



Be Right™

SAFETY DATA SHEET

Issue Date 07-Jun-2016

Revision Date 12-Dec-2016

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1. IDENTIFICATION

Product identifier

Product Name Nessler Reagent

Other means of identification

Product Code(s) 2119432

Safety data sheet number M00503

UN/ID no UN2922

Synonyms

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent. Determination of ammonium nitrogen.

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

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 2
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

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word - Danger



Hazard statements

H290 - May be corrosive to metals
H301 - Toxic if swallowed
H310 - Fatal 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

P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P262 - Do not get in eyes, on skin, or on clothing
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P271 - Use only outdoors or in a well-ventilated area
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P234 - Keep only in original container
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
P363 - Wash contaminated clothing before reuse
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P330 - Rinse mouth
P331 - Do NOT induce vomiting
P310 - Immediately call a POISON CENTER or doctor/physician
P390 - Absorb spillage to prevent material damage
P405 - Store locked up
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P406 - Store in corrosive resistant stainless steel container with a resistant inliner
P501 - Dispose of contents/ container to an approved waste disposal plant

Other Information

Very toxic to aquatic life with long lasting effects
Very toxic to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Synonyms

Percent ranges are used where confidential product information is applicable.

Chemical Name	CAS No	Percent Range	HMRIC #
Sodium hydroxide	1310-73-2	10 - 20%	-
Mercuric iodide	7774-29-0	5 - 10%	-
Sodium iodide	7681-82-5	3 - 7%	-

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

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

Flammable properties

During a fire, irritating and highly 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

Mercury. Sodium oxides. Iodine compounds.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus and protective suit.

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus and protective suit

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. 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. Dike far ahead of liquid spill for later disposal.
- Methods for cleaning up** Take necessary precautions in observance of pertinent physical hazards. Neutralize spill if necessary. Soak up with inert absorbent material. 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

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 10 - 20%	Ceiling: 2 mg/m ³	TWA: 2 mg/m ³ (vacated) Ceiling: 2 mg/m ³	IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³
Mercuric iodide 5 - 10%	TWA: 0.025 mg/m ³ TWA: 0.01 ppm S*	(vacated) Ceiling: 0.1 mg/m ³	IDLH: 10 mg/m ³ Hg Ceiling: 0.1 mg/m ³ Hg TWA: 0.05 mg/m ³ except Organo alkyls Hg vapor
Sodium iodide 3 - 7%	TWA: 0.01 ppm	NDF	NDF

Chemical Name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick OEL	New Foundland & Labrador OEL
Sodium hydroxide 10 - 20%	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³
Mercuric iodide 5 - 10%	TWA: 0.025 mg/m ³ SKN*	TWA: 0.025 mg/m ³ SKN* R	TWA: 0.025 mg/m ³ TWA: 0.01 ppm SKN*	TWA: 0.025 mg/m ³ SKN*	TWA: 0.025 mg/m ³ TWA: 0.01 ppm SKN*
Sodium iodide 3 - 7%	NDF	NDF	TWA: 0.01 ppm	NDF	TWA: 0.01 ppm

Chemical Name	Northwest Territories OEL	Nova Scotia OEL	Nunavut OEL	Ontario TWA	Prince Edward Island OEL
Sodium hydroxide 10 - 20%	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³
Mercuric iodide 5 - 10%	TWA: 0.025 mg/m ³ STEL: 0.075 mg/m ³ SKN*	TWA: 0.025 mg/m ³ TWA: 0.01 ppm SKN*	TWA: 0.025 mg/m ³ STEL: 0.075 mg/m ³ SKN*	TWA: 0.025 mg/m ³ TWA: 0.01 ppm SKN*	TWA: 0.025 mg/m ³ TWA: 0.01 ppm
Sodium iodide 3 - 7%	NDF	TWA: 0.01 ppm	NDF	TWA: 0.01 ppm	TWA: 0.01 ppm

Chemical Name	Quebec OEL	Saskatchewan OEL	Yukon OEL
Sodium hydroxide 10 - 20%	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³
Mercuric iodide 5 - 10%	TWA: 0.025 mg/m ³ SKN*	TWA: 0.025 mg/m ³ STEL: 0.075 mg/m ³ SKN*	NDF

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

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. Prevent product from entering drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Gas Under Pressure	Not classified according to GHS criteria		
Appearance	aqueous solution	Color	yellow
Odor	Not determined	Odor threshold	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	
pH	12.1	
Melting point/freezing point	~ -21 °C / -6 °F	Estimation based on theoretical calculation
Boiling point / boiling range	110 °C / 230 °F	
Evaporation rate	1.07 (water = 1)	Estimation based on theoretical calculation
Vapor pressure	21.602 mm Hg / 2.88 kPa at 25 °C / 77 °F	Estimation based on theoretical calculation
Vapor density (air = 1)	No data available 0.62 (air = 1)	
Specific gravity (water = 1 / air = 1)	1.265	
Partition Coefficient (n-octanol/water)	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	110 °C /	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

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

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<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
None reported	No information available	No data available	No information available

Other Information

Metal Corrosivity	Classified as corrosive to metal according to GHS criteria
GHS Metal Corrosivity Classification	Category 1, H290
Steel Corrosion Rate	No data available
Aluminum Corrosion Rate	No data available
Bulk density	Not applicable
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, irritating and highly 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	No data available
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.

