

MATERIAL SAFETY DATA SHEET

Revision #: 05

Section 1 - Product Identification & Use

Product Name: **Lightening**
 WHMIS Classification: Class E, Div. 6, Corrosive Liquids
 TDG Classification: Corrosive liquids, n.o.s. (potassium hydroxide)
 Class 8, UN 1760, III
 Manufacturer: Advance Chemicals Ltd.
 2023 Kingsway Ave
 Port Coquitlam, 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.	LD ₅₀ & LC ₅₀
Proprietary Chelating Agents	1-5	mixture	oral, rat 3030mg/kg
Sodium metasilicate pentahydrate	1-5	6834-92-0	oral, rat 800mg/kg
Potassium hydroxide	1-5	1310-58-3	oral, rat 1.23g/kg
Linear alkyl benzene sulphonic acid	3-10	unassigned	no data found
2-Butoxy Ethanol	15-30	111-76-2	oral, rat 1.48g/kg

Section 3 - Physical Data

Physical state: liquid
 Liquid density: 1.012g/mL
 pH: 13.3 @ 20°C
 Vapour pressure: 18.5 mmHg
 Boiling point: no data found
 Freezing point: no data found
 Solubility in water: 100%
 Evaporation rate: no data found
Odour & Appearance: The product is a clear, fluorescent yellow liquid solution. The neat product may foam slightly with agitation, while a diluted solution will tend to produce more foam when agitated. There is a sweet, organic solvent like odour above the open liquid.

Section 4 - Fire or Explosion Hazard

Flammability: No data found
Extinguishing media: Take care not to splash the product. Wear full chemical protective clothing. Use an extinguishing media for surrounding the fire, or all purpose foam by manufacturer's recommended techniques for large fires. An alcohol type foam or carbon dioxide extinguisher may also be used. Use water to cool fire exposed containers to prevent vapour build-up and rupture. Water may also be used to flush spills away from dangerous exposures.
Unusual Fire & Explosion Hazards: This product may produce a floating fire hazard in unusual and extreme fire conditions.
Hazardous Combustion Products: No data found

Section 5 - Reactivity Data

Stability: Stable
Incompatible substances: No data found
Polymerization: Will not occur
Conditions to Avoid: No data found
Hazardous Combustion Products: CO and CO₂. CO is highly toxic if inhaled, and CO₂ in sufficient quantities may act as an asphyxiant. Wear self contained breathing apparatus.
Materials to Avoid: Avoid contamination with alkalis.

Section 6 - Toxicological Properties

Acute Toxicity: No information available
Carcinogenicity: No data found
Inhalation: Irritation of the throat and nasal passages.
Skin contact: Irritation and burns of the skin.
Eye contact: Extremely corrosive. 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.

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 a high efficiency particulate respirator equipped with a full face piece. For 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, 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, 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.

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 Limited 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.

Prepared: 25 June, 1997
 Revised: 29 June, 1998, 18 February 2002, 7 September, 2006; 20 November 2006; 22 October 2009