



Be Right™

SAFETY DATA SHEET

Issue Date 26-May-2016

Revision Date 02-Sep-2016

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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

Component of Kits or Sets 143801; 143801RGT; 146900; 146900RGT; 180202; 180202RGT; 188703; 188703RGT; 243001; 243001RGT; 243002; 243002RGT; 243003; 243003RGT; 2439802; 2482100; 2482400; 2559800; 2559800RGT; 2559833; 2559833RGT; 2712000; 2712000RGT

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
(970) 669-3050

Emergency telephone number

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

Product Information

Chemical Name Not applicable

Formula Not applicable

CAS No Not applicable

Alternate CAS Number Not applicable

NIOSH (RTECS) Number None reported

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 (Vapors)	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3

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Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (repeated exposure)	Category 2

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word - Danger



Hazard statements

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

Precautionary statements

P234 - Keep only in original container
P264 - Wash face, hands and any exposed skin thoroughly after handling
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
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
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
P363 - Wash contaminated clothing before reuse
P390 - Absorb spillage to prevent material damage
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant

Other Information

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

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 Range	HMRIC #
Lithium hydroxide monohydrate	1310-66-3	50 - 100	-
Potassium iodide (KI)	7681-11-0	30 - 50	-
Sodium azide	26628-22-8	1 - 5	-

4. FIRST AID MEASURES

Description of first aid measures

General advice	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
Skin contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.
Inhalation	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a physician immediately.
Ingestion	IF SWALLOWED: Rinse Mouth. Call a physician immediately. Do NOT induce vomiting.
Self-protection of the first aider	Use personal protective equipment as required. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11: TOXICOLOGICAL INFORMATION.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Carbon dioxide. Dry chemical. Water.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Flammable properties

During a fire, corrosive and toxic gases may be generated by thermal decomposition.

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic

gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Hazardous combustion products

No information available.

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

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.

EC Notice

Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

WHMIS Notice

Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

Personal precautions, protective equipment and emergency procedures

Personal precautions

Evacuate personnel to safe areas. Remove all sources of ignition. Do not touch or walk through spilled material. Ventilate affected area. Use personal protective equipment as required.

For emergency responders

Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions

Avoid release to the environment. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so. Cover with plastic sheet to prevent spreading.

Methods for cleaning up

Take necessary precautions in observance of pertinent physical hazards. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Dispose of in accordance with local, state and federal regulations or laws.

Emergency Response Guide Number

154

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Keep/store only in original container.

Flammability class

Not applicable

Incompatible materials Acids. Oxidizers. Incompatible with strong acids and bases. Incompatible with oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium iodide (KI) 30 - 50	TWA: 0.01 ppm	NDF	NDF
Sodium azide 1 - 5	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm	(vacated) SKN* (vacated) Ceiling: 0.1 ppm (vacated) Ceiling: 0.3 mg/m ³	Ceiling: 0.1 ppm HN3 Ceiling: 0.3 mg/m ³ NaN3

Chemical Name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick OEL	New Foundland & Labrador OEL
Potassium iodide (KI) 30 - 50	NDF	NDF	TWA: 0.01 ppm	NDF	TWA: 0.01 ppm
Sodium azide 1 - 5	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm STEL: 0.3 mg/m ³	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm	Ceiling: 0.11 ppm Ceiling: 0.29 mg/m ³	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm

Chemical Name	Northwest Territories OEL	Nova Scotia OEL	Nunavut OEL	Ontario TWA	Prince Edward Island OEL
Lithium hydroxide monohydrate 50 - 100	NDF	NDF	NDF	STEL: 1 mg/m ³	NDF
Potassium iodide (KI) 30 - 50	NDF	TWA: 0.01 ppm	NDF	TWA: 0.01 ppm	TWA: 0.01 ppm
Sodium azide 1 - 5	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm

Chemical Name	Quebec OEL	Saskatchewan OEL	Yukon OEL
Sodium azide 1 - 5	Ceiling: 0.11 ppm Ceiling: 0.3 mg/m ³	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm	Ceiling: 0.1 ppm Ceiling: 0.3 mg/m ³

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Wear tight sealing safety goggles and/or face protection shield.

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off all contaminated clothing and wash it before reuse. Wash hands thoroughly after handling. Regular cleaning of equipment, work area

and clothing is recommended.

Environmental exposure controls

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid		
Gas Under Pressure	Not classified according to GHS criteria		
Appearance	crystalline	Color	white
Odor	Slight	Odor threshold	No data available

<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	
Vapor density (air = 1)	Not applicable	
Specific gravity (water = 1 / air = 1)	1.94	
Partition Coefficient (n-octanol/water)	No data available	
Soil Organic Carbon-Water Partition Coefficient	No data available	
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

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Other Information

Metal Corrosivity	Classified as corrosive to metal according to GHS criteria
GHS Metal Corrosivity Classification	Category 1, H290
Steel Corrosion Rate	Not applicable
Aluminum Corrosion Rate	6.3 mm/yr / 0.25 in/yr
Volatile Organic Compounds (VOC) Content	Not applicable.
Bulk density	No data available
Explosive properties	Not classified according to GHS criteria.
Explosion data	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Flammable properties	During a fire, corrosive and toxic gases may be generated by thermal decomposition.
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available
Flash point	Not applicable
Method	No information available
Oxidizing properties	Not classified according to GHS criteria.
Reactivity properties	Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.

10. STABILITY AND REACTIVITY

Reactivity properties

Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria

Chemical stability

Stable under recommended storage conditions.

Special dangers of the product

None reported

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid

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Excess moisture. Extreme temperatures. Contact with acid or acid fumes. Contact with oxidizers. Exposure to air or moisture over prolonged periods. Poor Ventilation.

Incompatible materials

Acids. Oxidizers. Incompatible with strong acids and bases. Incompatible with oxidizing agents.

Hazardous Decomposition Products

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

Explosive properties

Not classified according to GHS criteria.

Upper explosion limit No data available

Lower explosion limit No data available

Autoignition temperature

No data available

Sensitivity to Static Discharge

None reported

Sensitivity to Mechanical Impact

None reported

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Product Information	Toxic by ingestion. Toxic in contact with skin. Toxic if inhaled. Corrosive to skin. Corrosive to eyes.
Inhalation	Avoid breathing dust/fume/gas/mist/vapors/spray. Toxic by inhalation. Immediate medical attention is required. Causes burns. Corrosive by inhalation.
Eye contact	Corrosive to the eyes and may cause severe damage including blindness. Causes burns. Corrosive to eyes.
Skin contact	Toxic in contact with skin. Cause severe skin burns and eye damage. Causes burns.
Ingestion	Toxic if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts. Causes burns.
Aggravated Medical Conditions	Eye disorders. Skin disorders. Respiratory disorders.
Toxicologically synergistic products	None known.
Toxicokinetics, metabolism and distribution	See ingredients information below.

Chemical Name	Toxicokinetics, metabolism and distribution
Potassium iodide (KI) (30 - 50) 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

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

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

ATEmix (dermal)	866.00 mg/kg
ATEmix (inhalation-dust/mist)	0.90 mg/L
ATEmix (inhalation-vapor)	4.00 mg/L

Ingredient Acute Toxicity Data

Oral Exposure Route

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Lithium hydroxide monohydrate (50 - 100) CAS#: 1310-66-3	Rat LD ₅₀	225 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

Potassium iodide (KI) (30 - 50) CAS#: 7681-11-0	Human LD ₅₀	>= 2500 mg/kg	None reported	None reported	Vendor SDS
Sodium azide (1 - 5) CAS#: 26628-22-8	Rat LD ₅₀	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 - 50) CAS#: 7681-11-0	Rat LD ₅₀	2779 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 - 50) CAS#: 7681-11-0	Mouse LD _{Lo}	1862 mg/kg	None reported	Lungs, Thorax, or Respiration Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route

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 ₅₀	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 ₅₀	50 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Dust/Mist) Exposure Route

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Lithium hydroxide monohydrate (50 - 100) CAS#: 1310-66-3	Rat LC ₅₀	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 ₅₀	0.037 mg/L	None reported	Eye Other effects Behavioral Convulsions or effect on seizure threshold Lungs, Thorax, or Respiration Structural or functional change in trachea or bronchi	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route

Inhalation (Gas) Exposure Route

No data available

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

Chemical Name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Lithium hydroxide	Existing human	Human	None	None	Corrosive to skin	ERMA (New Zealand)

monohydrate (50 - 100) CAS#: 1310-66-3	experience		reported	reported		Environmental Risk Management Authority)
Potassium iodide (KI) (30 - 50) 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)
Chemical Name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
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	4 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

Chemical Name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium iodide (KI) (30 - 50) CAS#: 7681-11-0	None reported	Rabbit	None reported	None reported	Eye irritant	HSDB (Hazardous Substances Data Bank)

Sensitization Information

Product Sensitization Data

Skin Sensitization Exposure Route No data available.

