



GENCOAG™ 100N

Safety Data Sheet

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product/Chemical Name: GENCOAG™ 100N/Ferric Sulfate Solution
Chemical Family: Inorganic iron salt
General Use: Drinking water treatment and waste water treatment

Company Information:

GAC Chemical Corporation
34 Kidder Point Road
Searsport, Maine 04974 U.S.A.
Phone: 207-548-2525 FAX: 207-548-2891 Toll Free: 800-266-5155

Emergency Phone:

1-800-424-9300 Chemtrec (USA)

SECTION 2. HAZARDS IDENTIFICATION



Signal Word: WARNING

Hazard Statements: May be corrosive to metals.
 Causes skin irritation.
 Causes serious eye irritation.

Precautionary Statements: Do not get in eyes, on skin or on clothing.
 Wear gloves, eye and face protection and protective clothing.
 Avoid release to the environment.
 IF ON SKIN: Wash with plenty of soap and water.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 If skin irritation occurs: get medical advice or attention.
 If eye irritation persists: get medical advice or attention.
 Take off contaminated clothing and wash before reuse.
 Collect spillage.
 Store in a closed container.
 Dispose of container in accordance with local, state, province and federal regulations.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance GEN COAG™100N

Chemical Name:	Ferric Sulfate	CAS#: 10028-22-5	(60%)
	Sulfuric Acid	CAS#: 7664-93-9	(1%)
	Water	CAS#: 7732-18-5	(39%)

Synonyms: Ferric Sulfate Solution

Impurities: NA. No impurities or additives which are themselves classified and which contribute to the classification of the substance.

SECTION 4. FIRST AID MEASURES

Inhalation of mist or liquid:

Remove person from source of exposure to fresh air. If breathing is difficult, administer oxygen. If not breathing, start CPR. Get medical attention immediately.

Skin contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing.

If irritation or burning sensation develops get medical attention.

Eye contact:

Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open.

Get medical attention if irritation persists. Untreated exposure may result in damage to the eyes.

Ingestion:

If fully conscious, drink as much water as can be tolerated. DO NOT induce vomiting. DO NOT give bicarbonate. Get medical attention.

Most Important Symptoms/Effects:

Inhalation:

Mists may irritate nose, throat, lungs, mucous membranes, respiratory tract. Mists may cause sore throat, coughing, sneezing, labored breathing, burning sensation. Effects will depend on concentration and length of time of exposure.

Skin contact:

May cause moderate to severe irritation and/or burns. Prolonged and repeated exposure may cause dermatitis.

Eye Contact:

May cause severe irritation and/or burns. May cause pain, tearing, swelling, conjunctivitis, corneal damage.

Ingestion:

May cause irritation and/or burns of the mouth, throat, gastrointestinal tract.

SECTION 5. FIRE FIGHTING MEASURES

Flammability:

Product is not flammable and will not burn.

Suitable Extinguishing Media:

For fires in area use appropriate extinguishing media.

Specific Hazards Arising from the Chemical:

In a fire, dried ferric sulfate can decompose at high temperatures and may release sulfur oxides which are toxic and may be flammable. Spilled liquid ferric sulfate can cause slippery footing.

Special Protective Equipment and Precautions for Firefighters:

Wear full protective fire fighting clothing including NIOSH approved self contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products.

SECTION 6. ACCIDENTIAL RELEASE MEASURES**General:**

Site specific procedures to address accidental spills are necessary as dictated by facility design, location, staffing, containment structures, and regulatory requirements. Consult engineers if needed.

Personal Precautions, Protective Equipment and Emergency Procedures:

In the event of a spill, clear unnecessary personnel from spill area. If direct contact with spilled material is likely, use personal protective equipment recommended in Section 8. Neutralization may release carbon dioxide gas (CO₂). Maintain adequate ventilation. Spilled material will be slippery.

Methods and Materials for Containment and Cleaning Up:

Shut off source of leak if safe to do so. Manage spill using containment structures or inert materials and collect for reuse. Product not reused can be neutralized using soda ash or powdered limestone.

Neutralized residue can be swept up or rinsed down with water and captured using absorbent materials for disposal in accordance with local, state, province, and federal regulations. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.

SECTION 7. HANDLING AND STORAGE**Incompatible Chemicals:**

Avoid contact with alkalis and basic (high pH) materials.

Containment:

To minimize the possibility of a release into the environment and contact with other incompatible chemicals, storage tanks and containers should have a dedicated liquid tight secondary containment system. Consult engineers if needed.

General Hygiene:

Do not eat, drink, take medication or smoke when direct contact is possible.

Always thoroughly wash hands after leaving a work area where contact is possible or has occurred.

Storage:

Keep storage tanks and containers closed and contents protected from dust, dirt, and moisture.

