and moisture. Keep separate from flammable materials and chemicals with which it might react. Keep away from children. Store in properly designed bunkers or silos. Bagged materials should not be in contact with flammable materials and storage should be in masonry or concrete structures. Bags should be stacked in a safe and stable manner.

8.4 Handling

When handling lime bags, 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 Occupational Exposure Limit (OEL)

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 OEL.

9.3 Personal protective equipment

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

10. Physical/chemical properties

10.1 Form

Natural hydraulic lime – fine dry powder.

Colour:

- NHL 2 (white)
- NHL 3.5 (one white and one grey)
- NHL 5 (bright)

Medium-size of particles: 20-30%: $5\mu\text{m}$

Odour: none

pH: 12-13

Characteristic temperatures:

- Fusion: $>1000^{\circ}\text{C}$

Characteristic of Inflammability:

- Flash point: non applicable (solid non-flammable)

- Temperature of auto-inflammation: non applicable

Vapour pressure:

Bulk density (kg/dm^3 at 20°C):

- NHL 2: 0.576

- NHL 3.5 grey: 0.754

- NHL 3.5 white: 0.590

- NHL 5: 0.770

Specific gravity (g/cm^3 at 20°C):

- NHL 2: 2.65

- NHL 3.5 grey: 2.60

- NHL 3.5white: 2.66

- NHL 5: 2.62

Solubility in water: max 1. g/l at 20°C

11. Stability and reactivity Stable.

Avoid exposure to moisture.

Stable under normal temperature and conditions of use.

Reacts to acids, organic materials, water, and moisture with the evolution of heat.

12. Toxicological information

12.1 Short term effects

- a) Eye contact - can be very painful. May cause partial or total loss of sight if untreated.
- b) Skin contact - irritating to skin. May cause burns in the presence of moisture.
- c) Ingestion - cause corrosion of and damage to gastrointestinal tract.
- d) Inhalation - irritant to respiratory tract.
- e) Acute toxicity: Calcium Dihydroxyde: DL 50 po (rat): 7340 mg/kg
- f) Acute symptom: In case of contact with eyes, risk of opacification of the cornea lost vision.

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. Could damage aquatic environments by changing the pH.

13.2 Persistence and degradability

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

14. Disposal considerations

Natural hydraulic lime 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)

EN 459-1 Standards

CE Mark

Classification for supply: Irritant

Classification for conveyance: None

16.2 Risk/safety phrases: Irritant X

Risk phrases

- R37/38: Irritant for skin and respiratory tracts.
- R41: Risk of serious damage to eyes.
- R 43: Contact with wetted Natural Hydraulic Lime may cause irritation, dermatitis or burns. Contact between Natural Hydraulic Lime powder and body fluids (e.g. sweat and eye fluid) may cause skin and respiratory irritation, dermatitis or burns.

Safety phrases

- S 2: Keep out of reach of children.
- S24/25/S39: Avoid eye and skin contact by wearing suitable eye protection, waterproof clothing, waterproof footwear and waterproof gloves.
- S 26: On contact with eyes or skin, rinse immediately with plenty of clean water. Seek medical advice after eye contact.
- S 37: Wear appropriate gloves.
- S 46: In case of ingestion, seek medical advice and show the bags of NHL.