

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

Product identifier

Product name Hydrogen Peroxide Titrant

Other means of identification

Product Code(s) 5650
UN-No 2796

Recommended use of the chemical and restrictions on use

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

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

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

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 1A

EMERGENCY OVERVIEW

DANGER

Hazard statements

Causes severe skin burns and eye damage. May cause cancer.



Appearance Clear, amber colored

Physical state liquid

Odor Slight

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. Do not taste or swallow. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling.

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician.

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

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

Wash contaminated clothing before reuse

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

IF SWALLOWED, 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.

Unknown Acute Toxicity

30% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Sulfuric acid	7664-93-9	10
Ceric Ammonium Nitrate	16774-21-3	30-35

4. FIRST AID MEASURES

First Aid Measures

Eye contact

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

Skin contact

Wash off immediately with soap and plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. Excess acid on skin can be neutralized with a 2% solution of sodium bicarbonate in water. Call a physician immediately.

Inhalation

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Give artificial respiration if victim is not breathing. Call a physician immediately.

Ingestion

Do NOT induce vomiting. Call a physician immediately. Clean mouth with water. Never give anything by mouth to an unconscious person.

Self-protection of the first aider

Use personal protection recommended in Section 8. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

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

Specific hazards arising from the chemical

Some of these materials may react violently with water.

Hazardous combustion products

Contact with metals may evolve flammable hydrogen gas.

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 breathing vapors or mists. Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8.

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Absorb/Cover spill with sodium bicarbonate or sodium carbonate to neutralize, then place in a chemical waste container for later disposal. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Dispose of contents/containers in accordance with local regulations.

Methods for cleaning up Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Do not taste or swallow. Avoid contact with skin, eyes or clothing. 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. Store at room temperature. Store away from incompatible materials. Keep out of the reach of children. Protect from light.

Incompatible Products Metals. Strong bases. Cyanides. Reducing agents. Organic material. Combustible materials. Water-reactive, reacts vigorously with water.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m ³	TWA: 1 mg/m ³	IDLH: 15 mg/m ³ TWA: 1 mg/m ³
Ceric Ammonium Nitrate 16774-21-3	-	-	Not Established

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves/clothing.

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
 Appearance Clear, amber colored
 Odor Slight

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	<1	
Melting point / freezing point	No information available	
Boiling point / boiling range	> 100 °C / 212 °F	
Flash point	No information available	
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 recommended storage conditions.
 Hazardous Reactions Contact with metals may evolve flammable hydrogen gas.
 Hazardous polymerization Hazardous polymerization does not occur.
 Conditions to avoid Excessive heat. Incompatible Products.
 Incompatible materials Metals. Strong bases. Cyanides. Reducing agents. Organic material. Combustible materials. Water-reactive, reacts vigorously with water.
 Hazardous decomposition products Nitrogen oxides (NOx). Hydrogen gas. Sulfur oxides (SOx). Carbon oxides (COx).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sulfuric acid 7664-93-9	= 2140 mg/kg (Rat)	Not Established	= 510 mg/m ³ (Rat) 2 h
Ceric Ammonium Nitrate 16774-21-3	Not Established	Not Established	Not Established

Information on toxicological effects

Chemical name	ACGIH	IARC	NTP	OSHA
Sulfuric acid 7664-93-9	A2	Group 1	Known	X
Ceric Ammonium Nitrate 16774-21-3	-	Group 2A	Not Established	X

ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Cancer Status: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions

ATEmix (oral) 14980 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

Unknown Aquatic Toxicity 30 % 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)
Sulfuric acid 7664-93-9	Not Established	500: 96 h Brachydanio rerio mg/L LC50 static	29: 24 h Daphnia magna mg/L EC50
Ceric Ammonium Nitrate 16774-21-3	Not Established	Not Established	Not Established

Persistence and degradability

No information available.

Bioaccumulation/Accumulation

No information available.

Chemical name	Log Pow
Sulfuric acid 7664-93-9	Not Established
Ceric Ammonium Nitrate 16774-21-3	Not Established

13. DISPOSAL CONSIDERATIONS

Disposal Methods Dispose of waste product or used containers according to local regulations.

Contaminated packaging Do not reuse empty containers.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Sulfuric acid 7664-93-9	Not Established	-	Not Established	Not Established
Ceric Ammonium Nitrate 16774-21-3	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Sulfuric acid 7664-93-9	Not Established	Not Established	Not Established	Not Established
Ceric Ammonium Nitrate 16774-21-3	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Sulfuric acid 7664-93-9	-
Ceric Ammonium Nitrate 16774-21-3	-

14. TRANSPORT INFORMATION

DOT

Proper shipping name SULFURIC ACID <51%
UN-No 2796
Hazard Class 8
Packing group II
Reportable Quantity (RQ) 1000

IATA

Proper shipping name SULFURIC ACID <51%
UN-No 2796
Hazard Class 8
Packing group II

IMDG/IMO

Proper shipping name SULFURIC ACID <51%
UN-No 2796
Hazard Class 8
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 %
Sulfuric acid 7664-93-9	1.0
Ceric Ammonium Nitrate 16774-21-3	1.0

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard Yes

Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

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
Sulfuric acid 7664-93-9	1000 lb	Not Established	Not Established	X
Ceric Ammonium Nitrate 16774-21-3	Not Established	Not Established	Not Established	Not Established

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	CERCLA/SARA RQ	RQ
Sulfuric acid 7664-93-9	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ
Ceric Ammonium Nitrate 16774-21-3	-	Not Established	-

US State Regulations

California Proposition 65 has classified "strong inorganic acid mists containing sulfuric acid" as a chemical known to the State of California to cause cancer. This classification applies only to "inorganic mists containing sulfuric acid" and not to sulfuric acid or sulfuric acid solutions

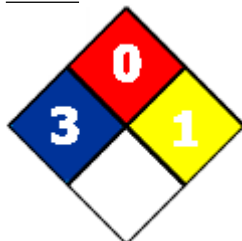
Chemical name	California Proposition 65
Sulfuric acid 7664-93-9	Carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sulfuric acid 7664-93-9	X	X	X
Ceric Ammonium Nitrate 16774-21-3	X	Not Established	Not Established

16. OTHER INFORMATION

NFPA	Health hazard 3	Flammability 0	Instability 1	Physical and Chemical Hazards W
HMIS	Health hazard 0	Flammability 0	Stability 1	



Health Hazard	3
Fire Hazard	0
Reactivity	1

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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 Material Safety Data Sheet