

MATERIAL SAFETY DATA SHEET

SECTION 1 CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: Hydro-Balance 4-X Base™
 Product Number(s): H-4X01, H-4X08, H-4X32
 Product Use: Coil cleaner

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Company Name: North American Research Corporation
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 Emergencies: Infotrac (800) 535-5053 (24 hours, everyday)

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

OSHA Hazardous Components (29 CFR 1910.1200):

	CAS Registry No.	OSHA PEL	ACGIH TLV	Other Limits	% (Optional)
Potassium Hydroxide	1310-58-3	2 mg/m ³ Ceiling	2 mg/m ³ Ceiling	None known	< 70

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

POISON! DANGER! CORROSIVE. CAUSES SEVERE BURNS TO SKIN, EYES, RESPIRATORY TRACT, AND GASTROINTESTINAL TRACT. MATERIAL IS EXTREMELY DESTRUCTIVE TO ALL BODY TISSUES. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED.

POTENTIAL HEALTH EFFECTS

EYE CONTACT:

Contact can cause severe damage including burns and blindness. The severity of the effects depend on concentration and how soon after exposure the eyes are washed. Tearing, redness, pain, impaired vision are symptoms.

SKIN CONTACT:

Corrosive. Note that irritation may follow an initial latency (delay between the time that the exposure occurs and when the sense of irritation starts). The latent period can vary as much as hours for a dilute solution (0.04%) to minutes with more concentrated solutions (25-50%). Prolonged or repeated contact, even to dilute concentrations, can cause a high degree of tissue destruction.

INHALATION:

Respiratory tract irritant, may cause serious burns on acute contact. Severe injury is usually avoided by the self-limiting coughing and sneezing symptoms.

INGESTION:

Toxic! Corrosive to mucous membranes and may cause perforation of the esophagus and stomach. Abdominal pain, nausea, vomiting, general gastro-intestinal upset can be expected.

CHRONIC EXPOSURE:

No known chronic effects.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Existing dermatitis.

CARCINOGENICITY: NTP? No IARC Monographs? No OSHA Regulated? No

SECTION 4 FIRST-AID MEASURES

EYE CONTACT:

IMMEDIATELY FLUSH EYES WITH A DIRECTED STREAM OF WATER for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. Washing eyes within several seconds is essential to achieve maximum effectiveness. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT:

Flush thoroughly with cool water under shower while removing contaminated clothing and shoes. Discard non-rubber shoes. Wash clothing before reuse. GET MEDICAL ATTENTION AS SOON AS POSSIBLE.

INHALATION:

Remove to fresh air. If breathing is difficult, have trained person administer oxygen. If respiration stops, have a trained person administer artificial respiration. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:

NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. (If available, give several glasses of milk.) If vomiting occurs spontaneously, keep airway clear and give more water. GET MEDICAL ATTENTION IMMEDIATELY.

SECTION 5 FIRE-FIGHTING MEASURES

FLASHPOINT: Not flammable METHOD: Not applicable

FLAMMABLE LIMITS: LEL: Not applicable UEL: Not applicable

AUTOIGNITION TEMP: Not applicable

GENERAL HAZARD:

Not considered to be a fire hazard. Will react with some metals, eg. Aluminum, tin, zinc to form flammable hydrogen gas.

FIRE EXTINGUISHING MEDIA:

Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire-exposed containers cool.

Avoid direct contact of liquid with water. Direct contact with water will generate considerable heat.

SPECIAL INFORMATION:

In the event of a fire, wear full protective clothing and NIOSH approved, self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Evacuate unnecessary personnel. Follow protective measures provided under Personal Protection in Section 8.

ENVIRONMENTAL PRECAUTIONS:

According to 40 CFR 302 Table 302.4 (CERCLA), environmental releases that exceed the RQ must be reported to the National Response Center by calling 800-424-8802 (202-426-2675) and the State Emergency Response Commission and the Local Emergency Planning Committee (40 CFR 355.40) as appropriate.

Contain liquids and prevent discharges to streams or sewers, control or stop the loss of volatile materials to the atmosphere.

Large leaks may require environmental consideration and possible evacuation. Do not apply water to the leak. Spills or releases should be reported, if required, to the appropriate local, state and federal agencies. Contain spill with dike to prevent entry into sewers or waterways. CAUTION: This product may react strongly with acids and water.

NEVER FLUSH TO SEWER.

METHODS FOR CLEANING UP:

Liquid material can be removed with a vacuum truck. Neutralize remaining traces with any dilute inorganic acid (hydrochloric, sulfuric or acetic acid). Flush spill area with water followed by a liberal covering of sodium carbonate. All clean-up material should be removed for proper treatment or disposal. Spills on other than pavement (e.g. dirt or sand) may be handled by removing the affected soil and placing in approved containers.

SECTION 7 STORAGE AND HANDLING

Keep in a tightly closed container. Store in a cool, dry, ventilated area. Protect against physical damage. Avoid storing or mixing with acids, aldehydes, and other organic chemicals. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS:

Use in a well ventilated area. Use NIOSH / MSHA approved respirator if concentrations are above exposure limits.

PERSONAL PROTECTION:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eyewash fountain and quick-drench facilities in the work area. Wear impervious protective clothing, including boots, gloves, apron, or coveralls, as appropriate to prevent skin contact.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Semi-viscous, amber to clear liquid. Bland odor.

SPECIFIC GRAVITY: 1.42

VAPOR PRESSURE: Not determined

VAPOR DENSITY: Not determined

SOLUBILITY IN WATER: Complete

pH: 13.5

BOILING POINT: 212°F

FREEZING / MELTING POINT: Not applicable

EVAPORATION RATE (Butyl Acetate = 1): Not determined

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Stable under ordinary conditions of use and storage.

HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBILITY (Materials to Avoid): Strong acids, chlorinated hydrocarbons, acetone. Will react with some metals, e.g., aluminum, tin, zinc, to form flammable hydrogen gas.

HAZARDOUS DECOMPOSITION PRODUCTS: None known.

SECTION 11 TOXICOLOGICAL INFORMATION

For Potassium Hydroxide (1310-58.3): Oral rat LD50: 273 mg/kg; Investigated as a mutagen. Skin Irritation Data (std Draize, 50 mg/24 H): Human, Severe; Rabbit, Severe. Eye Irritation Data(Rabbit, non-std test, 1 mg/24 H, rinse): Moderate.

SECTION 12 ECOLOGICAL INFORMATION

No information found.

SECTION 13 DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

SECTION 14 TRANSPORT INFORMATION

U.S. Department of Transportation:

Consumer Commodity ORM-D:

(For U.S., domestic, ground shipments of packages no more than 66 pounds, gross weight, and inner packages not over 0.3 gallons.)

Potassium Hydroxide Solution, 8, UN1814, PG II

(For all other shipments)

SECTION 15 REGULATORY INFORMATION

TSCA: All components of this product are listed on the TSCA inventory.

CERCLA: Potassium Hydroxide (1310-58-3); 1000 lbs.

SARA TITLE III:

Section 311/312 Hazard Category: Acute: Yes Chronic: No Fire: No Pressure: No Reactive Hazard: Yes

Section 313 Reportable Ingredients: None

SECTION 16 OTHER INFORMATION

NFPA RATING: Health – 3, Flammability – 0, Reactivity – 1

HMIS® RATING: Health – 3, Flammability – 0, Reactivity – 2

HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint and Coatings Association (NPCA). HMIS® materials may be purchased exclusively from Labelmaster, 1-800-621-5808.

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