

Safety Data Sheet

Revision Date Dec-19-2016

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier - Labeling according to Regulations (EC) No 1272/2008

Product Code(s)	5103
Product name	Ammonia Nitrogen Test Solution

Substance or Preparation

1.2. Relevant identified uses of the substance or mixture and uses advised against

Preparation

Recommended Use

Laboratory chemicals Industrial (not for food or food contact use) Use as a laboratory reagent

1.3. Details of the supplier of the safety data sheet

Manufacturer Address

LaMotte Company, Inc. 802 Washington Avenue P.O. Box 329 Chestertown, MD 21620 USA T 410-778-3100 F 410-778-9748

Contact for timely inquiries in regards to this product:

Person E-mail address Regulatory Affairs Department sds@lamotte.com

1.4. Emergency telephone number

24 Hour Emergency Number (CHEM-TEL):USA, Canada, Puerto Rico 1-800-255-3924 Outside North American Continent (Call collect) 813-248-0585

Section 2: HAZARD(S) INDENTIFICATION

2.1. Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]

Acute toxicity - Oral	Category 3 - (H301)
Acute toxicity - Dermal	Category 4 - (H312)
Acute toxicity - Inhalation (Dusts/Mists)	Category 4 - (H332)
Skin corrosion/irritation	Category 1 Sub-category A - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Germ cell mutagenicity	Category 2 - (H341)
Reproductive toxicity	Category 2 - (H361)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

Symbol(s)

T+ - Very toxic N - Dangerous for the environment

R-code(s)

Muta. cat. 3;R68 - T+;R26/27/28 - Xn;R48/21/22 - C;R35 - R33 - N;R50/53

2.2. Label elements - EU (§28, 1272/2008)



Hazard statements

H301 - Toxic if swallowed H312 - Harmful in contact with skin H314 - Causes severe skin burns and eye damage H332 - Harmful if inhaled H341 - Suspected of causing genetic defects H361 - Suspected of damaging fertility or the unborn child H373 - May cause damage to organs through prolonged or repeated exposure H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P280 - Wear eye protection/ face protection. 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. P281 - Use personal protective equipment as required. P260 - Do not breathe dust/fume/gas/mist/vapors/spray. P273 - Avoid release to the environment.

2.3. Other hazards

None

Contains Mercuric chloride, Potassium hydroxide

Section 3: COMPOSITION/ INFORMATION OF INGREDIENTS*

3.1 Substances

Not Applicable

3.2 Mixtures

Chemical name	EC No	CAS No.	Weight-%	Classification	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Reg. No
Mercuric chloride	231-299-8	7487-94-7	3.3	T+; R28 C; R34 T; R48/24/25 N; R50-53 Repr.Cat.3; R62 Muta.Cat.3; R68 T+; R26/27/28 R33 N; R50-53	Acute Tox. 2 (H300) Skin Corr. 1B (H314) Muta. 2 (H341) Repr. 2 (H361f) STOT RE 1 (H372) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-
Potassium hydroxide	215-181-3	1310-58-3	15	Xn; R22 C; R35	Acute Tox. 4 (H302) Skin Corr. 1A (H314)	-

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

Section 4: FIRST AID MEASURES			
4.1. Description of first aid measure	<u>S_</u>		
General advice	Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Do not delay care and transport of a seriously injured person. Show this safety data sheet to the doctor in attendance.		
Inhalation	Remove to fresh air. Artificial respiration and/or oxygen may be necessary. Call a physician immediately.		
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. Call a physician immediately.		
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Seek immediate medical attention/advice.		
Ingestion	Do NOT induce vomiting. Drink large quantity of water. Immediate medical attention is required. Never give anything by mouth to an unconscious person.		
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protection recommended in Section 8.		

<u>4.2. Most important symptoms and effects, both acute and delayed</u> The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

4.3. Indication of any immediate medical attention and special treatment needed None known

Section 5: FIREFIGHTER MEASURES

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the React vigorously and/or explosively with water chemical

5.3. Advice for firefighters

Special protective equipment for Wear self-contained breathing apparatus and protective suit firefighters

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid breathing vapors or mists. Avoid contact with eyes, skin and clothing.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment	Dike to collect large liquid spills. Do not flush to sewer. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.
Methods for cleaning up	Neutralize spills with acid such as acetic, hydrochloric or sulfuric, absorb with vermiculite or other inert substance, and package in a suitable container for disposal. Prevent product from entering drains.
6.4. Reference to other sections	For disposal see section 13.

Methods for Containment and Clean Pick up and transfer to properly labelled containers. Up

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling	Handle in accordance with good industrial hygiene and safety practice. Do not taste or swallow. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Take off contaminated clothing and wash before reuse.
7.2. Conditions for safe storage, inc	luding any incompatibilities

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, moisture, and incompatibles. Keep away from metals and organic halogens. Do not flush into surface water or sanitary sewer system. Keep out of the reach of children.

