SAFETY DATA SHEET

ENRICH NO. 299
Product ID: FP029906
Revised: 01-08-2015
Replaces: 06-25-2014

1. IDENTIFICATION

Product Name:	ENRICH NO. 299
Synonyms:	R02014A
CAS Number:	MIXTURE
Recommended Use:	No data available.
Restrictions on Use:	No data available.

Hydrite Chemical Co.
300 N. Patrick Blvd.
Brookfield, WI 53008-0948
(262) 792-1450

EMERGENCY RESPONSE NUMBERS:
24 Hour Emergency #: (414) 277-1311
CHEMTREC Emergency #: (800) 424-9300

2. HAZARD(S) IDENTIFICATION

Signal Word: Danger

GHS Classification:
Substance or mixture corrosive to metals Category 1
Skin Corrosion/Irritation Category 1B
Serious Eye Damage/Eye Irritation Category 1
Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 1

Hazard Statements:
May be corrosive to metals.
Causes severe skin burns and eye damage.
Causes damage to organs (respiratory system by inhalation).

Precautionary Statements:

Prevention:
Keep only in original container.
Do not breathe dust, fume, gas, mist, vapors or spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear gloves, eye and face protection and protective clothing.

Response:
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Specific treatment (see First Aid on SDS or on this label).
Wash contaminated clothing before reuse.
Absorb spillage to prevent material damage.

Storage:
Store in a secure manner.
Store in corrosive resistant container with a resistant inner liner.

Disposal: Dispose of in accordance with local, regional and international regulations.

Hazards Not Otherwise Classified: May react violently with water.

Percentage of Components with Unknown Acute Toxicity:

Oral:	13.6 %
Inhalation Vapor:	16.8 %
Inhalation Dust/Mist:	16.8 %

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	% by Wt.
Sodium Hydroxide	1310-73-2	< 10 %
Proprietary	Proprietary	< 10 %
Sodium Hypochlorite	7681-52-9	< 5 %

4. FIRST-AID MEASURES

Eye Contact: If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Washing eyes within several seconds is essential to achieve maximum effectiveness. Do not attempt to neutralize with chemical agents.

Skin Contact: If on skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Do not reuse clothing and shoes until cleaned. If skin feels slippery, caustic may still be present in sufficient quantities to cause rash or burn. Continue washing skin until slick feeling is gone. Do not apply oils or ointments unless ordered by the physician. Discard footwear which cannot be decontaminated. Discard contaminated leather articles such as shoes and belt.

Inhalation: If inhaled: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY. Symptoms of pulmonary edema can be delayed up to 48 hours after exposure.

Ingestion: If swallowed: If fully conscious, drink a quart of water. DO NOT induce vomiting. CALL A PHYSICIAN IMMEDIATELY. If unconscious or in convulsions, take immediately to a hospital or a physician. NEVER induce vomiting or give anything by mouth to an unconscious victim. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. If vomiting occurs spontaneously, keep airway clear and give more water.

Note to Physicians:
The absence of visible signs or symptoms of burns does not reliably exclude the presence of actual tissue damage. Probable mucosal damage may contraindicate the use of gastric lavage. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

Most Important Symptoms/Effects:

Eye Contact:	CORROSIVE-Causes severe irritation and burns.
Skin Contact:	CORROSIVE-Causes severe irritation and burns.
Inhalation:	CORROSIVE-Causes severe irritation and burns.
Ingestion:	CORROSIVE-Causes severe irritation and burns.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Not combustible. For fires in area use appropriate media. For example: Water spray. Dry chemical. Carbon dioxide. Foam.

Fire Fighting Methods: Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and

decomposition products. Use water spray to cool fire-exposed containers and disperse vapors. Use water spray to cool fire-exposed containers, but avoid getting water into containers. Product generates heat upon addition of water, with possible spattering. Run-off from fire control may cause pollution.

Fire and Explosion Hazards: Product may react with some metals (ex.: Aluminum, Zinc, Tin, etc.) to release flammable hydrogen gas. Product may spatter if temperature exceeds boiling point (212 Deg. F). May generate potentially explosive oxygen.

Hazardous Combustion Products: Carbon dioxide. Carbon monoxide. Acrylic monomers. Irritating and/or toxic gases. Sodium oxides. Nitrogen oxides. Ammonia. Hydrocarbons. Chlorine-containing gases.

6. ACCIDENTAL RELEASE MEASURES

Spill Clean-Up Procedures: CORROSIVE MATERIAL. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit. Contain spill, place into drums for proper disposal. Flush remaining area with water to remove trace residue and dispose of properly. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs. CAUTION: This product may react violently with acids and water. Sweep up and recover or mix material with a moist absorbent and shovel into a chemical waste container. Avoid dust formation. Absorb spill with inert material and dispose of properly.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. Empty containers retain product residue (vapor, dust, or liquid) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other source of ignition. They may explode and cause injury or death. CORROSIVE MATERIAL. Avoid dust or mist formation. Add product very slowly while stirring constantly. If product is added too rapidly or without stirring and becomes concentrated at the bottom of the mixing vessel, excessive heat may be generated resulting in dangerous boiling and spattering and possible immediate violent irruption of highly caustic solution. Do not handle near an open flame, heat, or other sources of ignition.

