

Safety Data Sheet

Revision Number 0

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

Product identifier Product name

FERROUS AMMONIUM SULFATE

Other means of identification

Product Code(s)

6815

UN-No

2796

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

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
Reproductive Toxicity	Category 2

EMERGENCY OVERVIEW

DANGER

Hazard statements

Causes severe skin burns and eye damage. May cause cancer. Suspected of damaging fertility or the unborn child.



Appearance Clear Pale green

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. 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.

Other Hazards

Very toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Cadmium	7440-43-9	<0.1 (a small chip)
Sulfuric acid	7664-93-9	1
Ferrous ammonium sulfate.6H2O	7783-85-9	3

WARNING! This product contains chemcials known to the State of California to cause cancer and birth defects or other reproductive harm

4. FIRST AID MEASURES

First Aid Measures

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

required.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Call a physician immediately.

Skin contact Immediate medical attention is required. Wash off immediately with soap and plenty of

water for at least 15 minutes. Take off contaminated clothing and wash before reuse.

Inhalation Remove to fresh air. Immediate medical attention is required. Avoid direct contact with skin.

Use barrier to give mouth-to-mouth resuscitation.

Ingestion Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an

unconscious person. Call a physician or poison control center immediately.

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.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical, CO₂, water spray or alcohol-resistant foam.

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

Use personal protective equipment. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or

tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up

Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into

suitable containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling

Do not eat, drink, or smoke when using this product. Wear personal protective equipment. Avoid contact with eyes, skin and clothing. Take off contaminated clothing and wash before reuse. Do not breathe mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage

Keep out of the reach of children. Keep container tightly closed in a dry and well-ventilated

place.

Incompatible Products

Strong bases. Metals. Cyanides. Sulfides.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Cadmium 7440-43-9	TWA: 0.01 mg/m³ TWA: 0.002 mg/m³	TWA: 0.1 mg/m³ TWA: 0.2 mg/m³ TWA: 5 µg/m³ Ceiling: 0.3 mg/m³ Ceiling: 0.6 mg/m³	IDLH: 9 mg/m³
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m ³	TWA: 1 mg/m ³	IDLH: 15 mg/m³ TWA: 1 mg/m³
Ferrous ammonium sulfate.6H2O 7783-85-9	TWA: 1 mg/m³	-	TWA: 1 mg/m³

NIOSH IDLH: Immediately Dangerous to Life or Health

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

Tightly fitting safety 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

Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Avoid contact with eyes, skin and clothing. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state

liquid

Appearance

Clear Pale green

Odor

Odorless

Property

Values

Remarks • Method

No information available

Melting point / freezing point Boiling point / boiling range

No information available
No information available
No information available

Flash point Evaporation rate

Flammability (solid, gas) Flammability Limit in Air

No information available

Upper flammability limit:

Lower flammability limit: Vapor pressure Vapor density

Specific gravity
Water solubility
Solubility in other solvents
Partition coefficient
Autoignition temperature

Decomposition temperature
Kinematic viscosity
Dynamic viscosity
Explosive properties
Oxidizing properties

No information available No information available

No information available No information available No information available No information available No information available

Other Information

Softening point Molecular weight VOC Content (%) Density

Bulk density

No information available No information available No information available No information available 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. Direct sunlight. Incompatible Products.

Incompatible materials

Strong bases, Metals, Cyanides, Sulfides,

Hazardous decomposition products Hydrogen gas. Sulfur oxides (SOx). Carbon oxides (COx). Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

And the second

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Cadmium 7440-43-9	= 1140 mg/kg(Rat)	Not Established	= 25 mg/m³ (Rat) 30 min
Sulfuric acid 7664-93-9	= 2140 mg/kg(Rat)	Not Established	= 510 mg/m³ (Rat) 2 h
Ferrous ammonium sulfate.6H2O 7783-85-9	= 3250 mg/kg (Rat)	Not Established	Not Established

Information on toxicological effects

Carcinogenicity

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. This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

Chemical name	ACGIH	IARC	NTP	OSHA
Cadmium 7440-43-9	A2	Group 1	Known	X
Sulfuric acid 7664-93-9	A2	Group 1	Known	X
Ferrous ammonium sulfate.6H2O 7783-85-9	Not Established	Not Established	Not Established	Not Established

ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Target organ effects

Eyes, Gastrointestinal tract (GI), liver, Respiratory System, Skin, Teeth.

