

Micel, Inc. 1240 N. Knollwood Circle Anaheim, CA 92801

MATERIAL SAFETY DATA SHEET

N.F.P.A. Rating: Health (3), Flammability (0), Reactivity (1)

I. PRODUCT IDENTIFICATION

Trade name (as labeled): ALUMINUM ETCH 102 Y

Chemical names, common names: Sodium Hydroxide Dry solid Mixture, Caustic Soda Mixture

Manufacturer's name: MICEL, INCORPORATED

Address: 1240 N. KNOLLWOOD CIRCLE, ANAHEIM, CA 92801

Emergency phone: 1-800-424-9300

Name of preparer*: Technical dept.

Business phone: 714/995-3300

Date prepared: August 5, 1997

II. HAZARDOUS INGREDIENTS

<u>Chemical Names</u>	<u>CAS Numbers</u>	<u>Percent*</u>	<u>Exposure Limits in Air</u>		
			<u>ACGIH(TLV)</u>	<u>OSHA(PEL)</u>	<u>OTHER</u>
Sodium Hydroxide	1310-73-2	<90%	ACGIH TLV - 2 mg/m ³	OSHA PEL - 2 mg/m ³	(1)
Sodium Tetraborate	1303-96-4	<5%	ACGIH TWA - 1 mg/m ³		

III. PHYSICAL PROPERTIES

Vapor density (air=1): N/A

Melting point or range, F: N/A

Specific gravity: N/A

Boiling point or range, F: N/A

Solubility in water: Soluble.

Vapor pressure, mmHg at 20°C: N/A

Evaporation rate (butyl acetate=1): N/A

Appearance and odor: White to off-white granular powder with no appreciable odor.

HOW TO DETECT THIS SUBSTANCE* (warning properties of substance as a gas, vapor, dust, or mist):

(1) This chemical is subject to the reporting requirements of Section 313 of SARA title III.

IV. FIRE AND EXPLOSION

Flash Point, F (give method): N/A

Auto-ignition temperature, F: N/A

Flammable limits in air, volume %: lower N/A upper N/A Fire extinguishing materials:

water spray

carbon dioxide

other:

foam

dry chemical

Special fire fighting procedures: N/A

Unusual fire and explosion hazards: In water solution caustic may react with amphoteric metals (such as aluminum) generating hydrogen which is flammable and/or explosive if ignited.

V. HEALTH AND HAZARD INFORMATION

SYMPTOMS OF OVEREXPOSURE for each potential route of exposure.

Inhaled: Dusts or mists may cause severe irritation to upper respiratory tract.

Contact with skin or eyes: Eye: May cause severe irritation with corneal injury and result in permanent impairment of vision, even blindness. Dusts may irritate eyes. Skin: Short single skin contact may cause severe burns.

Absorbed through skin: A single prolonged skin exposure is not likely to result in absorption of harmful amounts. The dermal LD50 has not been determined.

Swallowed: May cause gastrointestinal irritation or ulceration, and severe burns of the mouth and throat.

Acute: Burns, resulting in frequently deep ulceration and ultimate scarring.

Chronic: The chronic local effect may consist of multiple areas of superficial destruction of the skin or of primary irritant dermatitis. Similarly inhalation of dust, spray or mist may result in varying degrees of irritation or damage to the respiratory tract tissues and an increased susceptibility to respiratory illness.

FIRST AID: EMERGENCY PROCEDURES

Eye Contact: WATER is the only accepted method removal of caustic soda from the eyes or skin. You may have 10 seconds or less to avoid serious permanent injury. Therefore, IMMEDIATE first aid must be given after and injurious exposure. Moving the victim from water access for transport to medical aid should be done only on the advise of qualified medical personnel. While transporting victim to a medical facility, continue washing if possible. In case of eye contact, wash eyes immediately and continuously for 30 minutes. Call for medical assistance immediately.

Skin Contact: Immediate continued and thorough washing in flowing water for 30 minutes is imperative while removing contaminated clothing before reuse. Destroy contaminated shoes.

