SAFETY DATA SHEET SPECTRUM®



Revision date 17-July-2020 Revision Number 1

1. Identification

Product identifier

Product Name NESSLER REAGENT, SOLUTION, FOR NITROGEN (AMMONIA), APHA 18

Other means of identification

Product Code(s) N-120

UN/ID no UN2922

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use

No information available

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Address

Spectrum Chemical Mfg. Corp. 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000

Emergency telephone number

Emergency Telephone Chemtrec 1-800-424-9300

2. Hazard(s) identification

Classification

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Gases)	Category 3
Acute toxicity - Inhalation (Vapors)	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1B
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2
Corrosive to metals	Category 1

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements

Toxic if swallowed

Toxic in contact with skin

Toxic if inhaled

Causes severe skin burns and eye damage

May cause an allergic skin reaction

Suspected of damaging fertility or the unborn child

May cause damage to organs through prolonged or repeated exposure

May be corrosive to metals



Appearance Clear

Physical state Liquid

Odor No information available

Precautionary Statements - Prevention

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

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

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Use only outdoors or in a well-ventilated area

Contaminated work clothing must not be allowed out of the workplace

Do not breathe dust/fume/gas/mist/vapors/spray

Keep only in original container

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor

Call a POISON CENTER or doctor if you feel unwell

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

Wash contaminated clothing before reuse

If skin irritation or rash occurs: Get medical advice/attention

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

IF SWALLOWED: Immediately call a POISON CENTER or doctor

Rinse mouth

Do NOT induce vomiting

Absorb spillage to prevent material damage

Precautionary Statements - Storage

Store locked up.

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

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

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Unknown acute toxicity

7 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

Other information

Toxic to aquatic life with long lasting effects. Toxic to aquatic life.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%	Trade secret
Water	7732-18-5	67	*
Sodium Hydroxide	1310-73-2	16	*
Mercuric Iodide	7774-29-0	10	*
Potassium Iodide	7681-11-0	7	*

^{*}The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

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

required.

Inhalation 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. Immediate medical attention is required.

Eye contact 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.

Skin contact Get immediate medical advice/attention. Wash off immediately with soap and plenty of

water while removing all contaminated clothes and shoes. May cause an allergic skin

reaction.

Ingestion 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.

Self-protection of the first aider 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 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. Do not breathe vapor or mist. Use

personal protective equipment as required. See section 8 for more information.

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Itching. Rashes. Hives. 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. May cause

sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

surrounding environment.

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

Unsuitable extinguishing mediaDo not scatter spilled material with high pressure water streams.

Specific hazards arising from the

chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Product is or contains a sensitizer. May

cause sensitization by skin contact.

Explosion data

Sensitivity to mechanical impact none.

Sensitivity to static discharge none

Special protective equipment for

fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout

gear. Use personal protection equipment.

6. Accidental release measures

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. Do not breathe vapor or mist.

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

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.

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. Remove contaminated clothing and shoes. Do not breathe vapor or mist.

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.

8. Exposure controls/personal protection

Control parameters

Exposure LimitsThe following ingredients are the only ingredients of the product above the cut-off level (or

level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium Hydroxide 1310-73-2	No data available	2 mg/m³ TWA	-
1310-73-2			

Appropriate engineering controls

Showers **Engineering controls**

> Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

Wear suitable gloves. Impervious gloves. Hand protection

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

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.

Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this General hygiene considerations

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 vapor or mist.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid **Appearance** Clear Color light vellow

Odor No information available **Odor threshold** No information available

Property Remarks • Method Values

no data available pН None known Melting point / freezing point no data available None known Boiling point / boiling range no data available None known Flash point no data available None known **Evaporation rate** no data available None known Flammability (solid, gas) no data available None known Flammability Limit in Air None known

Upper flammability or explosive No data available

limits

Lower flammability or explosive No data available

limits

No data available Vapor pressure None known Vapor density no data available None known Relative density 1.28 None known Water solubility Easily soluble in cold water None known

Easily soluble in hot water

Solubility(ies) Soluble in Methanol None known

Partially soluble in acetone

Very slightly soluble in diethyl ether

Partition coefficient
Autoignition temperature

No data available no data available

None known None known

Decomposition temperature

None known

Kinematic viscosity Dynamic viscosity

no data available No data available None known None known

Other information

Explosive properties

Oxidizing properties

No information available

10. Stability and reactivity

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

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

Incompatible materials Oxidizing agent. Acids. Bases.

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information .

Inhalation Specific test data for the substance or mixture is not available. Corrosive by inhalation.

(based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs.

Pulmonary edema can be fatal. Toxic by inhalation.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye

damage. (based on components). Corrosive to the eyes and may cause severe damage

including blindness. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Toxic in

contact with skin.

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

components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung

damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing. Itching. Rashes.

Hives. Difficulty in breathing.

Acute toxicity

Numerical measures of toxicity

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

ATEmix (oral) 165.30 mg/kg ATEmix (inhalation-gas) 770.08 ppm ATEmix (inhalation-vapor) 3.86 mg/l

Unknown acute toxicity

7 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)	-	-
7732-18-5			
Sodium Hydroxide	-	1350 mg/kg (Rabbit)	-
1310-73-2			
Mercuric Iodide	= 18 mg/kg (Rat)	= 75 mg/kg (Rat)	-
7774-29-0			

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

Skin corrosion/irritation Classification based on data available for ingredients. Causes burns.

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes.