Clean storage tanks on a regular schedule based on inspection and experience.

Have storage tanks, containers, and transfer systems properly labeled for contents.

Have procedures for determining product quantity in storage tanks and for accepting deliveries.

Use tanks, transfer lines, pumps valves and process instrumentation designed for this material using approved materials of construction. Some materials commonly used are stainless steel, some plastics, and FRP. Mild steel, iron and nonferrous metals will be damaged by corrosion. Consult engineers if needed.

Temperature for Storage:

Preferred storage temperature range is 10°C-30°C (50°F-86°F).

Outside of these temperature ranges optimal product stability and shelf life may be affected.

Ventilation:

No special requirements.

Personal Protection:

If direct contact with material is likely use personal protective equipment.

SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION
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Exposure Limits**Ingredient:** iron soluble salts

OSHA PEL TWA STEL none est. none est.	ACGIH TLV TWA STEL 1mg/m ³ as Fe none est.	NIOSH TLV TWA STEL 1mg/m ³ as Fe none est.	NIOSH IDLH none est.
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Ingredient: Sulfuric acid mist/vapor

OSHA PEL TWA STEL 1mg/m ³ none est.	ACGIH TLV TWA STEL 0.2mg/m ³ none est.	NIOSH TLV TWA STEL 1mg/m ³ none est.	NIOSH IDLH 15mg/m ³
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Respiratory - Ventilation:

Local passive ventilation is typically used. Under normal conditions respiratory protective equipment is not needed. If work requires direct exposure to product mist, use appropriate, NIOSH approved respiratory protection. Consult engineers if necessary.

Eye - Skin wash:

Have appropriate eye wash and safety shower stations available in the work area.

Eyes:

Use protective eye glasses with side shields/goggles and face shield protection to prevent direct contact.

Skin:

Wear impervious pants, jacket, gloves, boots and hardhat. For spill cleanup, use impervious pants, jacket, gloves, boots, and hardhat. If mist/vapor are present, wear NIOSH approved respiratory protection for acid mists.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
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Appearance: Liquid, dark reddish-brown**Odor:** Negligible**Odor Threshold:** NA**pH:** ≈1.0**Melting/Freeze point:** -18°C (0°F)**Boiling point-range:** 105°C-110°C (220°F- 230°F) approx.**Flash point:** NA**Evaporation rate:** 1 (water=1)**Flammability:** Not flammable.**Upper/lower flammability limits:** NA**Vapor pressure:** NA**Vapor density:** NA**Relative Density (Specific Gravity):** 1.50-1.59 S.G. @ 25°C (77°F)**Water Solubility:** Complete.**Partial coefficient: n-octanol/water:** NA**Auto ignition:** NA

Decomposition temperature: >600°C (1112°F)

Viscosity: NA

SECTION 10. STABILITY AND REACTIVITY

Reactivity:

No data available

Chemical Stability:

Product is chemically stable under normal ambient temperature and conditions while stored or used.

Possibility of Hazardous Reactions:

Product will not polymerize.

Conditions to Avoid:

Avoid elevated temperatures. Keep away from incompatibles.

Incompatible Materials:

Alkalis & bases, mild steel, iron, and non-ferrous metals. Consult engineers if necessary.

Hazardous Decomposition Products:

At temperatures above 600°C (1112°F) sulfur oxide gasses are released. These gasses are toxic, corrosive and are oxidizers. Sulfur monoxide is a fire hazard.

SECTION 11. TOXICOLOGICAL INFORMATION

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Ferric Sulfate (10028-22-5)

Oral LD50 Rat 500mg/kg; Mouse 168 mg/kg (intraperitoneal)

Carcinogenicity:

Not available

Mutagenic Effects:

Not available

Reproductive Effects:

Not available

Sulfuric Acid (7664-93-9)

Oral LD50 Rat 2140mg/kg; Inhalation LC50 (2 hours) Rat 510 mg/m³; Mouse 320 mg/m³

Carcinogenicity:

Strong inorganic acid mists containing sulfuric acid: PROVEN (Human, Group 1, IARC); SUSPECTED (Human, Group 2, ACGIH); Group X (NTP); Classification not applicable to sulfuric acid and sulfuric acid solutions.

Mutagenic Effects:

Cytogenetic analysis: 4mmol/l (Overies, Hamster). Not teratogenic (Mice, Rabbits).

Reproductive Effects:

Inhalation (lo CT): 20 mg/m³/7hour(6-18 days pregnant) reproductive effects: Specific developmental abnormalities (Musculoskeletal system) (Rabbit).

HEALTH EFFECTS

Inhalation - Acute Exposure

Mists may irritate nose, throat, lungs, mucous membranes, respiratory tract. Mists may cause sore throat, coughing, sneezing, labored breathing, burning sensation. Effects will depend on concentration and length of time of exposure.

Inhalation - Chronic Exposure

Overexposure to strong inorganic mists containing sulfuric acid: Possibility of laryngeal cancer (HSBD, IARC). Possibility of irritation of the nose and throat with sneezing, sore throat, runny nose, headache, nausea and/or weakness. Gross overexposure: Possibility of irritation of nose, throat and lungs with cough, difficulty breathing or shortness of breath; Pulmonary edema with cough, wheezing, abnormal lung sounds, possibly progressing to severe shortness of breath and bluish discoloration of the skin. Symptoms may be delayed.

Skin Contact - Acute Exposure

May cause moderate to severe irritation and/or burns.

Skin Contact - Chronic Exposure

Chronic exposure to mists may cause irritation with itching, burning, redness, swelling and/or rash. Prolonged and repeated exposure may cause dermatitis.

Eye Contact - Acute Exposure

May cause severe irritation and/or burns. May cause pain, tearing, swelling, conjunctivitis, corneal damage.

Eye Contact - Chronic Exposure

Chronic exposure to mists may cause irritation with tearing, pain, blurred vision and/or conjunctivitis.

Ingestion - Acute Exposure

May cause irritation and/or burns of the mouth, throat, gastrointestinal tract.

Ingestion - Chronic Exposure

Chronic exposure to mists may cause corrosion of the teeth.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity (aquatic):

Ferric Sulfate (10028-22-5)

Fish: 96 hr LC50 Mosquitofish, 37.2 mg/L

Sulfuric Acid (7664-93-9)

Fish: 48 hr LC50 Bluegill Sunfish, 16 mg/L

Invertebrate: 48 hr EC50 Daphnia magna: >100 mg/L

Persistence and Degradability:

Sulfate ion: Ubiquitous in the environment. Metabolized by micro-organisms and plants.

Bioaccumulation Potential:

This product is not expected to bioaccumulate.

Mobility in Soil:

No information available.

Other Adverse Effects:

The product may affect the acidity (pH factor) in water with risk of harmful effects to aquatic life.

Toxicity to aquatic life increases with lowering pH. At pH lower than 5, only a few fish species can survive and at pH lower than 4, aquatic life is rare.

SECTION 13. DISPOSAL CONSIDERATIONS

RCRA Hazardous Waste: Not listed. Waste product may be D002 under §261.22(a)(2) due to the rate of corrosion of steel or if the pH <2.

Neutralization:

Product can be neutralized using soda ash or powdered limestone. Neutralized residue can be swept up or rinsed down with water and captured using absorbent materials for reuse or disposal in accordance with local, state, province, and federal regulations.

Contaminated Packaging:

Packaging and storage containers that cannot be thoroughly cleaned must be disposed of in accordance with local, state, province, and federal regulations.

SECTION 14. TRANSPORTATION INFORMATION

Land (DOT), Sea (IMDG), Air (ICAO/IATA)

Identification Number: UN3264

Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, N.O.S. (Ferric Sulfate Solution)

Hazard Class: 8

Packing Group: III

Environmental Hazards: Marine pollutant: no; Hazardous substance: yes (RQ=1000lbs.)

Special Precautions: None known

SECTION 15. REGULATORY INFORMATION

RCRA Hazardous Waste: Not Listed.

Unused, un-neutralized product may be a Characteristic Waste (D002). Consult engineers if necessary.

CERCLA Hazardous Substance: Yes

CERCLA Reportable Quantity (RQ): 1000 lbs.

SARA 311/312 Categories:

Acute (immediate) health effects: Yes

Chronic (delayed) health effects: No

Sudden release of pressure hazard: No

Reactivity hazard: No

Fire hazard: No

SARA 313 Toxic Chemical Listing: Not listed

SARA Extremely Hazardous Substance (EHS): Not listed

OSHA Air (29CFR 1910.10000, Table Z-1, Z-1A): Not listed

OSHA Special Regulated Substance (29CFR 1910): Not listed

California Prop 65 Chemical: No

United States TSCA Section Inventory Status: Product exempt or listed on the TSCA Inventory.

State Regulations: State specific regulations have not been determined by GAC Chemical Corporation. Consult engineers if necessary.

SECTION 16. OTHER INFORMATION

HMIS Rating:

Health: 2

Flammability: 0

Reactivity: 1

NFPA Rating:

Health: 2

Fire: 0

Reactivity: 1

Special: NA

Preparatory Statement:

The information in this Safety Data Sheet (SDS) is correct to the best of our knowledge, information we have available, and belief as of the publication date. The information is designed solely as guidance for handling, storage, transportation, release, and disposal and is not to be considered 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 other materials or in any process unless specified in the text.

Date Sources for the SDS:

Literature, databases, practice, publications, own tests, regulations

Revision:

April 2015 replaces all earlier

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