Inhaled: Remove to fresh air if effects occur. Consult medical attention.

Swallowed: DO NOT INDUCE VOMITING. Give large amounts of water or milk if available and transport to medical facility.

SUSPECTED CANCER AGENT?

X_NO: This product's ingredients are not found in the lists below.

YES: X_Federal OSHA _NTP _IARC X_Cal/OSHA(see note)*

NOTE: California employers using Cal/OSHA-regulated carcinogens must register with Cal/OSHA.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None established.

RECOMMENDATIONS TO PHYSICIAN: CORROSIVE. May cause stricture. If lavage is performed suggest endotracheal and/or esophagosopic control. Material is strong alkali. If burn is present, treat as any thermal burn, after decontamination. (For burns of skin only.) Eye irrigation may be necessary for an extended period of time to remove as much caustic as possible. Duration of irrigation and treatment is at discretion of medical personnel. No possible antidote. Supportive care. Treatment based on judgement of the physician in response to reactions of the patient.

VI. REACTIVITY DATA

Stability: X Stable Unstable

Incompatibility (materials to avoid): Water and acid. Product is strong caustic alkali. May react violently with water, acid and a number of organic compounds. Caustic reacts rapidly with aluminum, tin, and zinc. It will also react with bronze and brass.

Hazardous decomposition products (including combustion products): None.

Hazardous polymerization: May occur X Will not occur
Conditions to avoid:

VII. SPILL, LEAK AND DISPOSAL PROCEDURES

Spill response procedures (include employee protection measures):

Only trained and properly protected personnel should be involved in spill clean up operations. Acting cautiously, accidental spills of salts must first be shoveled up, then carefully flush the spill area with water. dilute acid, preferably acetic acid, may be used to neutralize only the final traces of caustic after flushing.

Preparing wastes for disposal (container types, neutralization, etc.):

Follow Federal, State and local regulations for disposal of a caustic soda mixture.

NOTE: Dispose of all wastes in accordance with federal, state and local regulations.

VIII. SPECIAL HANDLING INFORMATION

Ventilation and engineering controls: Adequate local exhaust ventilation to maintain the air concentration of caustic soda below 2.0 mg/m³.

Respiratory protection: Use NIOSH - approved respirator for dusts and mists.

Eye protection (Type): Chemical splash goggles and face shield.

Glove (specify material): Gloves coated with rubber, synthetic elastomers, PVC or other plastics.

Other clothing and equipment: Hard hats, safety shoes, and rubber boots should be worn along with rubber apron.

Work practices, hygienic practices: Safety showers and eyewash stations should be provided in all areas in which the compound is handled.

1. When making a solution ALWAYS add slowly to liquid surface with constant stirring. NEVER add the liquid to the powder.
2. Always start with lukewarm liquid (80 - 100°). NEVER start with hot or cold liquid.
3. The addition of the compound to liquid will cause a rise in temperature. If caustic soda becomes concentrated in one area, or is added too rapidly, or is added to hot or cold liquid, a rapid temperature increase can result in dangerous mists or boiling or spattering which may cause an immediate violent eruption.

Other handling and storage requirements: Avoid storing next to strong acids. Should be stored in clean, dry areas. Product absorbs water and carbon dioxide from air. Keep containers closed and sealed.

Protective measures during maintenance of contaminated equipment:
Caustic Soda is classified by D.O.T. as a corrosive material.

IX. LABELING

Labeling (precautionary statements)*: DO NOT GET IN EYES, ON SKIN OR CLOTHING. Avoid breathing dust, mist, or spray. DO NOT take internally. Use with adequate ventilation and employ respiratory protection when exposed to dust, mist, or spray. When handling, wear chemical splash goggles, face shield, rubber gloves and protective clothing. Wash thoroughly after handling. Avoid contact with strong acids to prevent violent or explosive reactions. Keep container closed.

D.O.T. Label*: Sodium Hydroxide Dry Solid Mixture, Corrosive, U.N. 1823

*Not required. Space has been provided on this form for optional use

MSDS\Aluminum Etch 102 Y