



Safety Data Sheet

This safety data sheet was created pursuant to the requirements of:
US OSHA Hazard Communication Standard (29 CFR 1910.1200)

Revision Date Jul-21-2025

Revision Number 1.02

1. Identification

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)

Restriction on use This product should not be used in applications other than those listed

Details of the supplier of the safety data sheet

Supplier Address

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

Manufacturer

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

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

2. Hazard(s) identification

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

EMERGENCY OVERVIEW

Danger

Hazard statements

Toxic if swallowed. Toxic 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. Causes 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. Wear protective gloves/clothing and eye/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. Do not breathe dust/fume/gas/mist/vapors/spray. Keep out of reach of children.

Precautionary Statements - Response Specific treatment (see .? on this label). Immediately call a POISON CENTER or doctor. Specific treatment (see .? on this label). 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 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.

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

21.25 % of the mixture consists of ingredient(s) of unknown toxicity.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

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

*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.
Eye contact	Get immediate medical attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin contact	Get immediate medical attention. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
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. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. Use personal protective equipment as required. See section 8 for more information.

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.
Effects of Exposure	May cause adverse reproductive effects - such as birth defect, miscarriages, or infertility. Mutagenic effects. Causes damage to organs through prolonged or repeated exposure.

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.
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5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do 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.
Hazardous combustion products	Contact with metals may evolve flammable hydrogen gas.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective equipment and precautions 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. Avoid breathing vapors or mists.

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. Avoid breathing vapors or mists.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up. Protect from moisture. Store away from other materials.

8. Exposure controls/personal protection**Control parameters****Exposure Limits**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m ³	(vacated) Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³
Potassium iodide* 7681-11-0	TWA: 0.01 mg/m ³ I inhalable particulate matter Sk*	-	-
Mercuric chloride 7487-94-7	TWA: 0.025 mg/m ³ Hg Sk*	(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

Biological occupational exposure limits

Chemical name	ACGIH
Mercuric chloride 7487-94-7	20 µg/g creatinine - urine (Mercury) - prior to shift

Appropriate engineering controls

Engineering controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

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

Hand protection Wear suitable gloves. Impervious gloves.

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.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid
Appearance Clear yellow solution
Color (410) 778-3100
Odor Odorless
Odor threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	14	
Concentration of solution used to measure pH		None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range		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 limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	
Vapor density	No data available	
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

Explosive properties No information available
Oxidizing properties No information available
Softening point (410) 778-3100
Molecular weight (410) 778-3100
VOC content No information available

Density (410) 778-3100
Bulk density (410) 778-3100

10. Stability and reactivity

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

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

Incompatible materials Acids. Bases. Oxidizing agent.

Hazardous decomposition products Potassium Oxides. Iodine gas.

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. Harmful 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. 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.

Acute toxicity Toxic if swallowed. Toxic in contact with skin. Harmful by inhalation.

Numerical measures of toxicity

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

ATEmix (oral)	141.11 mg/kg
ATEmix (dermal)	987.80 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l

ATEmix (inhalation-dust/mist) 1.1604 mg/l

Unknown acute toxicity

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

15 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

21.25 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

ATEmix (oral)

ATEmix (oral)

ATEmix (dermal)

ATEmix (dermal) (410) 778-3100

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium hydroxide 1310-58-3	= 284 mg/kg (Rat)	-	-
Potassium iodide* 7681-11-0	-	> 2000 mg/kg (Rat)	-
Mercuric chloride 7487-94-7	= 1 mg/kg (Rat)	= 41 mg/kg (Rabbit)	-

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 severe skin burns and eye damage.

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes serious eye damage. Causes burns.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

Contains a known or suspected mutagen. Classification based on data available for ingredients. Suspected of causing genetic defects.

Carcinogenicity

No information available.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Potassium hydroxide 1310-58-3	-	-	-	-
Potassium iodide* 7681-11-0	-	-	-	-
Mercuric chloride 7487-94-7	-	Group 3	-	-

Legend

IARC (International Agency for Research on Cancer)

Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity

Classification based on data available for ingredients. Suspected of damaging fertility or the unborn child.

STOT - single exposure

No information available.

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Target organ effects

Kidney, Respiratory system, Eyes, Skin, Central nervous system.

Aspiration hazard No information available.

Other adverse effects (410) 778-3100.

Interactive effects (410) 778-3100.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Potassium hydroxide 1310-58-3	-	-	-	-
Potassium iodide* 7681-11-0	-	LC50: >100mg/L (96h, Danio rerio)	-	-
Mercuric chloride 7487-94-7	-	LC50: 0.096 - 0.133mg/L (96h, Lepomis macrochirus) LC50: =0.4mg/L (96h, Lepomis macrochirus) LC50: =4.425mg/L (96h, Cyprinus carpio) LC50: 0.02 - 0.26mg/L (96h, Cyprinus carpio) LC50: 0.014 - 0.019mg/L (96h, Oncorhynchus mykiss) LC50: 0.13 - 0.19mg/L (96h, Oncorhynchus mykiss) LC50: =0.155mg/L (96h, Pimephales promelas) LC50: 0.1 - 0.182mg/L (96h, Pimephales promelas) LC50: =0.041mg/L (96h, Poecilia reticulata) LC50: 5.933 - 10.34mg/L (96h, Poecilia reticulata)	-	EC50: >0.012mg/L (48h, Daphnia magna) EC50: =0.0015mg/L (48h, Daphnia magna)

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

Bioaccumulation For Mercury: Has an experimentally-determined BCF (bioconcentration factor) of greater than 100. This material is expected to significantly bioaccumulate.

Component Information

Chemical name	Partition coefficient
Potassium hydroxide 1310-58-3	0.83
Potassium iodide* 7681-11-0	-
Mercuric chloride	-

7487-94-7

Other adverse effects (410) 778-3100.

13. Disposal considerationsDisposal 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.

California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

14. Transport informationDOT

UN-No 2922
Transport hazard class(es) 8
Subsidiary class 6.1
Packing group II
Reportable Quantity (RQ) 1000

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA

UN number or ID number 2922
Proper shipping name CORROSIVE LIQUIDS, TOXIC, N.O.S. (Potassium hydroxide/Mercuric chloride)
Transport hazard class(es) 8
Subsidiary class 6.1
Packing group II

IMDG/IMO

UN number or ID number 2922
Proper shipping name CORROSIVE LIQUID, TOXIC, N.O.S. (Potassium hydroxide/Mercuric chloride)
Transport hazard class(es) 8
Subsidiary class 6.1
Packing group II

15. Regulatory informationInternational Inventories

TSCA Complies.

DSL/NDSL Contact supplier for inventory compliance status.
EINECS/ELINCS Contact supplier for inventory compliance status.
ENCS Contact supplier for inventory compliance status.
IECSC .

KECI Contact supplier for inventory compliance status.
 PICCS Contact supplier for inventory compliance status.
 AICS Contact supplier for inventory compliance status.
 NZIoC Contact supplier for inventory compliance status.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - 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
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 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 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
Potassium hydroxide 1310-58-3	1000 lb	-	-	X
Potassium iodide* 7681-11-0	-	-	-	-
Mercuric chloride 7487-94-7	-	X	-	-

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	Reportable Quantity (RQ)
Potassium hydroxide 1310-58-3	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ
Potassium iodide* 7681-11-0	-	-	
Mercuric chloride 7487-94-7	-	500 lb	

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical name	California Proposition 65
Mercuric chloride - 7487-94-7	Developmental

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 3	Flammability 0	Instability 0	Special hazards W
HMIS	Health hazards 3 *	Flammability 0	Physical hazards 0	Personal precautions 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 AND PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

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)
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)
National Institute of Technology and Evaluation (NITE)
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)
U.S. 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

Prepared by Regulatory Affairs Department.

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Revision note SDS sections updated. 15. 16.

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