7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1. Control parameters

Chemical name	Eu	The United Kingdom	France	Spain	Germany
Mercuric chloride 7487-94-7	TWA: 0.02 mg/m ³	TWA: 0.02 mg/m ³	TWA: 0.1 mg/m ³ *	TWA: 0.02 mg/m ³	TWA: 0.02 mg/m ³ Ceiling / Peak: 0.16 mg/m ³ Skin
Potassium hydroxide 1310-58-3	Not Established	STEL: 2 mg/m ³	STEL: 2 mg/m ³	STEL: 2 mg/m ³	-
Chemical name	Italy	Portugal	The Netherlands	Finland	Denmark
Mercuric chloride 7487-94-7	TWA: 0.02 mg/m ³ pelle*	TWA: 0.02 mg/m ³ TWA: 0.025 mg/m ³ P*	TWA: 0.02 mg/m ³	TWA: 0.02 mg/m³ iho*	TWA: 0.02 mg/m ³ H*
Potassium hydroxide 1310-58-3	-	Ceiling: 2 mg/m ³	-	STEL: 2 mg/m ³ Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Mercuric chloride 7487-94-7	TWA: 0.02 mg/m ³ STEL 0.08 mg/m ³ H*	TWA: 0.02 mg/m ³ STEL: 0.16 mg/m ³ H*	TWA: 0.02 mg/m ³	TWA: 0.02 mg/m ³ STEL: 0.06 mg/m ³	TWA: 0.02 mg/m ³ STEL: 0.06 mg/m ³
Potassium hydroxide 1310-58-3	TWA: 2 mg/m ³	TWA: 2 mg/m ³	STEL: 1 mg/m ³ TWA: 0.5 mg/m ³	Ceiling: 2 mg/m ³	STEL: 2 mg/m ³

Chemical name	European Union	United Kingdom	France	Spain	Germany
Mercuric chloride	-	-	-	30	25 µg/g
7487-94-7				10	
Potassium hydroxide	-	-	-	-	-
1310-58-3					
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Mercuric chloride	-	-	-	50	-
7487-94-7				140	
Potassium hydroxide	-	-	-	-	-
1310-58-3					
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Mercuric chloride	-	25	-	-	-
7487-94-7		15			
Potassium hydroxide	-	-	-	-	-
1310-58-3					

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration No information available. (PNEC)

8.2. Exposure controls

Engineering Measures	Ensure adequate ventilation, especially in confined areas Showers Eyewash stations Ventilation systems
Personal protective equipment	
Eye/Face Protection	Wear safety glasses with side shields (or goggles). If splashes are likely to occur:. Face protection shield.
Hand protection	Rubber/latex/neoprene or other suitable chemical resistant gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Skin and body protection	Wear appropriate protective gloves and clothing to prevent skin exposure. Wear nitrile gloves.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow material to contaminate ground water system. Prevent product from entering drains.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical a	and chemical properties		
Physical state	liquid trapsparant light vollow	Odor	Odorloss
Appearance	transparent light yellow	Odor	Odoness
Property	Values		Remarks • Method
pH	14		
Melting point / freezing point			No information available
Boiling point / boiling range			No information available
Flash point			No information available
Evaporation rate			No information available
Flammability (solid, gas)			No information available
Flammability Limit in Air			
Upper	Not applicable		
Lower	Not applicable		
Vapor pressure	<17 mmHg @ 20°C		No information available
Vapor density			No information available
Specific gravity			No information available

No information available

Water solubility		No information available
Solubility in other solvents	Soluble	No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties		No information available
Oxidizing properties		No information available
9.2. Other information		
Softening point		No information available
Molecular weight		No information available
VOC Content (%)		No information available
Density		No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Bulk density

No data available.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous Reactions	Reacts violently with water
	Contact with metals may evolve flammable hydrogen gas

10.4. Conditions to avoid

Excessive heat. Incompatible Products.

10.5. Incompatible materials

Strong acids. Metals. Water-reactive, reacts vigorously with water.

10.6. Hazardous decomposition products

Potassium Oxides. Iodine gas.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Unknown Acute Toxicity

6% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS documentATEmix (oral)145.00 mg/kgATEmix (dermal)1,242.00 mg/kgATEmix (inhalation-dust/mist)1.52 mg/l

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Mercuric chloride	= 1 mg/kg (Rat) = 1800 mg/kg (= 41 mg/kg (Rat) = 41 mg/kg (
	Rat)	Rabbit)	

Potassium hydroxide	= 284 mg/kg (Rat)	
Skin corrosion/irritation	No information available.	
Serious eye damage/eye irritati	on No information available.	
Sensitization	No information available.	
Mutagenic effects	No information available.	
Carcinogenic effects	No information available.	
Reproductive toxicity	No information available.	
STOT - single exposure	No information available.	
STOT - repeated exposure	No information available.	
Aspiration hazard	No information available.	

