SAFETY DATA SHEET

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

1.1 Product identifiers

Product name	Ferric Sulfate 50% Solution
CAS number	N/A
Synonyms	N/A

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

Identified uses	Municipal and industrial water and wastewater treatment for the removal of turbidity, color, suspended solids and phosphorus. Sludge conditioning, compaction and volume reduction. Oily wastewater clarification and dissolved air flotation. Emulsion breaking.

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)

Corrosive to Metals	Category 1
Acute Oral Toxicity	Category 4

Skin Corrosion/Irritation	Category 1A
Serious Eye Damage/Eye Irritation	Category 1
Carcinogenicity	Category 1A

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word: Danger

Hazard statements:
May be corrosive to metals.
Harmful if swallowed.
Causes severe skin burns and eye damage.
Causes serious eye damage.
May cause cancer (Inhalation).

Precautionary statements:

Prevention: Keep only in original container. Do not breathe vapors, mist, or spray. Wash hands, forearms, and other exposed areas thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing, and eye protection.

Response: Immediately call a POISON CENTER or doctor. Specific treatment (see Section 4 on this SDS).

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. 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. Wash contaminated clothing before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

Spills: Absorb spillage to prevent material damage.

Storage: Store locked up. Store in corrosive resistant container with a resistant inner liner.

Disposal: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

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

May produce explosive hydrogen gas on contact with incompatibilities or upon thermal decomposition.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Water	Aqua; H2O	7732-18-5	35-69%
Ferric sulfate	Iron(III) sulfate; Sulfuric acid, iron salt	10028-22-5	30-60%
Sulfuric acid	-	7664-93-9	1-5%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

In case of skin contact Remove contaminated clothing. Immediately flush skin with plenty of water for at least 30 minutes. Wash contaminated clothing before reuse. Get immediate medical advice/attention.

In case of eye contact Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

If swallowed Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

May be corrosive to the respiratory tract. Causes severe irritation which will progress to chemical burns. Causes permanent damage to the cornea, iris, or conjunctiva. This material is harmful orally and can cause adverse health effects or death in significant amounts. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

4.3 Indication of any immediate medical attention and special treatment needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Water spray, dry chemical, foam, Carbon dioxide.

Unsuitable extinguishing media Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2 Specific hazards arising from the substance or mixture

Not considered flammable but may burn at high temperatures. Contact with metallic substances may release flammable hydrogen gas. May be corrosive to metals. Contact with metals may evolve flammable hydrogen gas. May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction.
Hazardous Combustion Products: Sulfur oxides. Corrosive vapors.

5.3 Special protective equipment and precautions for firefighters

Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers. Do not enter fire area without proper protective equipment, including respiratory protection. Do not allow run-off from fire fighting to enter drains or water courses.

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

Do not get in eyes, on skin, or on clothing. Do not breathe vapor, mist, or spray. Use appropriate personal protective equipment (PPE). Evacuate unnecessary personnel.

6.2 Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Collect spillage.

6.3 Methods and materials for containment and cleaning up

Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions. Clean up spills immediately and dispose of waste safely. Cautiously neutralize spilled liquid. Absorb spillage to prevent material damage. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

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
Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work. Handle empty containers with care because they may still present a hazard. Do not get in eyes, on skin, or on clothing. Do not breathe mist, spray, vapors.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Comply with applicable regulations. Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from extremely high or low temperatures and incompatible materials. Store in original container or corrosive resistant and/or lined container.

Incompatibilities
Strong acids, strong bases, strong oxidizers. Alkalis. Metals.

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	(Vacated) TWA	1 mg/m3
Sulfuric acid	(Vacated) TWA	1 mg/m3
	TWA	1 mg/m3

US. ACGIH Threshold Limit Values

Component	Type	Value
Ferric sulfate	TWA	1 mg/m3
Sulfuric acid	TWA	0.2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Ferric sulfate	TWA	1 mg/m3
Sulfuric acid	IDLH	15 mg/m3
	TWA	1 mg/m3

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls
Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal protective equipment

Eye/face protection
Chemical safety goggles and face shield.

Skin protection
Wear protective gloves.

Body Protection
Wear suitable protective clothing. Acid-resistant clothing.

Respiratory protection
If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Control of environmental exposure
Do not allow the product to be released into the environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Reddish brown
Odor	Not available
Odor Threshold	Not available
pH	<1
Melting Point/Range	< -18 °C (< -0.4 °F)
Boiling Point/Range	Not available
Evaporation Rate	Not available
Flammability (solid)	Not available
Flammability or explosive limit	Not available
Upper	
Lower	
Vapor Pressure	Not available

Vapor Density	Not available
Density	1.24 - 1.62
Solubility	100%
Partition coefficient; n-octanol/water	Not available
Autoignition Temp	Not available
Decomposition Temp	Not available
Viscosity	Not available
Molecular Formula	N/A
Molecular Weight	N/A
VOC Content(%)	<1%
Oxidizing properties	Not available

9.2 Other safety information
No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
May be corrosive to metals. Contact with metals may evolve flammable hydrogen gas. May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction.

10.2 Chemical stability
Stable under recommended handling and storage conditions (see Section 7).

10.3 Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4 Conditions to avoid
Extremely high or low temperatures and incompatible materials.

10.5 Incompatible materials
Strong acids, strong bases, strong oxidizers. Alkalis. Metals.

10.6 Hazardous decomposition products
Thermal decomposition generates: Corrosive vapors. 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
Ferric sulfate	500-2000 mg/kg (Rat)	-	-

Sulfuric acid	2140 mg/kg (Rat)	-	0.375 mg/L (Rat) 4h

Skin corrosion/irritation
Causes severe skin burns.

Serious eye damage/eye irritation
Causes serious eye damage.

Respiratory or skin sensitization
Not classified.

Germ cell mutagenicity
Not classified.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed
Ferric sulfate	10028-22-5	Not listed	Not listed	Not listed	Not listed	Not listed
Sulfuric acid	7664-93-9	Group 1	Known	A2	X	A2

Specific target organ toxicity - single exposure
Not classified.

Specific target organ toxicity - repeated exposure
Not classified.

Reproductive toxicity
Not classified.

Chronic effects
None expected under normal conditions of use.

11.2 Additional Information
No information available.

SECTION 12: Ecological information

12.1 Toxicity
Avoid release to the environment.

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
May cause long-term adverse effects in the environment.

12.3 Bio accumulative potential
No information available.

12.4 Mobility in soil
No information available.

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	UN3264
Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Hazard Class	8
Packing Group	II

IMDG

UN-no	UN3264
Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Hazard Class	8
Packing Group	II

IATA

UN-no	UN3264
Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Hazard Class	8
Packing Group	II

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)

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 (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: 05/23/2022
Revision 1: 02/14/2025

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.