Storage: CORROSIVE MATERIAL. Store in a cool, well ventilated area, out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Highly corrosive to most metals with evolution of hydrogen gas. Do not freeze. Deadly carbon monoxide gas can form in enclosed or poorly ventilated areas or tanks when alkaline products contact food, beverage, or dairy products. Do not enter such areas until they have been well ventilated and carbon monoxide and oxygen levels have been determined to be within OSHA acceptable limits. If carbon monoxide and oxygen levels cannot be measured, wear NIOSH-approved, self-contained breathing apparatus. Keep containers tightly closed. Keep away from all sources of ignition. Product degrades more rapidly with increasing temperature. See Section 10 for incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA Exposure Guidelines:

Component	Limits
Sodium Hydroxide	2 mg/m3 TWA

ACGIH Exposure Guidelines:

Component	Limits
Sodium Hydroxide	2 mg/m3 Ceiling

Engineering Controls: Local exhaust ventilation, process enclosures, or other engineering controls are required when handling or using this product to avoid overexposure. Avoid creating dust or mist. Maintain adequate ventilation. Do not use in closed or confined spaces. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly. NOTE: Where carbon monoxide may be generated, special ventilation may be required. Use local exhaust to control vapors, mists, or dusts.

Eye/Face Protection: Wear chemical safety goggles and a full face shield while handling this product. Do not wear contact lenses.

Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Neoprene. Impervious.

Respiratory Protection: Respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits. If exposure limits are exceeded, wear: NIOSH-Approved self-contained breathing apparatus. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use. NIOSH-Approved respirator.

Other Protective Equipment: Eye-wash station. Safety shower. Rubber apron. Rubber boots. Protective clothing. Chemical safety shoes. NOTE: The above protective equipment is listed for exposure to this product at full strength. When using this product at the recommended use dilution of up to 4 oz/gal, wearing rubber gloves and safety glasses are acceptable precautionary measures.

General Hygiene Conditions: Wash with soap and water before meal times and at the end of each work shift. Handle in accordance with good industrial hygiene and safety practice. Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.
Color: Clear. Light yellow.
Odor: Chlorine odor.
Odor Threshold: N.D.
pH: 13.50 (as is)
Freezing Point (deg. F): N.D.
Melting Point (deg. F): N.D.
Initial Boiling Point or Boiling Range: N.D.
Flash Point: N.A.
Flash Point Method: N.A.
Evaporation Rate (nBuAc = 1): N.D.
Flammability (solid, gas): N.D.
Lower Explosion Limit: N.A.
Upper Explosion Limit: N.A.
Vapor Pressure (mm Hg): N.D.
Vapor Density (air=1): N.D.
Specific Gravity or Relative Density: 1.1466 @ 25C
Solubility in Water: Complete
Partition Coefficient (n-octanol/water): N.D.
Autoignition Temperature: No Data
Decomposition Temperature: N.D.
Viscosity: N.D.
% Volatile (wt%): N.D.
VOC (wt%): N.D.
VOC (lbs/gal): N.D.
Fire Point: N.D.

10. STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions. Sodium hydroxide can induce hazardous polymerization of acetaldehyde, acrolein, and acrylonitrile. Contact with

water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. Contact with acid or incompatible materials may cause a violent reaction with evolution of heat. May react with certain metals to produce flammable hydrogen gas. Contact with acids, halogenated organics, organic nitro compounds, glycols, or sodium tetrahydroborate may produce flammable hydrogen gas. Contact with 1,2-dichloroethylene, trichloroethylene, tetrachloroethane, or phosphorous can form spontaneously flammable chemicals. Reactions with various food sugars may form carbon monoxide.

Conditions to Avoid: Keep away from incompatibles. Avoid heat, sparks or open flames. Avoid other ignition sources. Avoid freezing. Avoid temperatures greater than 70 Deg. F. Product degrades more rapidly with increasing temperature.

Incompatible Materials: Acids. Metals such as aluminum, zinc, tin, etc. Magnesium. Chromium. Brass. Bronze. Copper. Lead. Other alkali sensitive metals or alloys. Organic materials. Organic nitro compounds. Chlorinated hydrocarbons. Fluorinated hydrocarbons. Acetaldehyde. Chlorine trifluoride. Hydroquinone. Maleic anhydride. Tetrahydrofuran. Acrolein. Phosphorous. Trichloroethylene. Leather. Wool. Phosphorous pentoxide. Halogenated compounds. Glycols. Explosives. Acrylonitrile. 1,2-Dichloroethylene. Tetrachloroethane. Organic peroxides. Sodium tetrahydroborate. Food sugars. Silver nitrate. Ammonia. Chloroform. Methanol. Zirconium. Strong oxidizing agents.

Hazardous Decomposition Products: Carbon dioxide. Carbon monoxide. Acrylic monomers. Irritating and/or toxic gases. Hydrogen gas. Flammable dichloroacetylene. Phosphine. Sodium oxide. Nitrogen oxides. Ammonia. Hydrocarbons. Chlorine-containing gases. Reacts with acids to release poisonous chlorine gas.

11. TOXICOLOGICAL INFORMATION

Component	Oral LD50	Dermal LD50	Inhalation LC50
Sodium Hydroxide	No Data	Rabbit: 1350 mg/kg	No Data
Sodium Hypochlorite	Rat: 8200 mg/kg	Rabbit: > 10,000 mg/kg	No Data

Acute Toxicity Estimate (ATE):

Dermal: 20,769 mg/kg

Routes of Exposure: Eyes. Skin. Inhalation. Ingestion.

Eye Contact: CORROSIVE-Causes severe irritation and burns. Small amounts may cause: blistering. disintegration. scarring. clouding. ulcerations. permanent eye damage. blindness. corneal damage. Glaucoma and cataracts are possible late developments. Effects may vary depending on length of exposure, solution concentration and first aid measures.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Corrosive action causes burns and frequently deep ulceration with ultimate scarring. Contact may cause: redness. swelling. burns. blistering. tissue destruction.

Skin Absorption: No absorption hazard expected under normal use.

Inhalation: CORROSIVE-Causes severe irritation and burns. Dusts or mists may irritate: nose. mouth. throat. respiratory tract. Dusts or mists may cause damage to the: upper respiratory tract. lungs. May cause: coughing. sneezing. running nose. sore throat. shortness of breath. wheezing. tightness of the chest. chest pain. choking. impaired lung function. pneumonitis. pulmonary edema. Effects may be delayed.

Ingestion: CORROSIVE-Causes severe irritation and burns. May cause damage to the: mouth. throat. stomach. esophagus. gastrointestinal tract. Ingestion can cause severe burns and complete tissue perforation of the mucous membranes of the mouth, throat and stomach. May be fatal if swallowed. May cause: abdominal pain. nausea. vomiting. diarrhea. bleeding. fall in blood pressure. shock. collapse. gastrointestinal ulceration. Damage may appear days after exposure. Aspiration into the lungs may occur during ingestion or vomiting resulting in mild to severe pulmonary injury and possibly death.

Medical Conditions Aggravated by Exposure to Product: Skin disorders. Lung disorders. Cardiovascular disorders. Eye disorders. Respiratory system disorders.

Other: None known.

Cancer Information:
This product does not contain 0.1% or more of the known or potential carcinogens listed in NTP, IARC, or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: No data available.

Chemical Fate Information: No data available.

13. DISPOSAL CONSIDERATIONS

Hazardous Waste Number: D002
Disposal Method: Dispose of in a permitted hazardous waste management facility following all local, state and federal regulations. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

14. TRANSPORT INFORMATION

DOT (Department of Transportation):

Identification Number:	UN3266
Proper Shipping Name:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (CONTAINS SODIUM HYDROXIDE, SODIUM HYPOCHLORITE)
Hazard Class:	8
Packing Group:	II
Label Required:	CORROSIVE
Reportable Quantity (RQ):	100# (Sodium Hypochlorite); 1000# (Sodium Hydroxide).

15. REGULATORY INFORMATION

TSCA Inventory Status: All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SARA Title III Section 311/312 Category Hazards:

Immediate (Acute)	Delayed (Chronic)	Fire Hazard	Pressure Release	Reactive
Yes	Yes	No	No	Yes

Regulated Components: Component	CAS Number	CERCLA RQ	SARA EHS	SARA 313	U.S. HAP	WI HAP	Prop 65
Sodium Hydroxide	1310-73-2	Yes	No	No	No	Yes	No
Sodium Hypochlorite	7681-52-9	Yes	No	No	No	No	No

***Prop 65 - May Contain the Following Trace Components:**
Arsenic
Mercury
Nickel
Lead

16. OTHER INFORMATION

Hazard Rating System
Health: 3*
Flammability: 0

Reactivity: 1
* = Chronic Health Hazard

NFPA Rating System
Health: 3
Flammability: 0
Reactivity: 1
Special Hazard: None

MSDS Abbreviations
N.A. = Not Applicable
N.D. = Not Determined
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
C = Ceiling Limit
N.E./Not Estab. = Not Established

MSDS Prepared by: NAO

Reason for Revision: Change(s) made in Section 8.

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