Causes burns.

Respiratory or skin sensitization

Germ cell mutagenicity

May cause sensitization by skin contact.

No information available.

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available

for ingredients. Suspected of damaging fertility or the unborn child.

STOT - single exposure

STOT - repeated exposure Target organ effects No information available.

May cause damage to organs

May cause damage to organs through prolonged or repeated exposure.

kidney, respiratory system, Eyes, Skin, central nervous system.

Aspiration hazard No information available.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to	Crustacea
			microorganisms	
Sodium Hydroxide	-	LC50: =45.4mg/L (96h,	-	-
1310-73-2		Oncorhynchus mykiss)		
Potassium Iodide	-	LC50: >100mg/L (96h,	-	-
7681-11-0		Danio rerio)		

Persistence and degradability

Bioaccumulation

No information available. Inherently biodegradable.

Other adverse effects No information available.

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.

14. Transport information

DOT

UN/ID no UN2922

Proper Shipping Name: Corrosive liquids, toxic, n.o.s.

Hazard class 8
Subsidiary Class 6.1
Packing group:

Special Provisions B3, IB2, T7, TP2
Marine Pollutant Severe Marine Pollutant

Description: UN2922, Corrosive liquids, toxic, n.o.s. (Sodium Hydroxide, Mercuric Iodide), 8 (6.1), II

Emergency Response Guide 15

Number

<u>TDG</u>

UN-No: UN2922

Proper Shipping Name: Corrosive liquid, toxic, n.o.s.

Hazard class 8
Subsidiary Class 6.1
Packing Group:

Description: UN2922, Corrosive liquid, toxic, n.o.s. (Sodium Hydroxide, Mercuric Iodide), 8 (6.1), II

MEX

UN-No UN2922

Proper Shipping Name Corrosive liquid, toxic, n.o.s.

Hazard class 8
Subsidiary Class 6.1
Special Provisions 274
Packing Group ||

Description UN2922, Corrosive liquid, toxic, n.o.s. (Sodium Hydroxide, Mercuric Iodide), 8 (6.1), II

ICAO (air)

UN-No: UN2922

Proper Shipping Name: Corrosive liquid, toxic, n.o.s.

Hazard class 8
Subsidiary hazard class 6.1
Packing Group: II
Special Provisions A3

Description: UN2922, Corrosive liquid, toxic, n.o.s. (Sodium Hydroxide, Mercuric Iodide), 8 (6.1), II

<u>IATA</u>

UN number UN2922

Proper Shipping Name: Corrosive liquid, toxic, n.o.s.

Transport hazard class(es) 8
Subsidiary hazard class 6.1
Packing group ||

Description: UN2922, Corrosive liquid, toxic, n.o.s. (Sodium Hydroxide, Mercuric Iodide), 8 (6.1), II

IMDG

UN number UN2922

Proper shipping name Corrosive liquid, toxic, n.o.s.

Transport hazard class(es) 8
Subsidiary hazard class 6.1
Packing group II
EmS-No F-A, S-B

Special Provisions 274 **Marine pollutant** P

Description UN2922, Corrosive liquid, toxic, n.o.s. (Sodium Hydroxide, Mercuric Iodide), 8 (6.1), II,

Marine pollutant

RID

UN number UN2922

Proper Shipping Name: Corrosive liquid, toxic, n.o.s.

Transport hazard class(es) 8
Packing group II
Classification code CT1
Special Provisions 274

Description: UN2922, Corrosive liquid, toxic, n.o.s. (Sodium Hydroxide, Mercuric Iodide), 8 (6.1), II,

ENVIRONMENTALLY HAZARDOUS

Labels 8 + 6.1

ADR

UN number 2922

Proper Shipping Name: Corrosive liquid, toxic, n.o.s.

Transport hazard class(es) 8
Subsidiary hazard class 6.1
Packing group II
Classification code CT1
Tunnel restriction code (E)
Special Provisions 274

Description: 2922, Corrosive liquid, toxic, n.o.s. (Sodium Hydroxide, Mercuric Iodide), 8 (6.1), II, (E),

ENVIRONMENTALLY HAZARDOUS

Labels 8 + 6.1

ADN

UN/ID No UN2922

Proper shipping name Corrosive liquid, toxic, n.o.s.

Transport hazard class(es) 8
Packing Group II
Classification code CT1
Special Provisions 274, 802

Description UN2922, Corrosive liquid, toxic, n.o.s. (Sodium Hydroxide, Mercuric Iodide), 8 (+ 6.1), II,

ENVIRONMENTALLY HAZARDOUS

Hazard label(s) 8 + 6.1 Limited quantity (LQ) 1 L ventilation VE02

Equipment Requirements PP, EP, TOX, A

15. Regulatory information

International Inventories

TSCA Complies

DSL/NDSL Complies EINECS/ELINCS Complies

ENCS IECSCThis product complies with ENCS:
This product complies with China:

KECL Complies PICCS Complies

AICS All the constituents of this material are listed on the Australian Inventory of Chemical

Substances (AICS).

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

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

US Federal Regulations

SARA 313

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

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

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

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

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA

Health hazards 4

Flammability 0

Instability 0

Physical and chemical properties -

<u>HMIS</u>

Health hazards 4 *

Flammability 0

Physical hazards 0

Personal protection X

Chronic Hazard Star Legend *= Chronic Health Hazard

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

Ceiling Maximum limit value

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

Revision date 17-July-2020

Revision NoteNo information available.

Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet