

MATERIAL SAFETY DATA SHEET

Revision #: 02

Section 1 - Product Identification & Use

Product Name: **Caustic Soda Beads**
Synonyms: Sodium Hydroxide, Lye, NaOH
WHMIS Classification: Class E, Corrosive Solid
TDG Classification: Sodium hydroxide, solid, Class 8, UN 1823, II
Supplier: Advance Chemicals Ltd.
2023 Kingsway Avenue
Port Coquillam, B.C. V3C 1S9
Phone: (604) 945-9666,
Fax: (604) 945-9617
Emergency phone: CANUTEC 24 hrs (613) 996-6666

Section 2 - Hazardous Ingredients

Hazardous Components	%(w/w)	C.A.S. No.	LD50 & LC50
Sodium Hydroxide	99	1310-73-2	oral, rabbit 500mg/kg TLV 2 mg/m ³
Sodium Carbonate	0.1- 1.0	497-19-8	TLV 10mg/m ³

Section 3 - Physical Data

Physical state: solid
Boiling point: 1388°C
Specific gravity: 2.13 g/mL
Freezing point: 318°C
pH: (1% solution) 14 @ 20°C
Solubility in water: 100%
Vapour pressure: 42 mmHg @ 1000°C
Evaporation rate: n/a
Odour & Appearance: Small white spheres with little or no caustic odour.

Section 4 - Fire or Explosion Hazard

Flammability: The product is not considered to be flammable.
Extinguishing media: This product is not flammable. For fires involving this product, water fog, carbon dioxide (CO₂), foam or dry chemical may be used.
Hazardous Combustion Products: None known.
Special Fire Fighting Procedures: Wear NIOSH approved self-contained breathing apparatus when either in confined areas or exposed to combustion products.
Unusual Fire or Explosion Hazards: Avoid direct contact with water since this can cause a violent reaction generating enough heat to ignite combustible materials.

Section 5 - Reactivity Data

Stability: Stable.
Incompatible substances: Metals, strong acids, organic halogen compounds and organic nitro compounds.
Polymerization: Will not occur.
Conditions to Avoid: Contact with soft metals produces hydrogen gas, which can form flammable or explosive mixtures in air. Product may absorb carbon dioxide gas from the atmosphere or other sources, and form sodium carbonate. May spatter upon contact with water.
Hazardous Combustion Products: None known.

Section 6 - Toxicological Properties

Carcinogenicity: Sodium hydroxide has been implicated as a cause of cancer of the esophagus in individuals who have ingested it. The cancer may develop 12-42 years after the ingestion incident. Similar cancers have been observed at the site of severe thermal burns. These cancers may be due to the tissue destruction and scar formation rather than the hydroxide itself. (Stanchem, 1991, NaOH MSDS). The ingredients of this product are not classified as carcinogenic by the American Conference of Governmental Industrial Hygienists (ACGIH), the International Agency for Research on Cancer (IARC), the Occupational Safety and Health Administration (OSHA), and not listed as a carcinogen by the National Toxicology Program (NTP); Stanchem Inc. 1991
Inhalation: Severe irritation of the throat and nasal passages may result from inhaling dust or mists of this product.
Skin contact: Contact with this product solution may cause severe and deep burns of the skin. Painful tissue destruction may result and the sensation of pain may be delayed.
Eye contact: Extremely corrosive. Causes corneal scarring and clouding. Glaucoma, cataracts and permanent blindness may occur. Damage may be delayed and not immediately apparent.
Ingestion: Extremely corrosive. May cause pain and severe vomiting, burns of the throat and esophagus, and perforation of the esophagus. May be fatal.
Other health effects: CORROSIVE EFFECTS ON THE SKIN AND EYES MAY BE DELAYED, AND DAMAGE MAY RESULT WITHOUT THE SENSATION OR ONSET OF ANY PAIN. STRICT ADHERENCE TO SAFETY AND IMMEDIATE FIRST AID FOLLOWING ANY EXPOSURE IS ESSENTIAL.
Exposure limits: ACGIH TLV 2 mg/m³

Section 7 - Preventative Measures

Personal Protective Equipment: Avoid contact with skin and eyes. Wear chemical protective gloves, goggles and face shield, rubber apron and boots. Eye wash fountains and safety shower facilities should be provided nearby for emergency use.
Respiratory protection: For vapours and mist, use an NIOSH/MSHA approved air purifying, dust, mist and particulate respirator equipped with a full face piece. For

unknown concentrations, or concentrations above 20 mg/m³, use a continuous supplied air line respirator with a safety hood.

Ventilation Requirements: This product should be used in a well ventilated area at all times. If the solution is to be heated or a mist will be generated during product application, then local exhaust ventilation will be necessary.

Action to take for spills & leaks: Wear chemical protective clothing, rubber gloves and suitable respiratory protection. Small spills should be wiped up with absorbent material and disposed of in government approved waste containers. The spilled product can be neutralized with a dilute solution of hydrochloric acid to pH 6-8, then wet down with a little water to aid mixing. The spill area may then be flushed with large quantities of water. Larger spills should be contained by diking with sand, soil or other absorbent, non-combustible material and then transferred into approved waste containers for proper disposal. Do not allow spilled or waste product to flow into waterways. Keep product out of sewers, storm drains, surface run-off water and soil. Restrict access to non-protected personnel. Comply with all government regulations on spill reporting, and handling and disposal of waste.

Disposal methods: Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate federal, provincial and local regulatory agencies to ascertain proper disposal procedures.

Note: Empty containers can have residues, gasses and mists, and are subject to proper waste disposal as mentioned above.

Storage & Handling Precautions: Warning! Harmful or fatal if swallowed. Causes eye, skin and respiratory irritation. Avoid contact with eyes and repeated contact with skin and clothing. Do not ingest. Keep container tightly closed when not in use. Store upright in a cool, dry, well ventilated place away from incompatible materials. Do not use pressure to empty container. Wash thoroughly after handling. Use with adequate ventilation.

Repair and Maintenance Precautions: Do not cut, grind, weld or drill in, on or near this container.

Section 8 - First Aid Measures

If inhaled: Remove victim to fresh air. Give artificial respiration if not breathing. Get immediate emergency medical attention. Keep patient warm and at rest.

In case of eye contact: Immediately flush eyes with clean water for at least twenty (20) minutes, lifting the upper and lower eye lids to ensure complete flushing action of the eyeball. Get immediate emergency medical attention. Do not transport victim until the recommended flushing period has been completed, unless eye flushing can be carried out during transport.

In case of skin contact: Immediately flush skin with plenty of clean running water for at least twenty (20) minutes. Remove contaminated clothing and shoes. Get immediate medical attention. Launder clothes before re-use.

In case of ingestion or swallowing: If victim is conscious, dilute stomach contents by giving large amounts of water or milk. DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious victim. GET IMMEDIATE EMERGENCY MEDICAL ATTENTION.

Emergency Medical Care: Sodium hydroxide eye burns often go in three stages. An acute stage where early damage is sustained. A reparation stage when the eye begins to heal. Then a stage of late complications when a relapse may occur with more severe damage. Follow up care is essential.

Section 9 - Preparation Information

Advance Chemicals Ltd. expressly disclaims all expressed or implied warranties of merchantability and fitness for a particular purpose with respect to the product provided. The information contained herein is offered only as a guide to the handling of this specific product, and has been prepared in good faith by technically knowledgeable personnel. This M.S.D.S. is not intended to be all inclusive, and the manner and conditions of use may involve other and additional considerations.

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