



Fisher Scientific

Part of Thermo Fisher Scientific

SAFETY DATA SHEET

Creation Date 26-Oct-2010

Revision Date 05-May-2014

Revision Number 1

1. Identification

Product Name Nessler's Reagent Solution

Cat No. : SN16I-500

Synonyms No information available

Recommended Use Laboratory chemicals.

Uses advised against No Information available

Details of the supplier of the safety data sheet

Company

Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number

CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification

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

Corrosive to metals	Category 1
Acute oral toxicity	Category 3
Acute dermal toxicity	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 4
Skin Corrosion/Irritation	Category 1
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system, Central nervous system (CNS).	
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Kidney.	

Label Elements

Signal Word

Danger

Hazard Statements

May be corrosive to metals
 Toxic if swallowed
 Toxic in contact with skin
 Harmful if inhaled
 Causes severe skin burns and eye damage
 May cause respiratory irritation
 May cause drowsiness or dizziness
 May cause damage to organs through prolonged or repeated exposure



Precautionary Statements

Prevention

Do not get in eyes, on skin, or on clothing
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Wear protective gloves/protective clothing/eye protection/face protection
 Use only outdoors or in a well-ventilated area
 Do not breathe dust/fume/gas/mist/vapors/spray

Response

Immediately call a POISON CENTER or doctor/physician

Inhalation

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

Skin

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

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Toxic to aquatic life with long lasting effects

Other hazards

WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

3. Composition / information on ingredients

Component	CAS-No	Weight %
Water	7732-18-5	70.94
Potassium hydroxide	1310-58-3	15.99
Mercuric iodide	7774-29-0	7.47
Potassium iodide	7681-11-0	5.60

4. First-aid measures

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
 Immediate medical attention is required.

Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.
Ingestion	Do not induce vomiting. Call a physician or Poison Control Center immediately.
Most important symptoms/effects	Causes burns by all exposure routes.
Notes to Physician	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.
Unsuitable Extinguishing Media	Carbon dioxide (CO ₂)
Flash Point	Not applicable
Method -	No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

Corrosive Material. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

Hazardous Combustion Products

Thermal decomposition can lead to release of irritating gases and vapors Hydrogen iodide Oxides of potassium

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.

NFPA

Health 3	Flammability 0	Instability 0	Physical hazards N/A
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6. Accidental release measures

Personal Precautions	Wear self-contained breathing apparatus and protective suit. Evacuate personnel to safe areas. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing.
Environmental Precautions	Should not be released into the environment. See Section 12 for additional ecological Information.

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling	Use only under a chemical fume hood. Wear personal protective equipment. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Do not ingest.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium hydroxide	Ceiling: 2 mg/m ³	(Vacated) Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³
Mercuric iodide	TWA: 0.01 ppm TWA: 0.025 mg/m ³ Skin	(Vacated) Ceiling: 0.1 mg/m ³	IDLH: 10 mg/m ³ TWA: 0.05 mg/m ³ Ceiling: 0.1 mg/m ³
Potassium iodide	TWA: 0.01 ppm		
Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
Potassium hydroxide 1310-58-3 (15.99)	Ceiling: 2 mg/m ³		CEV: 2 mg/m ³
Mercuric iodide 7774-29-0 (7.47)	TWA: 0.025 mg/m ³ Skin	TWA: 0.05 mg/m ³	TWA: 0.01 ppm TWA: 0.025 mg/m ³ Skin
Potassium iodide 7681-11-0 (5.60)			TWA: 0.01 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures

Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment**Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Yellow
Odor	Odorless
Odor Threshold	No information available
pH	No information available
Melting Point/Range	No data available
Boiling Point/Range	No information available
Flash Point	Not applicable
Evaporation Rate	> 1 (Ether = 1.0)
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	No information available
Relative Density	
1.1 - 1.3	
Solubility	Soluble in water
Partition coefficient; n-octanol/water	
No data available	
Autoignition Temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available

10. Stability and reactivity

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products. Excess heat.
Incompatible Materials	Metals, Strong oxidizing agents, Strong acids, Strong bases, Halogens
Hazardous Decomposition Products	Thermal decomposition can lead to release of irritating gases and vapors, Hydrogen iodide, Oxides of potassium
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	Contact with metals may evolve flammable hydrogen gas.

