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Revision Number 1

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING****Product identifier**

**Product Name** Free Cyanide  
**Product Number** 1345  
**Synonyms** None

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Laboratory use only  
**Uses advised against** No information available

**Details of the supplier of the safety data sheet**

**Supplier** ERA a Waters Company  
**Supplier Address** 16341 Table Mountain Parkway, Golden, CO 80403 USA  
**Non-Emergency Telephone Number** +1-303-431-8454  
**E-mail address** sdsinfo@eraqc.com

**Emergency telephone number**


**Company Emergency Phone Number** In case of EMERGENCY call CHEMTREC Day or Night  
Within USA and Canada: 800-424-9300  
International Call Collect: +1-703-527-3887

**2. HAZARDS IDENTIFICATION****Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Corrosive to Metals	Category 1

**GHS Label elements, including precautionary statements****Emergency Overview**

<b>Signal word</b> Danger		
<b>Hazard Statements</b> Causes severe skin burns and eye damage May be corrosive to metals		
		
<b>Appearance</b> Clear, colorless	<b>Physical state</b> Liquid	<b>Odor</b> Odorless

**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapors/spray  
Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Keep only in original container

#### Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician

Specific treatment (see supplemental first aid instructions on this label)

#### Eyes

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

#### Skin

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Immediately call a POISON CENTER or doctor/physician

#### Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

#### Spill

Absorb spillage to prevent material damage

#### Precautionary Statements - Storage

Store locked up

Store in corrosive resistant/ .? container with a resistant inner liner

#### Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

Not applicable

#### Unknown Toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity

#### Other information

No information available

#### Interactions with Other Chemicals

No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Note: only the components contributing to the product's GHS hazard classification are listed in this section.

Chemical name	CAS No	Weight-%
Sodium Hydroxide	1310-73-2	0.15

### 4. FIRST AID MEASURES

#### First aid measures

##### General Advice

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

##### Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.

##### Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

##### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

##### Ingestion

Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

**Self-protection of the first aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** Burning. Burning sensation.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Dry chemical. Carbon dioxide (CO<sub>2</sub>). Water spray.

**Unsuitable Extinguishing Media**

CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**

Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.).

**Uniform Fire Code** Corrosive: Other--Liquid

**Hazardous Combustion Products**

Carbon oxides.

**Explosion Data**

**Sensitivity to Mechanical Impact** No.

**Sensitivity to Static Discharge** No.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk.

**Other Information** Do not get water inside containers.

**Environmental precautions**

**Environmental precautions** Prevent entry into waterways, sewers, basements or confined areas.

**Methods and material for containment and cleaning up**

**Methods for containment** Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

**Methods for cleaning up** Pick up and transfer to properly labeled containers. Soak up with inert absorbent material.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

### Conditions for safe storage, including any incompatibilities

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

**Incompatible Products** Acids. Bases. Oxidizing agent.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium Hydroxide 1310-73-2	Ceiling: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> (vacated) Ceiling: 2 mg/m <sup>3</sup>	IDLH: 10 mg/m <sup>3</sup> Ceiling: 2 mg/m <sup>3</sup>

### Appropriate engineering controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Face protection shield.

**Skin and body protection** Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

<b>Physical state</b>	Liquid	<b>Odor</b>	Odorless
<b>Appearance</b>	Clear, colorless	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
<b>pH</b>	13	None known	
<b>Melting / freezing point</b>	no data available	None known	
<b>Boiling point / boiling range</b>	no data available	None known	
<b>Flash Point</b>	no data available	None known	
<b>Evaporation Rate</b>	no data available	None known	
<b>Flammability (solid, gas)</b>	no data available	None known	
<b>Flammability Limit in Air</b>			
<b>Upper flammability limit</b>	no data available		

<b>Lower flammability limit</b>	no data available	
<b>Vapor pressure</b>	no data available	None known
<b>Vapor density</b>	no data available	None known
<b>Specific Gravity</b>	1	None known
<b>Water Solubility</b>	Soluble in water	None known
<b>Solubility in other solvents</b>	no data available	None known
<b>Partition coefficient: n-octanol/water</b>	no data available	None known
<b>Autoignition temperature</b>	no data available	None known
<b>Decomposition temperature</b>	no data available	None known
<b>Kinematic viscosity</b>	no data available	None known
<b>Dynamic viscosity</b>	no data available	None known
<b>Explosive properties</b>	no data available	
<b>Oxidizing properties</b>	no data available	

**Other Information**

<b>Softening Point</b>	no data available
<b>VOC Content (%)</b>	no data available
<b>Particle Size</b>	no data available
<b>Particle Size Distribution</b>	

## 10. STABILITY AND REACTIVITY

**Reactivity**

no data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Conditions to avoid**

Exposure to air or moisture over prolonged periods.

**Incompatible materials**

Acids. Bases. Oxidizing agent.

**Hazardous Decomposition Products**

Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information****Inhalation**

Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract.

**Eye contact**

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

**Skin contact**

Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.

**Ingestion**

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause

irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium Hydroxide 1310-73-2	-	= 1350 mg/kg ( Rabbit )	-

#### Information on toxicological effects

**Symptoms** Erythema (skin redness). Burning. May cause blindness. Coughing and/ or wheezing.  
**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.  
**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Reproductive toxicity** No information available.  
**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Chronic toxicity** No known effect based on information supplied. Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Effects from this product caused by acute exposure may cause permanent damage to target organs and/or may cause chronic conditions.

**Target Organ Effects** Respiratory system. Eyes. Skin. Gastrointestinal tract (GI).  
**Aspiration Hazard** No information available.

#### Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

Not applicable

## 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

Harmful to aquatic life.

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Sodium Hydroxide 1310-73-2		96h LC50: = 45.4 mg/L (Oncorhynchus mykiss)		

#### Persistence and Degradability

No information available.

#### Bioaccumulation

No information available

#### Other adverse effects

No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Disposal methods** This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).  
**Contaminated Packaging** Dispose of contents/containers in accordance with local regulations.  
**US EPA Waste Number** D002

#### **California Hazardous Waste Codes** 122

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste
Sodium Hydroxide 1310-73-2	Toxic Corrosive

### 14. TRANSPORT INFORMATION

#### DOT

**UN-No.** UN1824  
**Proper Shipping Name** SODIUM HYDROXIDE SOLUTION  
**Hazard Class** 8  
**Packing Group** III  
**Description** UN1824, SODIUM HYDROXIDE SOLUTION, 8, III  
**Emergency Response Guide Number** 154

#### TDG

**UN-No.** UN1824  
**Proper Shipping Name** SODIUM HYDROXIDE SOLUTION  
**Hazard Class DOT Base Classification** 8  
**Packing Group for DOT Base Classification** III  
**Description** UN1824, SODIUM HYDROXIDE SOLUTION, 8, III

#### MEX

**UN-No.** UN1824  
**Proper Shipping Name** SODIUM HYDROXIDE SOLUTION  
**Hazard Class** 8  
**Packing Group** III  
**Description** UN1824, SODIUM HYDROXIDE SOLUTION, 8, III

#### ICAO

**UN-No.** UN1824  
**Proper Shipping Name** SODIUM HYDROXIDE SOLUTION  
**Hazard Class** 8  
**Packing Group** III  
**Description** UN1824, SODIUM HYDROXIDE SOLUTION, 8, III

#### IATA

**UN-No.** UN1824  
**Proper Shipping Name** SODIUM HYDROXIDE SOLUTION  
**Hazard Class** 8  
**Packing Group** III  
**Description** UN1824, SODIUM HYDROXIDE SOLUTION, 8, III

#### IMDG/IMO

**UN-No.** UN1824  
**Proper Shipping Name** SODIUM HYDROXIDE SOLUTION  
**Hazard Class** 8

**Packing Group** III  
**EmS-No.** F-A, S-B  
**Description** UN1824, SODIUM HYDROXIDE SOLUTION, 8, III

**RID**

**UN-No.** UN1824  
**Proper Shipping Name** SODIUM HYDROXIDE SOLUTION  
**Hazard Class** 8  
**Packing Group** III  
**Classification code** C5  
**Description** UN1824, SODIUM HYDROXIDE SOLUTION, 8, III

**ADR**

**UN-No.** UN1824  
**Proper Shipping Name** SODIUM HYDROXIDE SOLUTION  
**Hazard Class** 8  
**Packing Group** III  
**Classification code** C5  
**Tunnel restriction code** (E)  
**Description** UN1824, SODIUM HYDROXIDE SOLUTION, 8, III

**ADN**

**UN-No.** UN1824  
**Proper Shipping Name** SODIUM HYDROXIDE SOLUTION  
**Hazard Class** 8  
**Packing Group** III  
**Classification code** C5  
**Description** UN1824, SODIUM HYDROXIDE SOLUTION, 8, III  
**Hazard Labels** 8  
**Limited Quantity** 5 L

**15. REGULATORY INFORMATION**

**International Inventories**

**TSCA** Complies  
**DSL** All components are listed either on the DSL or NDSL.  
**IECSC** -

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

**Acute Health Hazard** Yes  
**Chronic Health Hazard** No  
**Fire Hazard** No  
**Sudden release of pressure hazard** No  
**Reactive Hazard** No

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium Hydroxide 1310-73-2	1000 lb			X

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and



Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium Hydroxide 1310-73-2	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

### US State Regulations

#### California Proposition 65

This product contains the following Proposition 65 chemicals.

#### U.S. State Right-to-Know Regulations

### International Regulations

Component	Carcinogen Status	Exposure Limits
Sodium Hydroxide 1310-73-2 ( 0.15 )		Mexico: Ceiling 2 mg/m <sup>3</sup>

### Canada

#### WHMIS Hazard Class

Not determined

## 16. OTHER INFORMATION

<b>NFPA</b>	<b>Health Hazards</b> 3	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and Chemical Hazards - Personal Protection</b> X
<b>HMS</b>	<b>Health Hazards</b> 3	<b>Flammability</b> 0	<b>Physical Hazard</b> 0	

<b>Prepared By</b>	Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501
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<b>Revision Note</b>	No information available

### Disclaimer

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**End of Safety Data Sheet**