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Conditions to avoid

Exposure to light or contamination by organic materials will affect this product's stability. Extreme temperatures. Exposure to air or moisture over prolonged periods.

Incompatible materials

Acids. Bases. Oxidizers. organic materials. Ammonia. 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

NIOSH (RTECS) Number None reported

Information on Likely Routes of Exposure

Product Information	Fatal in contact with skin. Toxic by ingestion. 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	Fatal 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	No information available.

Product Acute Toxicity Data

Oral Exposure Route No data available

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route No data available

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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 (oral)	189.00 mg/kg
ATEmix (dermal)	53.00 mg/kg
ATEmix (inhalation-dust/mist)	0.53 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
Mercuric iodide (5 - 10%) CAS#: 7774-29-0	Rat LD ₅₀	18 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium iodide (3 - 7%) CAS#: 7681-82-5	Rat LD ₅₀	4340 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 hydroxide (10 - 20%) CAS#: 1310-73-2	Rabbit LD ₅₀	500 mg/kg	None reported	None reported	Vendor SDS

Dermal Exposure Route

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium hydroxide (10 - 20%) CAS#: 1310-73-2	Rabbit LD ₅₀	1350 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Mercuric iodide (5 - 10%) CAS#: 7774-29-0	Rat LD ₅₀	75 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route No data available

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
Sodium hydroxide (10 - 20%) CAS#: 1310-73-2	Patch test	Human	20 mg	24 hours	Corrosive to skin	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium iodide (3 - 7%) CAS#: 7681-82-5	Standard Draize Test	Rabbit	500 mg	24 hours	Skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

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
Sodium hydroxide (10 - 20%) CAS#: 1310-73-2	Standard Draize Test	Rabbit	0.05 mg	24 hours	Corrosive to eyes	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium iodide (3 - 7%) CAS#: 7681-82-5	Standard Draize Test	Rabbit	100 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

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 No data available.

Respiratory Sensitization Exposure Route No data available.

Chronic Toxicity Information

Product 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.

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
Sodium hydroxide	1310-73-2	-	-	-	-
Mercuric iodide	7774-29-0	-	Group 3	-	-
Sodium iodide	7681-82-5	-	-	-	-

Legend

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

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

No data available.

Ingredient Germ Cell Mutagenicity *invitro* 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 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

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium iodide (3 - 7%) CAS#: 7681-82-5	Woman TD _{Lo}	9240 mg/kg	43 weeks	Effects on Newborn Other neonatal measures or effects 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

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Mercuric iodide (5 - 10%) CAS#: 7774-29-0	Rat TC _{Lo}	0.000004870 mg/L	22 days	Effects on Embryo or Fetus Fetal death Effects on Fertility Post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants)	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route No data available

Inhalation (Gas) Exposure Route No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic 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
Sodium hydroxide (10 - 20%) CAS#: 1310-73-2	96 hours	<i>Oncorhynchus mykiss</i>	LC ₅₀	45.4 mg/L	IUCLID (The International Uniform Chemical Information Database)
Mercuric iodide (5 - 10%) CAS#: 7774-29-0	96 hours	<i>Leuciscus idus</i>	LC ₅₀	0.13 mg/L	Vendor SDS
Sodium iodide (3 - 7%) CAS#: 7681-82-5	96 hours	<i>Oncorhynchus mykiss</i>	LC ₅₀	3780 mg/L	EPA (United States Environmental Protection Agency)

Crustacea

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium hydroxide (10 - 20%) CAS#: 1310-73-2	48 Hours	<i>Daphnia sp.</i>	EC ₅₀	40.4 mg/L	IUCLID (The International Uniform Chemical Information Database)
Mercuric iodide (5 - 10%) CAS#: 7774-29-0	48 Hours	<i>Daphnia magna</i>	EC ₅₀	0.0052 mg/L	Vendor SDS
Sodium iodide (3 - 7%) CAS#: 7681-82-5	48 Hours	<i>Daphnia magna</i>	EC ₅₀	0.17 mg/L	EPA (United States Environmental Protection Agency)

Algae

No data available

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
Mercuric iodide (5 - 10%) CAS#: 7774-29-0	Inorganics	Yes	No	Yes
Sodium iodide (3 - 7%) CAS#: 7681-82-5	Inorganics	Yes	No	Yes

Persistence and degradability

None known.

Product Biodegradability Data

If available, see ingredient data below.

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Ingredient Biodegradability Data

Test data reported below

Chemical Name	Test method	Biodegradation	Exposure time	Results
Sodium hydroxide (10 - 20%) CAS#: 1310-73-2	None reported	None reported	None reported	Readily biodegradable
Mercuric iodide (5 - 10%) CAS#: 7774-29-0	None reported	None reported	None reported	Not readily biodegradable
Sodium iodide (3 - 7%) CAS#: 7681-82-5	Inorganic Salt	None reported	None reported	Not readily biodegradable

Bioaccumulation

None known.

Product Bioaccumulation Data

If available, see ingredient data below.

Ingredient Bioaccumulation Data

Chemical Name	Test method	Exposure time	Species	Bioconcentration factor (BCF)	Results
Mercuric iodide (5 - 10%) CAS#: 7774-29-0	None reported	None reported	None reported	BCF >= 500	Has the potential to bioaccumulate

Additional information

Product Information

Partition Coefficient (n-octanol/water)

Not applicable

Ingredient Information

Mobility

Mobility in soil: High mobility. If available, see ingredient data below.

Product Information

Soil Organic Carbon-Water Partition Coefficient

Not applicable

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

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Chemical Name	Water solubility classification	Water solubility	Water solubility temperature °C	Water solubility temperature °F
Sodium hydroxide CAS#: 1310-73-2	Completely soluble	420000 mg/L	0 °C	32 °F
Mercuric iodide CAS#: 7774-29-0	Slightly soluble	60 mg/L	25 °C	77 °F
Sodium iodide CAS#: 7681-82-5	Completely soluble	2000000 mg/L	20 °C	68 °F

Other adverse effects
No information available.

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

Special instructions for disposal Decontaminate any equipment or surfaces that have come in contact with mercury with commercially available mercury absorbing compounds. Dispose of all mercury contaminated material at an E.P.A. hazardous waste facility. Dispose of material in an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

DOT

UN/ID no UN2922
Proper shipping name Corrosive Liquid, Toxic, N.O.S.
DOT Technical Name (Mercuric Iodide/Sodium Hydroxide Solution)
Hazard Class 8
Subsidiary class 6.1
Packing Group II
Emergency Response Guide Number 154

TDG

UN/ID no UN2922
Proper shipping name Corrosive Liquid, Toxic, N.O.S.
TDG Technical Name (Mercuric Iodide/Sodium Hydroxide Solution)
Hazard Class 8
Subsidiary class 6.1
Packing Group II

IATA

UN/ID no UN2922
Proper shipping name Corrosive Liquid, Toxic, N.O.S.
IATA Technical Name (Mercuric Iodide/Sodium Hydroxide Solution)
Hazard Class 8
Subsidiary hazard class 6.1
Packing Group II
ERG Code 154

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IMDG

UN/ID no UN2922
IMDG Technical Name (Mercuric Iodide/Sodium Hydroxide Solution)
Hazard Class 8
Subsidiary hazard class 6.1
Packing Group II
Marine pollutant This material meets the definition of a marine pollutant

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 %
Mercuric iodide (CAS #: 7774-29-0)	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)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hydroxide 1310-73-2	1000 lb	-	-	X
Mercuric iodide 7774-29-0	-	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	CERCLA/SARA RQ	Reportable Quantity (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

Chemical Name	California Proposition 65
Mercuric iodide (CAS #: 7774-29-0)	Developmental

IMERC: Contains Mercury Dispose of in accordance with local, state and federal regulations or laws.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Sodium hydroxide 1310-73-2	X	X	X
Mercuric iodide 7774-29-0	X	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

Canada - CEPA - Mercury Containing Products

Chemical Name	Canada - CEPA - Mercury Containing Products
Mercuric iodide CAS#: 7774-29-0	Applies

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

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical Name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
Mercuric iodide	Prohibited Substance (LR)	0.0 %

Product Code(s) 2119432
 Issue Date 07-Jun-2016
 Version 2

Product Name Nessler Reagent
 Revision Date 12-Dec-2016
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7774-29-0	Declarable Substance (LR)	0.1 %
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Special Comments

This product contains mercury and may be subject to reporting and recordkeeping requirements

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

Issue Date 07-Jun-2016

Revision Date 12-Dec-2016

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