11. Toxicological information

Acute Toxicity

Product Information

Oral LD50	Category 3. ATE = 50 - 300 mg/kg.
Dermal LD50	Category 3. ATE = 200 - 1000 mg/kg.
Mist LC50	Category 4. ATE = 0.5 - 1 mg/l.

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	Not listed	Not listed
Potassium hydroxide	214 mg/kg (Rat)	Not listed	Not listed
Mercuric iodide	18 mg/kg (Rat)	75 mg/kg (Rat)	Not listed
Potassium iodide	2779 mg/kg (Rat)	Not listed	Not listed

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation	Causes severe burns by all exposure routes
Sensitization	No information available
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed
Potassium hydroxide	1310-58-3	Not listed	Not listed	Not listed	Not listed	Not listed
Mercuric iodide	7774-29-0	Not listed	Not listed	Not listed	Not listed	Not listed
Potassium iodide	7681-11-0	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects No information available

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects Substances known to cause developmental toxicity in humans.

Teratogenicity Teratogenic effects have occurred in experimental animals.

STOT - single exposure

Respiratory system Central nervous system (CNS)

STOT - repeated exposure

Kidney

Aspiration hazard No information available

Symptoms

/ effects,**both acute and delayed**

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information No information available

Other Adverse Effects See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Potassium hydroxide	Not listed	80 mg/L LC50 96 h	Not listed	Not listed
Potassium iodide	-	Onchorhynchus mykiss: LC50: 3200 mg/L/120h	-	-

Persistence and Degradability

No information available

Bioaccumulation/ Accumulation No information available.

Mobility

Component	log Pow
Potassium hydroxide	0.83
Potassium iodide	0.04

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN2922
 Proper Shipping Name CORROSIVE LIQUIDS, TOXIC, N.O.S.
 Proper technical name (POTASSIUM HYDROXIDE, MERCURIC IODIDE)
 Hazard Class 8
 Subsidiary Hazard Class 6.1
 Packing Group II

TDG

UN-No UN2922
 Proper Shipping Name CORROSIVE LIQUIDS, TOXIC, N.O.S.
 Hazard Class 8
 Subsidiary Hazard Class 6.1
 Packing Group II

IATA

UN-No UN2922
 Proper Shipping Name CORROSIVE LIQUIDS, TOXIC, N.O.S.
 Hazard Class 8
 Subsidiary Hazard Class 6.1
 Packing Group II

IMDG/IMO

UN-No UN2922
 Proper Shipping Name CORROSIVE LIQUIDS, TOXIC, N.O.S.
 Hazard Class 8
 Subsidiary Hazard Class 6.1
 Packing Group II

15. Regulatory information

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Water	X	X	-	231-791-2	-		X	-	X	X	X
Potassium hydroxide	X	X	-	215-181-3	-		X	X	X	X	X
Mercuric iodide	X	X	-	231-873-8	-		X	X	X	X	X
Potassium iodide	X	X	-	231-659-4	-		X	X	X	X	X

Legend:**X - Listed****E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.****F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.****N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.****P - Indicates a commenced PMN substance****R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.****S - Indicates a substance that is identified in a proposed or final Significant New Use Rule****T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.****XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).****Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.****Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.****U.S. Federal Regulations****TSCA 12(b)** Not applicable**SARA 313**

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Mercuric iodide	7774-29-0	7.47	1.0

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Potassium hydroxide	X	1000 lb	-	-
Mercuric iodide	-	-	X	-

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Mercuric iodide	X		-

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Potassium hydroxide	1000 lb	-

California Proposition 65 This product contains the following Proposition 65 chemicals:

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Mercuric iodide	7774-29-0	Developmental	-	Developmental

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Potassium hydroxide	X	X	X	-	X
Mercuric iodide	-	X	X	X	-

U.S. Department of Transportation

Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class

D1B Toxic materials
E Corrosive material



16. Other information

Prepared By Regulatory Affairs
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Revision Summary

This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS