

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	Iron(III) sulfate hydrate
CAS number	15244-10-7
Synonyms	Sulfuric acid, iron(3+) salt (3:2), hydrate; Ferric sulfate hydrate

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

Identified uses	Laboratory chemicals.
-----------------	-----------------------

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute Oral Toxicity	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Carcinogenicity	Category 1A

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statements

Harmful if swallowed.
Causes skin irritation.
Causes serious eye damage.
May cause cancer.

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.

Response: IF exposed or concerned, get medical attention/advice.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

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/physician.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Storage: Store locked up.

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

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

WARNING: Cancer - <https://www.p65warnings.ca.gov/>.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Iron(III) sulfate hydrate	Sulfuric acid, iron(3+) salt (3:2), hydrate; Ferric sulfate hydrate	15244-10-7	>97%
Sulfuric acid	-	7664-93-9	1-3%
Iron(III) sulfate	Ferric sulfate	10028-22-5	-

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
If swallowed	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

Causes eye burns. Causes severe eye damage.

4.3 Indication of any immediate medical attention and special treatment needed

If symptoms persist, call a physician. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media No information available.

Unsuitable extinguishing media No information available.

5.2 Specific hazards arising from the substance or mixture

Keep product and empty container away from heat and sources of ignition.
Hazardous Combustion Products: Sulfur oxides.

5.3 Special 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.

5.4 Further information

Flash Point No information available.

Autoignition Temperature No information available.

Explosion limits

Upper No data available.

Lower No data available.

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	0	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

6.2 Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep containers tightly closed in a dry, cool, and well-ventilated place.

Incompatibilities

Strong oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Ferric sulfate hydrate	(Vacated) TWA	1 mg/m ³
Ferric sulfate	(Vacated) TWA	1 mg/m ³
Sulfuric acid	(Vacated) TWA	1 mg/m ³
	TWA	1 mg/m ³

US. ACGIH Threshold Limit Values

Component	Type	Value
Ferric sulfate hydrate	TWA	1 mg/m ³
Ferric sulfate	TWA	1 mg/m ³
Sulfuric acid	TWA	0.2 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Ferric sulfate hydrate	TWA	1 mg/m ³
Ferric sulfate	TWA	1 mg/m ³
Sulfuric acid	IDLH	15 mg/m ³
	TWA	1 mg/m ³

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Body Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended Filter type: Particle filter. Particulates filter conforming to EN143.

Control of environmental exposure

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid
Appearance	Beige
Odor	Odorless
Odor Threshold	No information available
pH	Strongly acidic
Melting Point/Range	No information available
Boiling Point/Range	No information available
Evaporation Rate	Not applicable
Flammability (solid)	Not flammable
Flammability or explosive limit	No data available
Upper	
Lower	
Vapor Pressure	No information available
Vapor Density	Not applicable
Density	3.10 (20 °C)
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	No information available
Decomposition Temp	480 °C
Viscosity	Not applicable
Molecular Formula	Fe ₂ O ₁₂ S ₃ · xH ₂ O
Molecular Weight	399.88 g/mol

VOC Content(%) No information available
Oxidizing properties No information available

9.2 Other safety information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No information available.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to avoid

Avoid dust formation. Incompatible products. Excess heat. Exposure to moist air or water.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Sulfur oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sulfuric acid	2140 mg/kg (Rat)	-	0.375 mg/L (Rat) 4h
Ferric sulfate	500-2000 mg/kg (Rat)	-	-

Skin corrosion/irritation

Irritating to skin.

Serious eye damage/eye irritation

Causes eye burns.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Ferric sulfate hydrate	15244-10-7	Not listed	Not listed	Not listed	Not listed	Not listed
Sulfuric acid	7664-93-9	Group 1	Known	A2	X	A2
Ferric sulfate	10028-22-5	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

None known.

Specific target organ toxicity - repeated exposure

None known.

Reproductive toxicity

No information available.

Chronic effects

No information available.

11.2 Additional Information

The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1 Toxicity

Do not empty into drains.

Product		Species	Test Results
Sulfuric acid	LC50	Brachydanio rerio	> 500 mg/L, 96h static
	EC50	Water Flea	29 mg/L, 24h

12.2 Persistence and degradability

Soluble in water. Persistence is unlikely based on information available.

12.3 Bio accumulative potential

No information available.

12.4 Mobility in soil

Will likely be mobile in the environment due to its water solubility.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN-no	UN3260
Proper Shipping Name	Corrosive solid, acidic, inorganic, n.o.s.
Hazard Class	8
Packing Group	III

IMDG

UN-no	UN3260
Proper Shipping Name	Corrosive solid, acidic, inorganic, n.o.s.
Hazard Class	8
Packing Group	III

IATA

UN-no	UN3260
Proper Shipping Name	Corrosive solid, acidic, inorganic, n.o.s.
Hazard Class	8
Packing Group	III

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not applicable.

CERCLA Hazardous Substance List (40 CFR 302.4)
Listed, Ferric sulfate (CAS #10028-22-5), RQ: 1000 lb.
Listed, Sulfuric acid (CAS #7664-93-9), RQ: 1000 lb.

SARA 304 Emergency release notification
Listed, Sulfuric acid (CAS #7664-93-9), RQ: 1000 lb.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Listed, Sulfuric acid (CAS #7664-93-9), TPQ: 1000 lb.

SARA 311/312 Hazardous

See Section 2 for more information.

SARA 313 (TRI reporting)

Listed, Sulfuric acid (CAS #7664-93-9).

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) - Hazardous Substances

Listed, Ferric sulfate (CAS #10028-22-5), RQ: 1000 lb.

Listed, Sulfuric acid (CAS #7664-93-9), RQ: 1000 lb.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed.

US state regulations

US. Massachusetts RTK - Substance List

Listed, Ferric sulfate (CAS #10028-22-5).

Listed, Sulfuric acid (CAS #7664-93-9).

US. New Jersey Worker and Community Right-to-Know Act

Listed, Ferric sulfate (CAS #10028-22-5).

Listed, Sulfuric acid (CAS #7664-93-9).

US. Pennsylvania Worker and Community Right-to-Know Law

Listed, Ferric sulfate hydrate (CAS #15244-10-7).

Listed, Ferric sulfate (CAS #10028-22-5).

Listed, Sulfuric acid (CAS #7664-93-9).

California Proposition 65

Listed, Sulfuric acid (CAS #7664-93-9).

SECTION 16: Other information

Issue date: 04/04/2023

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet 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.