MATERIAL SAFETY DATA SHEET

SECTION 1

Product Name: HEATBATH NICKEL PENTRATE

Supplier's Name: APCO INDUSTRIES CO. LTD.
10 Industrial Street,
Toronto, Ontario M4G lZl

Information Telephone: 416-421-6161

Prepared by M.C. Needham

Date: October 1, 2010
WHMIS Classification: Class E, Corrosive Material

TRANSPORTATION DANGEROUS GOODS CLASSIFICATION
Shipping Name: CORROSIVE SOLID, OXIDIZING, N.O.S.
(SODIUM HYDROXIDE, SODIUM NITRATE, SODIUM NITRITE)
Class: 8 (5.1)
UN Number: UN3084
Packing Group: II

SECTION 2 - HAZARDOUS INGREDIENTS

	Range Percent by Weight	CAS
Sodium Hydroxide (NaOH)	60 - 100	001310-73-2
Sodium Nitrate	7 - 13	7631-99-4
Sodium Nitrite	5 - 10	7632-00-0

LD50 Not Determined LC50 Not determined

SECTION 3 - PHYSICAL/CHEMICAL PROPERTIES

Appearance: White to amber crystals
Boiling Point: Not applicable
Vapour Pressure: Not applicable
Vapour Density: Not applicable
Density: Approx. 70lbs./cu. ft.
Solubility in water: soluble

SECTION 4 - FIRE AND EXPLOSION HAZARD

Flash Point: Not applicable
Method Used: Not applicable
Flammable Limits: LFL: Not applicable
UFL: Not applicable
Extinguishing Media: Non-combustible
Fire & Explosion Hazards: In water solution caustic can react with amphoteric metals (such as aluminum) generating hydrogen which is flammable and/or explosive if ignited.
Fire-Fighting Equipment: Not available

SECTION 5 - REACTIVITY DATA

Stability: (Conditions to Avoid): Product absorbs water and carbon dioxide from the air. Keep containers closed and sealed.
Incompatibility: 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: None
Hazardous Polymerization: Will not occur.

SECTION 6 - HEALTH HAZARD DATA

Eye: May cause severe irritation with corneal injury and result in permanent impairment of vision, even blindness. Dusts may irritate eyes.
Skin Contact: Short single exposure may cause severe skin burns.
Skin Absorption: A single prolonged skin exposure is not likely to result in absorption of harmful amounts. The dermal LD50 has not been determined.
Ingestion: May cause gastrointestinal irritation or ulceration, and severe burns of the mouth and throat. Single dose oral LD50 has not been determined.
Inhalation: Dusts or mists may cause severe irritation to upper respiratory tract.
Systemic & Other Effects: No systemic effects are expected.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Exposure Guideline(s): Sodium Hydroxide: ACGIH TLV is 2 mg/m3 ceiling; OSHA PEL is 2 mg/m3 (TWA).

Ventilation: Control airborne concentrations below the exposure guideline. Local exhaust ventilation may be necessary for some operations.

Respiratory Protection: When airborne exposure guidelines and/or comfort levels may be exceeded, use an approved air-purifying respirator.

Skin Protection: Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, hard hat with face-shield or full-body suit will depend on operation. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse. Contaminated leather items, such as shoes, belts, and watchbands, should be removed and destroyed.

Eye Protection: Use chemical goggles. Wear a face-shield which allows use of chemical goggles, or wear a full-face respirator, to protect face and eyes when there is any likelihood of splashes. Eye wash fountain should be located in immediate work area.

Environmental and Disposal Information:

Action to take for spills/leaks: Only trained and properly protected personnel should be involved in spill cleanup operations. Acting cautiously, accidental spills of caustic soda beads 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.

Disposal Method: Disposal of caustic soda must meet all federal, provincial, and local regulations.

SECTION 8 - EMERGENCY FIRST AID PROCEDURES

Eyes: Wash eyes immediately and continuously until assistance arrives for transport to medical facility; wash enroute, if possible. If medical assistance is not immediately available, wash for 30 minutes and seek medical attention immediately.

Skin: Immediate continued and thorough washing in flowing water for 30 minutes is imperative while removing contaminated clothing. Prompt medical consultation is

essential. Wash contaminated clothing before reuse. Destroy contaminated shoes.

Ingestion: Do not induce vomiting. Give large amounts of water or milk if available and transport to medical facility.

Inhalation: Remove to fresh air if effects occur. Consult medical.

Note to Physician: Corrosive. May cause stricture. If lavage is performed, suggest endotracheal and/or esophagoscopic control. Material is strong alkali. If burn is present, treat as any thermal burn, after decontamination. 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 the discretion of medical personnel. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

SECTION 9 - SPECIAL PRECAUTIONS AND ADDITIONAL INFORMATION

An immediate health hazard

Special precautions to be taken in handling and storage: Prevent eye and skin contact. Do not breathe dusts or mist. Avoid storing next to strong acids. Caustic should be stored in clean, dry areas. Do not store in underground tanks. Product absorbs water and CO2 from air. Keep containers closed and sealed.

Special precautions for dissolving beads:

1. Always add beads to the liquid. Never add the liquid to the beads.
2. The liquid should be lukewarm (80-100F). Never start with hot or cold liquid.
3. Always sprinkle the beads slowly over the surface of the constantly stirred liquid.

The addition of caustic soda 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.

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