

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product name Ammonia Nitrogen Reagent #2

Other means of identification

Product Code(s) 4798
UN-No 2922

Recommended use of the chemical and restrictions on use

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

Details of the supplier of the safety data sheet

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

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

2. HAZARDS IDENTIFICATION

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Germ cell mutagenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2

EMERGENCY OVERVIEW

DANGER

Hazard statements

Toxic if swallowed. Harmful in contact with skin. Harmful if inhaled. Causes severe skin burns and eye damage. Suspected of causing genetic defects. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.



Appearance Clear yellow solution

Physical state liquid

Odor Odorless

Precautionary Statements - Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. 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. Do not taste or swallow. Do not breathe dust/fume/gas/mist/vapors/spray.

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor/physician if you feel unwell. Wash contaminated clothing before reuse. IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

IF SWALLOWED: Immediately call a poison center or doctor/physician. Rinse mouth. Do NOT induce vomiting.

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Other Hazards

Very toxic to aquatic life with long lasting effects

Unknown Acute Toxicity

6.25% of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS*

Chemical name	CAS No	Weight-%
Mercuric chloride	7487-94-7	3
Potassium iodide*	7681-11-0	6
Potassium hydroxide	1310-58-3	15

4. FIRST AID MEASURES

First Aid Measures**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.

Eye contact

Immediately flush eyes with gentle stream of water for at least 15 minutes, occasionally lifting upper and lower eyelids. Call a physician immediately.

Skin contact

Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Take off contaminated clothing and wash before reuse. Immediate medical attention is required.

Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and contact emergency personnel. Call a physician immediately.

Ingestion

Do NOT induce vomiting. Drink large quantity of water. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Rinse mouth.

Self-protection of the first aider

Use personal protective equipment. See section 8 for more information. 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.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

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

Specific hazards arising from the chemical

Contact with most metals causes the formation of explosive and flammable hydrogen gas. React vigorously with water.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Avoid contact with skin, eyes, and inhalation of vapors. Use personal protective equipment. See section 8.

Environmental precautions See Section 12 for additional Ecological Information.

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.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Prevent contact with skin, eyes, and clothing. Do not taste or swallow. Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including 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.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Mercuric chloride 7487-94-7	TWA: 0.025 mg/m ³ Hg S*	(vacated) Ceiling: 0.1 mg/m ³ Hg	IDLH: 10 mg/m ³ Hg Ceiling: 0.1 mg/m ³ Hg TWA: 0.05 mg/m ³ except Organo alkyls Hg vapor
Potassium iodide* 7681-11-0	TWA: 0.01 ppm inhalable fraction and vapor	-	Not Established
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m ³	(vacated) Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³

Appropriate engineering controls

Engineering Measures Ensure adequate ventilation, especially in confined areas. Showers
Eyewash stations

Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Wear safety glasses with side shields (or goggles). If splashes are likely to occur. Face protection shield.
Skin and body protection	Gloves & Lab Coat. Incidental contact/splash protection: Chemical resistant apron.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Odor	Odorless
Appearance	Clear yellow solution		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
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pH		
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	Not Applicable	
Evaporation rate		
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	No information available	
Water solubility	No information available	
Solubility in other solvents	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	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions of use and storage.
Hazardous Reactions	Reacts violently with water. Contact with metals may evolve flammable hydrogen gas.
Hazardous polymerization	Hazardous polymerization does not occur.

Conditions to avoid Excessive heat. Incompatible products.
Incompatible materials Strong acids. Metals. Water-reactive, reacts vigorously with water.
Hazardous decomposition products Potassium Oxides. Iodine gas.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Component identification

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Mercuric chloride 7487-94-7	= 1 mg/kg (Rat) = 1800 mg/kg (Rat)	= 41 mg/kg (Rat) = 41 mg/kg (Rabbit)	Not Established
Potassium iodide* 7681-11-0	Not Established	Not Established	Not Established
Potassium hydroxide 1310-58-3	= 284 mg/kg (Rat)	Not Established	Not Established

Information on toxicological effects

Carcinogenicity All forms of mercury can cross the placenta to the fetus. Most of what is known has been learned from experimental animals.

Chemical name	ACGIH	IARC	NTP	OSHA
Mercuric chloride 7487-94-7	Not Established	Group 3	Not Established	Not Established
Potassium iodide* 7681-11-0	Not Established	Not Established	Not Established	Not Established
Potassium hydroxide 1310-58-3	Not Established	Not Established	Not Established	Not Established

Chronic toxicity Prolonged exposure may cause chronic effects.

