



Be Right™

# SAFETY DATA SHEET

Issue Date 26-May-2016

Revision Date 26-Jan-2018

Version 3.1

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## 1. IDENTIFICATION

### Product identifier

**Product Name** Dissolved Oxygen 2 Reagent

### Other means of identification

**Product Code(s)** 98299

**Safety data sheet number** M00028

**UN/ID no** UN2680

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

**Recommended Use** Laboratory reagent. Determination of dissolved oxygen.

**Uses advised against** None.

**Restrictions on use** None.

### Details of the supplier of the safety data sheet

#### **Manufacturer Address**

Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

#### **Emergency telephone number**

+1(303) 623-5716 - 24 Hour Service +1(515)232-2533 - 8am - 4pm CST

## 2. HAZARDS IDENTIFICATION

### Classification

#### **Regulatory Status**

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

Corrosive to metals	Category 1
Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (repeated exposure)	Category 2
Chronic aquatic toxicity	Category 3

#### **Hazards not otherwise classified (HNOC)**

Not applicable

#### **Label elements**

**Signal word - Danger**

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#### **Hazard statements**

H290 - May be corrosive to metals  
H301 - Toxic if swallowed  
H311 - Toxic in contact with skin  
H314 - Causes severe skin burns and eye damage  
H331 - Toxic if inhaled  
H373 - May cause damage to organs through prolonged or repeated exposure  
H412 - Harmful to aquatic life with long lasting effects

#### **Precautionary statements**

P271 - Use only outdoors or in a well-ventilated area  
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P363 - Wash contaminated clothing before reuse  
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor/physician  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P273 - Avoid release to the environment  
P234 - Keep only in original container  
P390 - Absorb spillage to prevent material damage  
P270 - Do not eat, drink or smoke when using this product  
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
P405 - Store locked up  
P501 - Dispose of contents/ container to an approved waste disposal plant

#### **Other Hazards Known**

Not applicable

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### **Substance**

Not applicable

#### **Mixture**

**Chemical Family** Mixture.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No.	Percent	HMRIC #
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		Range	
Lithium hydroxide monohydrate	1310-66-3	60 - 70%	-
Potassium iodide (KI)	7681-11-0	30 - 40%	-
Sodium azide	26628-22-8	1 - 5%	-

#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. Do not breathe dust.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention.
<b>Skin contact</b>	Get immediate medical advice/attention. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

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

**Symptoms** Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

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

**Note to physicians** 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

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable Extinguishing Media</b>	Caution: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
<b>Hazardous combustion products</b>	No information available.

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

## 6. ACCIDENTAL RELEASE MEASURES

**U.S. Notice** Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Attention! Corrosive material. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

### Environmental precautions

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

### Methods and material for containment and cleaning up

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Do not breathe dust. Avoid generation of dust.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** 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.

**Flammability class** Not applicable

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium iodide (KI) CAS#: 7681-11-0	TWA: 0.01 ppm	NDF	NDF
Sodium azide CAS#: 26628-22-8	Ceiling: 0.29 mg/m <sup>3</sup> Ceiling: 0.11 ppm	(vacated) SKN* (vacated) Ceiling: 0.1 ppm (vacated) Ceiling: 0.3 mg/m <sup>3</sup>	Ceiling: 0.1 ppm HN3 Ceiling: 0.3 mg/m <sup>3</sup> NaN3

**Appropriate engineering controls**

**Engineering Controls**

Showers  
 Eyewash stations  
 Ventilation systems.

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

**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.

**Hand Protection**

Wear suitable gloves. Impervious gloves.

**Eye/face protection**

Face protection shield.

**Skin and body protection**

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

**General Hygiene Considerations**

Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Do not breathe dust. Take off contaminated clothing and wash before reuse.