Respiratory Sensitization Exposure Route No data available.

Ingredient Sensitization Data

Skin Sensitization Exposure Route Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Test method	Species	Results	Key literature references and sources for data
Potassium iodide (KI) (30 - 50) 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 No data available.

Chronic Toxicity Information

Product Repeat Dose Toxicity Data

Oral Exposure Route No data available.

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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 Repeat Dose Toxicity 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

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)	X - Present

Product Carcinogenicity Data No data available
 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
 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

Product Germ Cell Mutagenicity *invitro* Data

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No data available.

Ingredient Germ Cell Mutagenicity *invitro* Data

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium iodide (KI) (30 - 50) 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)
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 inhibition	Human HeLa Cell	30 mmol/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

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 Germ Cell Mutagenicity *invivo* 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

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 Reproductive Toxicity Data

Oral Exposure Route

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (30 - 50) CAS#: 7681-11-0	Human TD _{Lo}	2700 mg/kg	39 weeks	Specific Developmental Abnormalities 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 - 50) CAS#: 7681-11-0	Human TD _{Lo}	3240 mg/kg	39 weeks	Effects on Newborn Other neonatal measures or effects Physical Specific Developmental Abnormalities Endocrine system	RTECS (Registry of Toxic Effects of Chemical Substances)

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

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

Terrestrial toxicity

Soil

No data available

Vertebrates

No data available

Invertebrates

No data available

Ingredient Ecological Data

Aquatic toxicity

Fish

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

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CAS#: 26628-22-8					
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>Oncorhynchus mykiss</i>	LC ₅₀	0.8 mg/L	PEEN (Pan European Ecological Network)

Crustacea

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 ₅₀	4.2 mg/L	PEEN (Pan European Ecological Network)

Algae

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 ₅₀	0348 mg/L	PEEN (Pan European Ecological Network)

Terrestrial toxicity

Soil No data available

Vertebrates No data available

Invertebrates No data available

Other Information

Canadian Environmental Protection Act (CEPA) - Domestic Substances List (DSL): Environmentally Hazardous Substances Categorizations				
Chemical Name	Category	Persistent	Bioaccumulation	Inherently Toxic to Aquatic Organisms
Sodium azide (1 - 5) CAS#: 26628-22-8	Inorganics	Yes	No	Yes

Persistence and degradability

None known.

Product Biodegradability Data

No data available.

Ingredient Biodegradability Data

No data available

Bioaccumulation

None known.

Product Bioaccumulation Data

No data available.

Ingredient Bioaccumulation Data

No data available

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Additional information

Product Information No data available

Partition Coefficient (n-octanol/water) No data available

Ingredient Information

Mobility

Mobility in soil: Moderate to high mobility. If available, see ingredient data below.

Product Information No data available

Soil Organic Carbon-Water Partition Coefficient No data available

Ingredient Information No data available

Additional information

Water solubility

Product Information

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

Ingredient Information

<u>Chemical Name</u>	<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water solubility temperature °C</u>	<u>Water solubility temperature °F</u>
Lithium hydroxide monohydrate (50 - 100) CAS#: 1310-66-3	Completely soluble	128000 mg/L	20 °C	68 °F
Potassium iodide (KI) (30 - 50) CAS#: 7681-11-0	Completely soluble	1400000 mg/L	20 °C	68 °F
Sodium azide (1 - 5) CAS#: 26628-22-8	Completely soluble	401700 mg/L	0 °C	32 °F

Other adverse effects

Contains a substance with an endocrine-disrupting potential.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number D002, P105

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Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
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

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
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

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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)

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

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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

EPA Pesticide Registration Number Not applicable

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

NFPA and HMIS Classifications

NFPA	Health hazards - 3	Flammability - 0	Instability - 0	Physical and Chemical Properties -
HMIS	Health hazards - 3	Flammability - 0	Physical hazards - 0	Personal protection - X - 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

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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.

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End of Safety Data Sheet