ATEmix (oral)

75781

ATEmix (inhalation-dust/mist)

50.1 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Unknown Aquatic Toxicity 98.9 % 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)
Cadmium 7440-43-9	Not Established	0.0004 - 0.003: 96 h Pimephales promelas mg/L LC50 0.002: 96 h Cyprinus carpio mg/L LC50 0.003: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.006: 96 h Oncorhynchus mykiss mg/L LC50 static 0.016: 96 h Oryzias latipes mg/L LC50 0.24: 96 h Cyprinus carpio mg/L LC50 static 21.1: 96 h Lepomis macrochirus mg/L LC50 flow-through 4.26: 96 h Cyprinus carpio mg/L LC50 semi-static	0.0244: 48 h Daphnia magna mg/L EC50 Static
Sulfuric acid 7664-93-9	Not Established	500: 96 h Brachydanio rerio mg/L LC50 static	29: 24 h Daphnia magna mg/L EC50
Ferrous ammonium sulfate.6H2O 7783-85-9	Not Established	Not Established	Not Established

Persistence and degradability

No information available.

Bioaccumulation/Accumulation

Sulfuric acid - When released into the soil, this material may leach into ground water. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet or dry deposition.

Chemical name	Log Pow
Cadmium 7440-43-9	Not Established
Sulfuric acid 7664-93-9	Not Established
Ferrous ammonium sulfate.6H2O 7783-85-9	Not Established

13. DISPOSAL CONSIDERATIONS

Disposal Methods

See Section 6 for more information. Dispose of contents/containers in accordance with local regulations. Should not be released into the environment. 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
Cadmium 7440-43-9	(hazardous constituent - no waste number)	Included in waste streams: F006, F039, K061, K064, K065, K066, K069, K100	1.0 mg/L regulatory level	Not Established
Sulfuric acid 7664-93-9	Not Established	-	Not Established	Not Established
Ferrous ammonium sulfate.6H2O 7783-85-9	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Cadmium 7440-43-9	Not Established	Not Established	Not Established	Not Established
Sulfuric acid 7664-93-9	Not Established	Not Established	Not Established	Not Established
Ferrous ammonium sulfate.6H2O 7783-85-9	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Cadmium 7440-43-9	
Sulfuric acid 7664-93-9	-
Ferrous ammonium sulfate.6H2O 7783-85-9	

14. TRANSPORT INFORMATION

<u>DOT</u>

Proper shipping name

SULFURIC ACID (< 51% ACID)

UN-No

2796

Hazard Class
Packing group

8 II

Reportable Quantity (RQ)

1000

<u>IATA</u>

Proper shipping name

SULFURIC ACID (< 51% ACID)

UN-No Hazard Class 2796

Packing group

8 II IMDG/IMO

Proper shipping name

SULFURIC ACID (< 51% ACID)

15. REGULATORY INFORMATION

UN-No

Hazard Class Packing group 8 11

International Inventories

Does not comply

TSCA **DSL/NDSL**

Does not comply

EINECS/ELINCS

Does not comply

ENCS

Does not comply

IECSC

Complies

KECL

PICCS

Does not comply

AICS

Complies 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 %	
Cadmium 7440-43-9	0.1	
Sulfuric acid 7664-93-9	1.0	
Ferrous ammonium sulfate.6H2O 7783-85-9	Not Established	

SARA 311/312 Hazard Categories

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

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
Cadmium 7440-43-9	Not Established	X	Х	Not Established
Sulfuric acid 7664-93-9	1000 lb	Not Established	Not Established	X
Ferrous ammonium sulfate.6H2O 7783-85-9	Not Established	Not Established	Not Established	Not Established

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
Cadmium 7440-43-9	10 lb	Not Established	RQ 10 lb final RQ RQ 4.54 kg final RQ
Sulfuric acid 7664-93-9	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ
Ferrous ammonium sulfate.6H2O 7783-85-9	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 cancer and birth defects or other reproductive harm

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		
Cadmium 7440-43-9	Carcinogen Developmental Male Reproductive		
Sulfuric acid 7664-93-9	Carcinogen		
Ferrous ammonium sulfate.6H2O 7783-85-9	Not Established		

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Cadmium 7440-43-9	Х	X	Х
Sulfuric acid 7664-93-9	Х	X	X
Ferrous ammonium sulfate.6H2O 7783-85-9	X	X	Х

CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

Chemical name	CPSC (Consumer Product Safety Commission) - Specially Regulated Substances
Cadmium 7440-43-9	Regulated, CPSIA Section 106 (must comply with ASTM F963-07)
Sulfuric acid 7664-93-9	Add POISON to label, 16 CFR 1500.129 (>=10%, free or chemically unneutralized)
16.0	OTHER INFORMATION

NFPA

Health hazard 1

Flammability 0

Instability 0

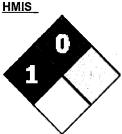
Physical and Chemical

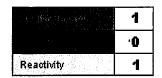
Health hazard 1

Flammability 0

Stability 1

Hazards N/A





Prepared by Issuing Date Revision Date Regulatory Affairs Department

Jun-10-2015 Jun-10-2015

Reason for revision

New US GHS format

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

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