**Environmental exposure controls**

Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

**Thermal hazards**

None under normal processing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical state</b>	Solid	<b>Color</b>	white
<b>Appearance</b>	crystalline	<b>Odor threshold</b>	No data available
<b>Odor</b>	Slight		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	
pH	12.6	5% Solution
Melting point/freezing point	110 °C / 230 °F	
Boiling point / boiling range	No data available	
Evaporation rate	Not applicable	
Vapor pressure	Not applicable	

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**Vapor density (air = 1)** Not applicable  
**Specific gravity (water = 1 / air = 1)** 1.94  
**Partition Coefficient (n-octanol/water)** log K<sub>ow</sub> ~ 0  
**Soil Organic Carbon-Water Partition Coefficient** log K<sub>oc</sub> ~ 0  
**Autoignition temperature** No data available  
**Decomposition temperature** No data available  
**Dynamic viscosity** Not applicable  
**Kinematic viscosity** Not applicable

#### Solubility(ies)

##### Water solubility

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

##### Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

#### Other Information

##### **Metal Corrosivity**

Classified as corrosive to metal according to GHS criteria

**Steel Corrosion Rate**

Not applicable

**Aluminum Corrosion Rate**

6.3 mm/yr / 0.25 in/yr

##### **Volatile Organic Compounds (VOC) Content**

Not applicable

<b>Chemical name</b>	<b>CAS No.</b>	<b>Volatile organic compounds (VOC) content</b>	<b>CAA (Clean Air Act)</b>
Lithium hydroxide monohydrate	1310-66-3	No data available	-
Potassium iodide (KI)	7681-11-0	No data available	-
Sodium azide	26628-22-8	No data available	-

##### **Explosive properties**

**Upper explosion limit**

No data available

**Lower explosion limit**

No data available

##### **Flammable properties**

**Flash point**

Not applicable

**Method**

No information available

##### **Flammability Limit in Air**

**Upper flammability limit:**

No data available

**Lower flammability limit:**

No data available

##### **Oxidizing properties**

No data available.

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**Bulk density** No data available  
**Particle Size** No information available  
**Particle Size Distribution** No information available

## 10. STABILITY AND REACTIVITY

### Reactivity

Not applicable.

### Chemical stability

**Stability** Stable under normal conditions.

### Explosion data

**Sensitivity to Mechanical Impact** None

**Sensitivity to Static Discharge** None.

### Possibility of Hazardous Reactions

**Possibility of Hazardous Reactions** None under normal processing.

### Hazardous polymerization

None under normal processing.

### Conditions to avoid

**Conditions to avoid** Exposure to air or moisture over prolonged periods. Excessive heat.

### Incompatible materials

**Incompatible materials** Oxidizing agent. Acids. Bases.

### Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

## 11. TOXICOLOGICAL INFORMATION

### Information on Likely Routes of Exposure

#### Product Information

#### **Inhalation**

Corrosive by inhalation. 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. Toxic by inhalation.

#### **Eye contact**

Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

#### **Skin contact**

May cause irritation. Toxic in contact with skin.

#### **Ingestion**

Causes burns. 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.

#### **Symptoms**

Redness. Burning. May cause blindness. Coughing and/ or wheezing. Difficulty in breathing.

#### **Aggravated Medical Conditions**

Eye disorders. Skin disorders. Respiratory disorders. Preexisting eye disorders. Kidney disorders. Central Vascular System (CVS).

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**Toxicologically synergistic products** None known.  
**Toxicokinetics, metabolism and distribution** See ingredients information below.

Chemical name	Toxicokinetics, metabolism and distribution
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	May cross placenta and be excreted in breast milk. May react synergistically with mercury.
Sodium azide (1 - 5%) CAS#: 26628-22-8	Human data indicates that the most common health effect of sodium azide is hypotension, almost independent of route of exposure.

**Product Acute Toxicity Data**

Test data reported below

**Oral Exposure Route**

Endpoint type	Toxicological effects	Key literature references and sources for data
Rat LD <sub>50</sub>	<b>Behavioral</b> Flaccid muscle tone Lethargy <b>Endocrine</b> Abnormalities of the spleen <b>Eye</b> Ptosis <b>Gastrointestinal</b> Excess fluid in the peritoneal cavity <b>Liver</b> Abnormalities of the liver <b>Lungs, Thorax, or Respiration</b> Abnormalities of the lungs Chromorhinorrhea Excess fluid in the the pleural cavity Red or brown staining of the nose/mouth area <b>Nutritional and Gross Metabolic</b> Emaciation <b>Reproductive</b> Soiling and wetness of the anogenital area <b>Skin and Appendages</b> Piloerection	Outside testing

**Dermal Exposure Route** No data available  
**Inhalation (Dust/Mist) Exposure Route** No data available  
**Inhalation (Vapor) Exposure Route** No data available  
**Inhalation (Gas) Exposure Route** No data available

