

Birchsorb™ Range

1. Identification of the substance and the Company

Chemical Name: Calcium hydroxide plus activated carbon

REACH Pre-registration Number: 05-2114268032-58-0000 (calcium hydroxide)

Uses of the Chemical: Information currently being collected and evaluated by SIEF (Substance Information Exchange Forum).

Trade Name: Birchsorb™

Synonyms: Calcium hydroxide, hydrated lime, slaked lime plus activated carbon

Supplier: Singleton Birch Ltd, Melton Ross Quarries, Barnetby, North Lincolnshire, DN38 6AE.

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2. Hazards Identification



Xi Irritant

In contrast to the powder itself, the product, when diluted with water, can produce severe skin damage in humans, (alkaline burns), especially if prolonged skin contact takes place.

3. Composition/Information on Ingredients

Composition: Calcium hydroxide, Ca(OH)₂ > 90%, small quantities of calcium carbonate and trace elements. See Individual Product Sales Specifications for full detail.

Safety Phrases: S2, S22, S25, S26, S37/39 (See Section 16 for full text of phrases)

Risk Phrases: R37/38, R41 (See Section 16 for full text of phrases)

CAS Number: 1305-62-0 (calcium hydroxide)

7440-44-0 (activated carbon)

EINECS Number: 215-137-3 (calcium hydroxide)

213-153-3 (activated carbon)

4. First-aid Measures

Inhalation: Remove from exposure. Irrigate nose and throat with water for at least 20 minutes. It is advisable to seek medical attention. Irritating to the respiratory tract, may cause inflammation. Prolonged repeated inhalation of high dust concentrations may cause ulceration and perforation of the nasal septum and pneumonitis.

Skin Contact: Remove from exposure. Wash affected area immediately with plenty of water for at least 15 to 20 minutes. Remove contaminated clothing. Seek medical attention if exposed area is large or if irritation persists. Prolonged or repeated contact with skin may result in more severe irritation or dermatitis. May cause burns in the presence of moisture (alkaline burns).

Eye Contact: SPEED IS ESSENTIAL. Remove from exposure. Irrigate immediately with plenty of water for at least 15-20 minutes. Seek medical attention as soon as possible. May cause serious damage to eyes if left untreated.

Ingestion: Remove from exposure. Wash mouth with water and drink plenty of water. Do not induce vomiting. Seek medical advice if in doubt. May irritate gastrointestinal tract.

General: No known delayed effects. Ensure that eyewash/shower facilities are available.

5. Fire-Fighting Measures

Non flammable, inhibits the spread of flame.

Extinguishing Media: Use Powder type extinguisher. DO NOT USE WATER BASED EXTINGUISHANTS.

Special Exposure Hazards: When heated above 580°C, calcium hydroxide decomposes to form calcium oxide (CaO) and water (H₂O). Calcium oxide reacts with water and generates heat. Risk of igniting flammable materials.

6. Accidental Release Measures

Personal Precautions: Avoid contact with skin and eyes. Use barrier cream where necessary. Avoid inhalation of dust, where practicable ensure sufficient ventilation and respiratory protection is provided.

Environmental Precautions: Cover or enclose area, if possible, to avoid unnecessary dust hazard. Avoid contamination of drains and watercourses. Any large spillages into water courses must be alerted to the Environment Agency or other regulatory bodies.

Cleaning Methods: Contain spillage and keep dry if possible. Use vacuum suction unit, or shovel into bags (using appropriate protective clothing, see Section 8).

7. Handling and Storage

Handling: Handling systems should preferably be enclosed or suitable ventilation installed to maintain atmospheric dust below WEL (**Workplace Exposure Limit (WEL):** 5 mg/m³, (8hr TWA) (of calcium hydroxide)).

Storage: Store in a cool dry environment free from draughts. Bulk storage should be in a purpose-built silo. 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.

8. Exposure Controls/Personal Protection

Exposure Limit Values: Workplace Exposure Limit (WEL), 5 mg/m³, (8hr TWA) (of calcium hydroxide)

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

Individual Protection Measures:

Respiratory Protection: Wear suitable respiratory equipment (dust/respiratory mask or air stream helmet) that will afford adequate protection.

Hand Protection: Wear suitable gloves that will afford adequate protection.