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Very toxic to aquatic life with long lasting effects

Unknown Aquatic Toxicity 6 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Mercuric chloride	Not Established	0.014 - 0.019: 96 h Oncorhynchus	0.0015: 48 h Daphnia magna mg/L
		mykiss mg/L LC50 flow-through	EC50 Static 0.012: 48 h Daphnia
		0.02 - 0.26: 96 h Cyprinus carpio	magna mg/L EC50 semi-static
		mg/L LC50 static 0.096 - 0.133: 96	
		h Lepomis macrochirus mg/L LC50	
		static 0.1 - 0.182: 96 h Pimephales	
		promelas mg/L LC50 flow-through	
		0.13 - 0.19: 96 h Oncorhynchus	
		mykiss mg/L LC50 static 5.933 -	
		10.34: 96 h Poecilia reticulata mg/L	
		LC50 static 0.041: 96 h Poecilia	
		reticulata mg/L LC50 0.155: 96 h	
		Pimephales promelas mg/L LC50	
		0.4: 96 h Lepomis macrochirus	
		mg/L LC50 semi-static 4.425: 96 h	
		Cyprinus carpio mg/L LC50	
Potassium hydroxide	Not Established	80: 96 h Gambusia affinis mg/L	Not Established
		LC50 static	

12.2. Persistence and degradability

Based on components product is expected to be poorly eliminated from water and poorly biodegradable.

12.3. Bioaccumulative potential

Some components of this material have some potential to bioaccumulate but not all have been tested. For Mercury: Has an experimentally-determined BCF (bioconcentration factor) of greater than 100. This material is expected to significantly bioaccumulate.

Chemical name	Log Pow
Mercuric chloride	Not Established
Potassium hydroxide	0.65 0.83

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

Chemical name	PBT and vPvB assessment
Mercuric chloride	-
Potassium hydroxide	-

12.6. Other adverse effects

Chemical name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine disrupting potential
Mercuric chloride	Not Established	Not Established	Not Established
Potassium hydroxide	Not Established	Not Established	Not Established

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products	Dispose of waste product or used containers according to local regulations.
Contaminated packaging	Do not reuse empty containers.
Other Information	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORT INFORMATION

IMDG/IMO 14.1 UN-No 14.2 Proper shipping name 14.3 Hazard Class Subsidiary class 14.4 Packing group 14.5 Marine pollutant	2922 CORROSIVE LIQUIDS, TOXIC, N.O.S. (Potassium hydroxide/Mercuric chloride) 8 6.1 II This product contains a chemical which is listed as a severe marine pollutant according to IMDG/IMO
<u>RID</u> 14.1 UN-No 14.2 Proper shipping name 14.3 Hazard Class Subsidiary Class 14.4 Packing group	2922 CORROSIVE LIQUIDS, TOXIC, N.O.S. (Potassium hydroxide/Mercuric chloride) 8 6.1 II
ADR 14.1 UN-No 14.2 Proper shipping name 14.3 Hazard Class Subsidiary Class 14.4 Packing group 14.5	2922 CORROSIVE LIQUIDS, TOXIC, N.O.S. (Potassium hydroxide/Mercuric chloride) 8 6.1 II
IATA 14.1 UN-No 14.2 Proper shipping name	2922 CORROSIVE LIQUIDS, TOXIC, N.O.S. (Potassium hydroxide/Mercuric chloride)

14.3 Hazard Class	8
Subsidiary class	6.1
14.4 Packing group	II

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemical name		French RG number	Title
Mercuric chloride (CAS # 7487-94-7)		RG 2 RG 2,RG 9,RG 14,RG 20,RG 34,RG 65	-
Potassium hydroxide (CAS # 1310-58-3)		-	-
Germany	None		
Water contaminating class (Netherlands)	None		
Switzerland Poison Classification	None		
European Union	None		
International Inventories			
TSCA	Complies		
DSL/NDSL	Complies		
EINECS/ELINCS	Complies		
ENCS	Complies		
ECSC	Complies		
KECL	Complies		
PICCS	Complies		
AICS	Complies		

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

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

No chemical safety assessment has been carried out for this substance/mixture by the supplier.

Section 16: ANY OTHER RELEVANT INFORMATION

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

Text of R phrases mentioned in Section 3

R35 - Causes severe burns

- R22 Harmful if swallowed
- R34 Causes burns
- R68 Possible risk of irreversible effects
- R33 Danger of cumulative effects
- R62 Possible risk of impaired fertility
- R28 Very toxic if swallowed

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R26/27/28 - Very toxic by inhalation, in contact with skin and if swallowed

R48/24/25 - Toxic: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed

R48/21/22 - Harmful: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed

Full text of H-Statements referred to under section 3

- H302 Harmful if swallowed
- H314 Causes severe skin burns and eye damage
- H300 Fatal if swallowed
- H341 Suspected of causing genetic defects if inhaled
- H361f Suspected of damaging fertility
- H372 Causes damage to organs through prolonged or repeated exposure if inhaled
- H400 Very toxic to aquatic life
- H410 Very toxic to aquatic life with long lasting effects

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA - TWA (time-weighted average)

STEL - STEL (Short Term Exposure Limit)

Ceiling - Maximum limit value

Prepared by	Regulatory Affairs Department
Issuing Date	Apr-22-2015
Revision Date	Dec-19-2016
Recommendations on Use	Laboratory chemicals Industrial (not for food or food contact use) Restricted to professional users

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided on this MSDS 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 Safety Data Sheet