**Unknown Acute Toxicity**



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

### Acute Toxicity Estimations (ATE)

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

ATEmix (oral)	No information available
ATEmix (dermal)	866.00 mg/kg
ATEmix (inhalation-dust/mist)	0.90 mg/L
ATEmix (inhalation-vapor)	21.69 mg/L
ATEmix (inhalation-gas)	No information available

### Ingredient Acute Toxicity Data

#### Oral Exposure Route

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Lithium hydroxide monohydrate (60 - 70%) CAS#: 1310-66-3	Rat LD <sub>50</sub>	225 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	Rat LD <sub>50</sub>	2779 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium azide (1 - 5%) CAS#: 26628-22-8	Rat LD <sub>50</sub>	27 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	Mouse LD <sub>50</sub>	1000 mg/kg	None reported	None reported	Vendor SDS

#### Dermal Exposure Route

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium azide (1 - 5%) CAS#: 26628-22-8	Rabbit LD <sub>50</sub>	20 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium azide (1 - 5%) CAS#: 26628-22-8	Rat LD <sub>50</sub>	50 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

#### Inhalation (Dust/Mist) Exposure Route

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Lithium hydroxide monohydrate (60 - 70%) CAS#: 1310-66-3	Rat LC <sub>50</sub>	0.96 mg/L	4 hours	None reported	IUCLID (The International Uniform Chemical Information Database)
Sodium azide (1 - 5%) CAS#: 26628-22-8	Rat LC <sub>50</sub>	0.037 mg/L	None reported	<b>Eye</b> Other effects <b>Behavioral</b> Convulsions or effect on seizure threshold <b>Lungs, Thorax, or Respiration</b> Structural or functional change in trachea or bronchi	RTECS (Registry of Toxic Effects of Chemical Substances)

#### Inhalation (Vapor) Exposure Route

If available, see data below

#### Inhalation (Gas) Exposure Route

If available, see data below

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**Product Specific Target Organ Toxicity Single Exposure Data**

**Oral Exposure Route**

**Dermal Exposure Route**

**Inhalation (Dust/Mist) Exposure Route**

**Inhalation (Vapor) Exposure Route**

**Inhalation (Gas) Exposure Route**

No data available

No data available

No data available

No data available

**Ingredient Specific Target Organ Toxicity Single Exposure Data**

**Oral Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	Mouse LD <sub>Lo</sub>	1862 mg/kg	None reported	<b>Lungs, Thorax, or Respiration</b> Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

**Dermal Exposure Route**

If available, see data below

**Inhalation (Dust/Mist) Exposure Route**

If available, see data below

**Inhalation (Vapor) Exposure Route**

If available, see data below

**Inhalation (Gas) Exposure Route**

If available, see data below

**Aspiration toxicity**

If available, see data below

**Kinematic viscosity**

Not applicable

**Product Skin Corrosion/Irritation Data**

No data available.

**Ingredient Skin Corrosion/Irritation Data**

If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Lithium hydroxide monohydrate (60 - 70%) CAS#: 1310-66-3	Existing human experience	Human	None reported	None reported	Corrosive to skin	ERMA (New Zealand's Environmental Risk Management Authority)
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	Standard Draize Test	Rabbit	None reported	None reported	Skin irritant	No information available
Sodium azide (1 - 5%) CAS#: 26628-22-8	Organization for Economic Co-operation and Development (OECD) - Test 404: Acute Dermal Corrosion/Irritation	Rabbit	500 mg	1 hours	Corrosive to skin	ECHA (The European Chemicals Agency)

**Product Serious Eye Damage/Eye Irritation Data**

No data available.

**Ingredient Eye Damage/Eye Irritation Data**

If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	None reported	Rabbit	None reported	None reported	Eye irritant	HSDB (Hazardous Substances Data Bank)

**Sensitization Information**

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**Product Sensitization Data**

Skin Sensitization Exposure Route No data available.  
 Respiratory Sensitization Exposure Route No data available.

**Ingredient Sensitization Data**

Skin Sensitization Exposure Route If available, see data below.

Chemical name	Test method	Species	Results	Key literature references and sources for data
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	Patch test	Human	Not confirmed to be a skin sensitizer	ERMA (New Zealand's Environmental Risk Management Authority)

Respiratory Sensitization Exposure Route If available, see data below.

**Chronic Toxicity Information**

**Product Specific Target Organ Toxicity Repeat Dose Data**

Oral Exposure Route No data available.  
 Dermal Exposure Route No data available.  
 Inhalation (Dust/Mist) Exposure Route No data available.  
 Inhalation (Vapor) Exposure Route No data available.  
 Inhalation (Gas) Exposure Route No data available.

**Ingredient Specific Target Organ Toxicity Repeat Exposure Data**

Oral Exposure Route If available, see data below  
 Dermal Exposure Route If available, see data below  
 Inhalation (Dust/Mist) Exposure Route If available, see data below  
 Inhalation (Vapor) Exposure Route If available, see data below  
 Inhalation (Gas) Exposure Route If available, see data below

**Product Carcinogenicity Data**

Oral Exposure Route No data available  
 Dermal Exposure Route No data available  
 Inhalation (Dust/Mist) Exposure Route No data available  
 Inhalation (Vapor) Exposure Route No data available  
 Inhalation (Gas) Exposure Route No data available

**Ingredient Carcinogenicity Data**

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Lithium hydroxide monohydrate	1310-66-3	-	-	-	-
Potassium iodide (KI)	7681-11-0	-	-	-	-
Sodium azide	26628-22-8	-	-	-	-

**Legend**

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Oral Exposure Route If available, see data below  
 Dermal Exposure Route If available, see data below  
 Inhalation (Dust/Mist) Exposure Route If available, see data below  
 Inhalation (Vapor) Exposure Route If available, see data below  
 Inhalation (Gas) Exposure Route If available, see data below

**Product Germ Cell Mutagenicity *in vitro* Data**

No data available.

**Ingredient Germ Cell Mutagenicity *in vitro* Data**

If available, see data below

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	Cytogenetic analysis	Rat ascites tumor	500 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium azide (1 - 5%) CAS#: 26628-22-8	DNA damage	Human leukocyte	3 mmol/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium azide (1 - 5%) CAS#: 26628-22-8	DNA damage	Human mammary gland	5.2 mg/L	24 hours	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

**Product Germ Cell Mutagenicity *in vivo* Data**

Oral Exposure Route

Dermal Exposure Route

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route

Inhalation (Gas) Exposure Route

No data available

No data available

No data available

No data available

No data available

**Ingredient Germ Cell Mutagenicity *in vivo* Data**

Oral Exposure Route

Dermal Exposure Route

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route

Inhalation (Gas) Exposure Route

If available, see data below

If available, see data below

If available, see data below

If available, see data below

If available, see data below

**Product Reproductive Toxicity Data**

Oral Exposure Route

Dermal Exposure Route

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route

Inhalation (Gas) Exposure Route

No data available

No data available

No data available

No data available

No data available

**Ingredient Reproductive Toxicity Data**

Oral Exposure Route

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	Human TD <sub>Lo</sub>	2700 mg/kg	39 weeks	<b>Specific Developmental Abnormalities</b> Endocrine System	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	Human TD <sub>Lo</sub>	3240 mg/kg	39 weeks	<b>Effects on Newborn</b> Other neonatal measures or effects Physical <b>Specific Developmental Abnormalities</b> Endocrine system	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route

Inhalation (Gas) Exposure Route

If available, see data below

If available, see data below

If available, see data below

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** Harmful to aquatic life with long lasting effects

### Product Ecological Data

#### Aquatic toxicity

**Fish** No data available  
**Crustacea** No data available  
**Algae** No data available

### Ingredient Ecological Data

#### Aquatic toxicity

**Fish** If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	96 hours	<i>Oncorhynchus mykiss</i>	LC <sub>50</sub>	896 mg/L	PEEN (Pan European Ecological Network)
Sodium azide (1 - 5%) CAS#: 26628-22-8	96 hours	<i>Lepomis macrochirus</i>	LC <sub>50</sub>	0.68 mg/L	PEEN (Pan European Ecological Network)

**Crustacea** If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium azide (1 - 5%) CAS#: 26628-22-8	48 Hours	<i>Daphnia pulex</i>	EC <sub>50</sub>	4.2 mg/L	PEEN (Pan European Ecological Network)

**Algae** If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium azide (1 - 5%) CAS#: 26628-22-8	96 hours	<i>Selenastrum capricornutum</i>	EC <sub>50</sub>	0348 mg/L	PEEN (Pan European Ecological Network)

### Other Information

#### Persistence and degradability

#### Product Biodegradability Data

No data available.