Eye Protection: Wear suitable eye protection (safety glasses/safety goggles/face shield) that will afford adequate protection.

Skin Protection: Wear suitable overalls and safety footwear that will afford adequate protection.

Environmental Exposure Controls: All ventilation/dust extraction systems should be filtered before discharge to atmosphere.

9. Physical and Chemical Properties

General Information:

Appearance: Grey fine powder

Odour: Slight earthy odour

Important Health, Safety & Environmental Information:

pH: Aqueous suspensions are alkaline (pH 12.4, approx 2g/l)

Solubility in water: 1850mg/l at 0°C, 1650mg/l at 20°C, 770mg/l at 100°C

Melting Point: Decomposes at 580°C to form calcium oxide (quicklime) and water

Boiling Point: Not applicable

Specific Gravity: 2.24g/cm³ at 20°C
Bulk Density: 400-540 kg/m³ at 20°C
Vapour Pressure: Non volatile
Partition Coefficient: Not applicable
Flash Point: Not applicable
Flammability: Not flammable
Explosive Properties: Not flammable
Relative Molecular Mass: 74.09 (Calcium hydroxide)

10. Stability and Reactivity

Conditions to Avoid: Avoid exposure to air or moisture. When heated above 580°C calcium hydroxide decomposes to produce calcium oxide (quicklime) and water.

Materials to Avoid: Reacts with carbon dioxide to form calcium carbonate. Calcium hydroxide reacts with acids to form calcium salts. Calcium hydroxide reacts with reacts with aluminium and brass in the presence of moisture.

Hazardous Decomposition Products: Calcium hydroxide absorbs carbon dioxide from air to form calcium carbonate, which is a common material in nature.

11. Toxicological Information

Inhalation

Acute Effect: High concentration of dust may be irritant to the respiratory tract.

Long Term Exposure: Prolonged and repeated inhalation of dust may effect the respiratory tract.

Ingestion

Acute Effect: Calcium hydroxide is not toxic.

Long Term Exposure: May cause irritation to the gastrointestinal tract.

Skin Contact

Acute Effect: Irritant in the presence of moisture.

Long Term Exposure: Prolonged and repeated skin contact may cause dermatitis.

Eye Contact

Acute Effect: Risk of severe and/or permanent damage to eyes.

Long Term Exposure: Risk of severe and/or permanent damage to eyes.

12. Ecological Information

Ecotoxicity: The product is considered to be non toxic. LC50 aquatic toxicity values are > 100 mg/l. High concentrations (> 100 mg/l) may have a sterilising effect in sewage works. Product is extensively used in treatment of acid wastes and sewage sludges.

Mobility: Sparingly soluble in water (as calcium hydroxide) to form alkaline solution. Low mobility in most ground conditions.

Persistence and Degradability: Not relevant for inorganic substances.

Bioaccumulative Potential: Not relevant for inorganic substances.

13. Disposal Considerations

Disposal should be in accordance with local and national legislation.

14. Transport Information

UN Number: Not allocated.

Classification: Not classified as hazardous for transport.

IMDG/GGVSea (Sea) Classification: Not subject to identification.

ADR (Road) Classification: Not subject to identification.

RID (Rail) Classification: Not subject to identification.

ICAO/IATA (Air) Classification: Not subject to identification.

15. Regulatory Information

Labelling according to EEC-directives:

Symbol and classification of the substance according to directive 67/548/EEC: Xi Irritant



16. Other Information

Risk Phrases: R37/38 Irritating to respiratory system and skin.
R41 Risk of serious damage to the eyes.

Safety Phrases: S2 Keep out of reach of children.
S22 Do not breathe dust.
S25 Avoid contact with eyes.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37/39 Wear suitable gloves and eye / face protection.

Further Information: The information contained therein is based on the state of our knowledge regarding the product, at the mentioned date. They are provided in good faith. It does not exempt the user from knowing and applying all texts regulating his activity. It will be his sole responsibility to take all necessary precautions when using the products.

Guidance & References: This Safety Data Sheet has been prepared generally in accordance with the European REACH regulations (REGULATION (EC) No 1907/2006, Annex II) and Directive 98/24/EC.

Revision: The present version is a renewal version, in order to be in accordance with the Annex II of the REACH Regulation (EC) 1907/2006.

Last Revision Date: October 2009
