Comet Chemical Company Ltd.

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Materials Safety Data - SODIUM HYDROXIDE (Solid Prills)
(Caustic Soda, Soda Lye, NaOH)

	UN - 1823
Shipping Name	SODIUM HYDROXIDE, SOLID
Transport of Dangerous Goods Class	Class 8; Packing Group II
WHMIS Class	D 1A; E
Material Use	nfg. of soap, rayon & cellophane, neutralising agent, etc

1. HAZARDOUS INGREDIENTS	**CAS NUMBER**	**%**	**TWAEV (mg/m^3)**	**LD_{50} ORAL**	**(mg/kg) SKIN**	**LC_{50} ppm INHALATION**
Sodium Hydroxide	1310-73-2	100%	2	500	not known	not known

2. PHYSICAL CHARACTERISTICS

Odour & Appearance	hygroscopic white or greyish crystals or pellets, odourless
Odour Threshold	odourless
Vapour Pressure	none
Vapour Density (air = 1)	none - no vapour
Boiling Point	1390°C
Melting Point	318°C
Density	2.13
Water Solubility	1 kg/litre (20°C)
pH (water solution)	14 - highly alkaline

3. FLAMMABILITY & REACTIVITY

Flash Point	not flammable
Autoignition Temperature	not flammable
Flammable Limits	not flammable
Hazardous Combustion Products	stable at high temperature - sodium oxide may form at fire temperatures
Firefighting Precautions	as for combustibles sustaining fire; firefighters must wear SCBA
Sensitivity to Static Discharge	not sensitive
Sensitivity to Mechanical Impact	not sensitive
Chemical Stability	stable; will not polymerize
Reactive With	aluminum, zinc, tin, copper, and alloys of these metals liberating flammable hydrogen; violent reaction with acids; reacts with glycols, organic peroxides, organohalogens,; damages leather, wool and some other textiles; liberates heat on contact with water
Dangerous Decomposition Products	see Combustion Products, above

4. TOXICOLOGY

EFFECTS OF ACUTE EXPOSURE

Skin Contact	causes severe burns, ulceration, scarring, particularly on moist skin
	CAUTION: sodium hydroxide burns can be painless - may not warn of dangerous injury!
Skin Absorption	nil
Eye Contact	**severely corrosive - permanent damage likely**
Inhalation	dust can cause severe damage to respiratory system
Ingestion	severe burns to mouth and digestive system; may perforate gut (liklihood of ingestion slight

(Sodium Hydroxide, cont'd)

EFFECTS OF CHRONIC EXPOSURE

General	acute effects so severe that prolonged exposutre is highly unlikely
Sensitising	no
Carcinogenic	no effects documented in humans
Reproductive Effect	no effects documented in humans
Synergistic With	not known
Estimated LD_{50}	500 mg/kg (oral) - not LD_{50}, but lowest lethal dose recorded
Estimated LC_{50}	not known

5. PROTECTIVE EQUIPMENT

Hands	rubber or polyvinyl chloride (PVC) gloves
Eyes	safety glasses with side shields or chemical goggles
Respirator	dust, must and fume filter/cartridge recommended is any danger of inhaling dust
Clothing	rubber or PVC apron , boots, long sleeves, mandatory; face shield should also be worn

6. ENVIRONMENT

Leak Precaution	dyke to control spillage and prevent environmental contamination; if fire potential exists , blanket with foam as a precaution
Handling Spill	sweep up material, then ventilate contaminated area; prior to neutralising residue with dilute acid
Waste Disposal	**do not flush to sewer**; sweepings may be taken by hazardous waste handler for neutralisation; neutral sludge may be dumped in landfill if local regulations permit

7. STORAGE & HANDLING

Store and use in a dry environment. Keep away from acids and certain metals (see 3 above). If dust is generated, mechanical ventilation and/or respirator are mandatory. This material may react violently with acids. This product liberated large amounts of heat on contact with water. Dissolve and dilute with care, agitating continuously. and monitoring temperature. Avoid all contact with skin and wash work clothes frequently. An eye bath and safety shower must be available near the workplace. Note that this product is hygroscopic and picks up moisture from the air - spilled material soon collects puddles. This product reacts slowly with carbon dioxide in the air, effectively neutralising itself within days or hours.

8. FIRST AID

SKIN:	Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly cleaned or laundered.
EYES:	Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is any irritation.
INHALATION:	Remove from contaminated area promptly. **CAUTION: Rescuer must not endanger himself!** If breathing stops, administer artificial respiration and seek medical aid promptly.
INGESTION:	Give plenty of water to dilute product . Do not induce vomiting (see NOTE below). Keep victim quiet. If vomiting occurs, keep victim's head below the hips to prevent inhalation of vomited material. **Seek medical help immediately!**

NOTE: Inadvertent inhalation of vomited material may seriously damage the lungs. The risk and danger of this is greater than the risk of poisoning through absorption of this product. The stomach should be emptied under medical supervision, after the installation of an airway to protect the lungs.

Emergency telephone numbers	- weekdays from 8:00 - 5:00	(705) 436-5580
	at all other times	(800) 567-7455 (Philip Environmental)

Prepared for Comet Chemical Co. Ltd., by ***Nicholas Morgan, September 2002; Revised August 2005***

The information herein is given in good faith but no warranty, expressed or implied is made.
PLEASE ENSURE THAT THIS **MSDS** *IS GIVEN TO AND* **EXPLAINED** *TO THE PERSON USING THIS PRODUCT.*