#### Ingredient Biodegradability Data

#### Bioaccumulation

#### Product Bioaccumulation Data

No data available.

#### Partition Coefficient (n-octanol/water)

log K<sub>ow</sub> ~ 0

#### Ingredient Bioaccumulation Data

#### Mobility

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Soil Organic Carbon-Water Partition Coefficient

log K<sub>oc</sub> ~ 0

Water solubility

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

**Other adverse effects**

Contains a substance with an endocrine-disrupting potential.

### 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from residues/unused products**

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging**

Do not reuse empty containers.

**US EPA Waste Number**

D002, P105

<u>Chemical name</u>	<u>RCRA - Halogenated Organic Compounds</u>	<u>RCRA - P Series Wastes</u>	<u>RCRA - F Series Wastes</u>	<u>RCRA - K Series Wastes</u>
Sodium azide 26628-22-8	-	P105	-	-

**Special instructions for disposal**

Never put unreacted azides down the drain!. Dispose of material in an E.P.A. approved hazardous waste facility.

### 14. TRANSPORT INFORMATION

**U.S. DOT**

UN/ID no UN2680  
Proper shipping name Lithium Hydroxide Mixture  
Hazard Class 8  
Packing Group II  
Special Provisions Contact with acids forms toxic fumes.  
Emergency Response Guide Number 154

**TDG**

UN/ID no UN2680  
Hazard Class 8  
Packing Group II

**IATA**

UN/ID no UN2680  
Proper shipping name Lithium Hydroxide Mixture  
Hazard Class 8  
Packing Group II  
ERG Code 154

**IMDG**

UN/ID no UN2680  
Proper shipping name Lithium Hydroxide Mixture  
Hazard Class 8

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**Packing Group** II

**Note:** No special precautions necessary.

**Additional information**

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

**15. REGULATORY INFORMATION**

**National Inventories**

**TSCA** Complies  
**DSL/NDSL** Complies

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

**International Inventories**

**EINECS/ELINCS** Complies  
**ENCS** Complies  
**IECSC** Complies  
**KECL** Complies  
**PICCS** Complies  
**TCSI** Complies  
**AICS** Complies  
**NZIoC** Complies

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**TCSI** - Taiwan Chemical Substances Inventory  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Sodium azide (CAS #: 26628-22-8)	1.0

**SARA 311/312 Hazard Categories**

**Acute health hazard** Yes  
**Chronic Health Hazard** Yes  
**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)

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**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	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sodium azide 26628-22-8	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

**U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues**

Chemical name	U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues
Sodium azide (1 - 5%) CAS#: 26628-22-8	Theft - Explosives/Improvised Explosive Device Precursors

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

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

Chemical name	New Jersey	Massachusetts	Pennsylvania
Lithium hydroxide monohydrate 1310-66-3	X	-	-
Sodium azide 26628-22-8	X	X	X

**U.S. EPA Label Information**

Chemical name	FIFRA	FDA
Potassium iodide (KI)	180.0940	21 CFR 184.1634

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

**Special Comments**

None

**Additional information**

**Global Automotive Declarable Substance List (GADSL)**

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
Sodium azide 26628-22-8	Declarable Substance (FI)	0.1 % 1 µg/m

**NFPA and HMIS Classifications**



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<b>NFPA</b>	<b>Health hazards - 3</b>	<b>Flammability - 0</b>	<b>Instability - 0</b>	<b>Physical and Chemical Properties -</b>
<b>HMIS</b>	<b>Health hazards - 3</b>	<b>Flammability - 0</b>	<b>Physical Hazards - 0</b>	<b>Personal protection - X</b> - See section 8 for more information

**Key or legend to abbreviations and acronyms used in the safety data sheet**

NIOSH IDLH *Immediately Dangerous to Life or Health*  
 ACGIH ACGIH (American Conference of Governmental Industrial Hygienists)  
 NDF *no data*

**Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

**Prepared By** Hach Product Compliance Department  
**Issue Date** 26-May-2016  
**Revision Date** 26-Jan-2018  
**Revision Note** None

**Disclaimer**

**USER RESPONSIBILITY:** Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

**THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.**

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**End of Safety Data Sheet**