ATEmix (oral) 141.00 mg/kg
ATEmix (dermal) 1,206.00 mg/kg
ATEmix (inhalation-dust/mist) 1.47 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Unknown Aquatic Toxicity 6.25 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Mercuric chloride 7487-94-7	Not Established	0.014 - 0.019: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.02 - 0.26: 96 h Cyprinus carpio 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	0.0015: 48 h Daphnia magna mg/L EC50 Static 0.012: 48 h Daphnia magna mg/L EC50 semi-static
Potassium iodide* 7681-11-0	Not Established	Not Established	Not Established
Potassium hydroxide 1310-58-3	Not Established	80: 96 h Gambusia affinis mg/L LC50 static	Not Established

Persistence and degradability

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

Bioaccumulation/Accumulation

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 7487-94-7	Not Established
Potassium iodide* 7681-11-0	Not Established
Potassium hydroxide 1310-58-3	0.65 0.83

13. DISPOSAL CONSIDERATIONS

Disposal Methods Dispose of waste product or used containers according to local regulations. Should not be released into the environment.

Contaminated packaging Do not reuse empty containers.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Mercuric chloride 7487-94-7	Not Established	-	Not Established	Not Established
Potassium iodide* 7681-11-0	Not Established	-	Not Established	Not Established
Potassium hydroxide 1310-58-3	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Mercuric chloride 7487-94-7	Not Established	Not Established	Not Established	Not Established
Potassium iodide* 7681-11-0	Not Established	Not Established	Not Established	Not Established
Potassium hydroxide 1310-58-3	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Mercuric chloride 7487-94-7	-
Potassium iodide* 7681-11-0	-
Potassium hydroxide 1310-58-3	Toxic Corrosive

14. TRANSPORT INFORMATION**DOT**

Proper shipping name CORROSIVE LIQUIDS, TOXIC, N.O.S. (Potassium hydroxide/Mercuric chloride solution)
UN-No 2922
Hazard Class 8
Subsidiary class 6.1
Packing group II
Reportable Quantity (RQ) 1000

IATA

Proper shipping name CORROSIVE LIQUIDS, TOXIC, N.O.S. (Potassium hydroxide/Mercuric chloride solution)
UN-No 2922
Hazard Class 8

Subsidiary class 6.1
Packing group II

IMDG/IMO

Proper shipping name CORROSIVE LIQUIDS, TOXIC, N.O.S. (Potassium hydroxide/Mercuric chloride solution)
UN-No 2922
Hazard Class 8
Subsidiary class 6.1
Packing group II

15. REGULATORY INFORMATION**International Inventories**

TSCA Complies
DSL/NDSL Complies
EINECS/ELINCS Complies
ENCS Complies
IECSC 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

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 chloride 7487-94-7	1.0
Potassium iodide* 7681-11-0	Not Established
Potassium hydroxide 1310-58-3	Not Established

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard Yes

CWA (Clean Water Act)

This product contains the following substances which are regulated 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
Mercuric chloride 7487-94-7	Not Established	X	Not Established	Not Established
Potassium iodide* 7681-11-0	Not Established	Not Established	Not Established	Not Established

Potassium hydroxide 1310-58-3	1000 lb	Not Established	Not Established	X
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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	RQ
Mercuric chloride 7487-94-7	-	500 lb	-
Potassium iodide* 7681-11-0	-	Not Established	-
Potassium hydroxide 1310-58-3	1000 lb	Not Established	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

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

Chemical name	California Proposition 65
Mercuric chloride 7487-94-7	Developmental
Potassium iodide* 7681-11-0	Not Established
Potassium hydroxide 1310-58-3	Not Established

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Mercuric chloride 7487-94-7	X	X	X
Potassium iodide* 7681-11-0	Not Established	Not Established	Not Established
Potassium hydroxide 1310-58-3	X	X	X

CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

Chemical name	CPSC (Consumer Product Safety Commission) - Specially Regulated Substances
Potassium hydroxide 1310-58-3	Banned, 16 CFR 1500.17 Add POISON to label, 16 CFR 1500.129

16. OTHER INFORMATION

NFPA

Health hazard 3

Flammability 0

Instability 0

Physical and Chemical Hazards W

Health hazard 3

Stability 2



Health Hazard	3
Fire Hazard	0
Reactivity	1

Prepared by

Regulatory Affairs Department

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Disclaimer

The information provided on this SDS 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