



Material Safety Data Sheet Sodium Silicate

Edition: 1/3/2010

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- 1) Identification of substance/preparation and of the company undertaking**
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| Material | Sodium Silicate |
| Synonyms | Waterglass |
| CAS No | 1344-09-8 |
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- 2) Composition**
- Viscous liquid
Sodium Silicate: $\text{Na}_2\text{O}(\text{SiO}_2)_{2.05}$
Approximately 60% solution in water.
- 3) Hazard Identification (See section 15)**
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| Inhalation | Excessive exposure may cause symptoms of chronic lung disease. |
| Ingestion | The product is of low solubility in body fluids and it is likely to be of low acute toxicity. |
| Eyes | Causes physical irritation and inflammation. |
| Skin | Causes physical irritation and inflammation |
- 4) First Aid Measures**
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| Inhalation | Remove patient to fresh air, loosen tight clothing and seek medical attention. |
| Ingestion | Wash out mouth with water and give sips of water or milk. Do not induce vomiting. Seek medical advice. |
| Eyes | Speed is essential. Irrigate eyes for not less than 20 minutes with clean water immediately otherwise permanent damage will result. Seek medical attention. |
| Skin | Wash affected areas with copious quantities of water until no soapy feelings remain. Obtain medical attention if irritation persists. |
- 5) Fire Fighting**
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| Extinguishing media | Those suitable for surrounding fire conditions. |
| Special exposure hazards | The product is non-flammable. Contact with certain metals (aluminium, zinc and tin) liberates highly flammable hydrogen gas, which may form an explosive mixture with air. |
| Protective personal equipment | May generate toxic fumes in a fire - self contained breathing apparatus and full body protective clothing. |
- 6) Accidental Release**
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| Leaks & Spills | Contain spillage. Scoop into a suitable container. Wipe up any excess. If any enters drain, dilute as much as possible. |
| Personal protective equipment | Wear goggles and respiratory protective equipment. Eye baths should be available. |
- 7) Handling/Storage**

Handling	Do not eat, drink, or smoke in areas where the material is used. Wash thoroughly after handling the material. Wear suitable goggles, gloves and clothing when handling.
Storage	Store in dry area. Do not store solutions above 50oC for prolonged periods. Protect solutions from freezing.

8) Exposure Controls

Engineering controls	Adequate ventilation should be provided so that Occupational Exposure Limits are not exceeded. Local Exhaust Ventilation is normally recommended.
Personal protective equipment	Where LEV is not practicable and exposure is likely to be excessive, approved respiratory protection to CEN standards prEN 140, 141, 143 or 149 should be worn. Protective gloves and overalls are recommended for prolonged contact.

9) Physical/Chemical Properties

Appearance	Viscous liquid
Odour	Odourless
Flash point (0C)	N/A
Flammability	N/A
Explosive properties	N/A
Oxidising properties	N/A
Specific gravity	1-3
pH value	7 > 11
Melting point (0C)	980 °C

10) Stability/Reactivity

Chemical stability	The material is stable under normal conditions.
Conditions/materials to avoid	Avoid exposure to atmospheric draughts and low Temperatures. Avoid contact with strong acids. Acid will cause the liquid to gel. Absorbs carbon dioxide from the air. Ignites and maintains combustion in fluorine. Contact with wood will cause discoloration. Solutions will react with new surfaces of aluminium, zinc, tin and their alloy will liberate hazardous decomposition fumes.
Hazardous decomposition products	Contact with aluminium, brass, tin, zinc will produce highly flammable and explosive H ₂ gas.
Hazardous polymerization products	None

11) Toxicological Info

Acute toxicology	Liquid and mist cause severe irritation and corrosion to skin, eyes, respiratory and digestive tracts. There is little danger of clod solution causing acute damage to the skin. Hot solutions may cause chemical burns.
Health effects	Prolonged contact may cause dryness and reddening of the skin. Corrosive to eyes and m ay cause corneal damage. Inhalation may cause pulmonary oedema. Ingestion causes system dehydration and nausea. Ingestion of large amounts may result in sever abdominal pains, vomiting, diarrhoea, convulsions and collapse.

12) Ecological Information

Ecotoxicity	Increase in pH 10 or more is lethal to aquatic life.
Persistence	No evidence of bio-accumulation or tainting of seafood.

13) Disposal Consideration

Dispose in accordance with current waste disposal regulations (for UK – Control of Pollution (Special Waste) Regulations 1980). Landfill is the most appropriate method.

14) Transport Information

UN/SI No.	Not classified
UN Class	Not classified
Packing Group	Not classified
Road UK	Not classified
ADR	Not classified
Sea IMO	Not classified
Air ICAO	Not classified

15) Regulatory Information

EC Supply Labelling	Harmful
R-Phrases	R38 irritating to the skin. R41 risk of serious damage to eyes.
S-Phrases	S2 keep out of reach of children S26 in case of contact with eyes rinse immediately with plenty of water and seek medical advice. S37 wear suitable gloves. S39 wear eye and face protection.

UK Occupational exposures limits Refer to HSE Guidance note EH40

16) Other Information

This information is for health and safety guidance only, is not a material specification, and does not constitute the user's own assessment of suitability, and workplace risk as required by any other Health and Safety legislation. It is accurate to the best of our knowledge and belief, but since the conditions of handling and use are outside our control we make no guarantee of results, and assume no liability for damages incurred by use of this material.