



Shenzhen Sinsche Technology Co.,Ltd

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Iron (Ferrous) Reagent F3

Supplier: Shenzhen Sinsche Technology Co.,Ltd.

ADD: 4/F , T3 Building, Silicon Valley Compound, Qingquan Road, Longhua Street, Longhua District, Shenzhen City, P.RC 518109.

Tel: +86 (755) 82127315 Fax: +86 (755) 82127860

Email:Sinsche@sinsche.com

Emergency telephone: +86 (755) 82127315 (Mon-Fri 08:30- 18:00)

Chemical Name: Not applicable

CAS No.: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

PIN: NA

Intended Use: Determination of Ozone

Date of MSDS Preparation:

Day: 21

Month: June

Year: 2020

2 - COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content
Ferroun Indicator	unlisted	5144-89-8	100%

Hazard Symbols: None Listed.

Risk Phrases: None Listed.

➤ Section 3 - HAZARDS IDENTIFICATION

CHS Classification

Most Important Hazards

According to ABNT NBR 14725-2

Skin corrosion/irritation	Category 3
Serious eye damage/eye irritation	Category 2A
Chronic aquatic toxicity	Category 3

Label elements

Signal word - Warning

Hazard statements

H316 - Causes mild skin irritation

H319 - Causes serious eye irritation

H412 - Harmful to aquatic life with long lasting effects



Exclamation mark

Precautionary statements

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to

do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

P273 - Avoid release to the environment

P501 - Dispose of contents/ container to an approved waste disposal plant

Other Hazards Known

Not applicable

➤ Section 4 - FIRST AID MEASURES

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Get medical aid immediately. Wash clothing before reuse.

Ingestion:

If swallowed, do NOT induce vomiting. Get medical aid immediately.

If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Persons with pre-existing skin disorders or impaired respiratory or pulmonary function may be at increased risk to the effects of this substance. Treat symptomatically and supportively.



➤ Section 5 - FIRE FIGHTING MEASURES

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media:

Use agent most appropriate to extinguish fire.

➤ Section 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Provide ventilation.

➤ Section 7 - HANDLING and STORAGE

Handling:

Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed.

Avoid ingestion and inhalation.

Storage:

Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

➤ Section 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits CAS# 5144-89-8: CAS# 7732-18-5: CAS# 7782-63-0: Belgium - TWA: (listed as iron salts (soluble)): 1 mg/m³ VLE (as Malaysia: (listed as iron salts (soluble)): 1 mg/m³ TWA (as Fe) Netherlands: (listed as iron salts (soluble)): 1 mg/m³ MAC (as Fe Spain: (listed as iron salts (soluble)): 1 mg/m³ VLA-ED (as Fe) Personal Protective Equipment Eyes: 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:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.



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Respirators:

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

➤ Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: powder

Color: white

Odor: odorless

pH: Not available.

Vapor Pressure: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: Not available.

Autoignition Temperature: Not available.

Flash Point: Not available.

Explosion Limits, lower: Not available.

Explosion Limits, upper: Not available.

Decomposition Temperature:

Solubility in water: Soluble.

Specific Gravity/Density:

Molecular Formula: mixture

Molecular Weight: 0

➤ Section 10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid:

Incompatible materials.

Incompatibilities with Other Materials:

Oxidizing agents.

Hazardous Decomposition Products:

Oxides of sulfur.

Hazardous Polymerization: Has not been reported

➤ Section 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 5144-89-8: SF8437000 CAS# 7732-18-5: ZC0110000 CAS# 7782-63-0: NO8510000

LD50/LC50:



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Not available.

CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg.

CAS# 7782-63-0: Oral, mouse: LD50 = 1520 mg/kg.

Carcinogenicity:

Ferrioin Indicator - Not listed by ACGIH, IARC, or NTP.

Water - Not listed by ACGIH, IARC, or NTP.

Ferrous sulfate heptahydrate - Not listed by ACGIH, IARC, or NTP.

Other:

See actual entry in RTECS for complete information.

➤ Section 12 - ECOLOGICAL INFORMATION

➤ Section 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

➤ Section 14 - TRANSPORT INFORMATION

IATA

Not regulated as a hazardous material.

IMO

Not regulated as a hazardous material.

RID/ADR

Not regulated as a hazardous material.

USA RQ: CAS# 7782-63-0: 1000 lb final RQ (Listed under Ferrous sulfate); 454 kg

➤ Section 15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Not available.

Risk Phrases:

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 5144-89-8: No information available.

CAS# 7732-18-5: No information available.

CAS# 7782-63-0: No information available.

Canada

CAS# 7732-18-5 is listed on Canada's DSL List.



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CAS# 5144-89-8 is not listed on Canada's Ingredient Disclosure List.

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 7782-63-0 is not listed on Canada's Ingredient Disclosure List.

US FEDERAL

TSCA

CAS# 5144-89-8 is not on the TSCA Inventory because it is a hydrate.

It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

CAS# 7732-18-5 is listed on the TSCA inventory.

CAS# 7782-63-0 is not on the TSCA Inventory because it is a hydrate.

It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).



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CAS No.: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

PIN: NA

Intended Use: Determination of Ozone

Date of MSDS Preparation:

Day: 21

Month: June

Year: 2020

2 - COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content
Acetic acid, ammonium salt	211-162-9	631-61-8	20—30%
Demineralized Water	231-791-2	7732-18-5	10—20%
glacial acetic acid	200-580-7	64-19-7	60—70%

Hazard Symbols: C

Risk Phrases: 35

3 - HAZARDS IDENTIFICATION

CHS Classification

Most Important Hazards

According to ABNT NBR 14725-2

Flammable liquids	Category 3
Acute toxicity - Oral	Category 5
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Acute aquatic toxicity	Category 3

Label elements

Signal word - Danger

Hazard statements

H226 - Flammable liquid and vapor



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H303 - May be harmful if swallowed

H314 - Causes severe skin burns and eye damage

H402 - Harmful to aquatic life



Flame

Corrosion

Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor

P363 - Wash contaminated clothing before reuse

P405 - Store locked up

P501 - Dispose of contents/ container to an approved waste disposal plant

P273 - Avoid release to the environment

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P233 - Keep container tightly closed

P240 - Ground and bond container and receiving equipment

P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment

P242 - Use non-sparking tools

P243 - Take action to prevent static discharges

P403 + P235 - Store in a well-ventilated place. Keep cool

Other Hazards Known

Not applicable

4 - FIRST AID MEASURES

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin:



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In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Get medical aid immediately. Wash clothing before reuse.

Ingestion:

If swallowed, do NOT induce vomiting. Get medical aid immediately.

If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Persons with pre-existing skin disorders or impaired respiratory or pulmonary function may be at increased risk to the effects of this substance. Treat symptomatically and supportively.

5 - FIRE FIGHTING MEASURES

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Reacts with most metals to form highly flammable hydrogen gas which can form explosive mixtures with air. Combustible liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back.

Vapors can spread along the ground and collect in low or confined areas.

Extinguishing Media:

Use water spray, dry chemical, "alcohol resistant" foam, or carbon dioxide.

6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wash area with soap and water.

Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Use water spray to cool and disperse vapors, protect personnel, and dilute spills to form nonflammable mixtures. Control runoff and isolate discharged material for proper disposal. Spill may be carefully neutralized with soda ash (sodium carbonate).

7 - HANDLING and STORAGE

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Discard contaminated shoes. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame. Do not breathe vapor or mist. Use corrosion-resistant transfer equipment



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when dispensing.

Storage:

Keep away from heat, sparks, and flame. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Do not store near alkaline substances.

8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Use a corrosion-resistant ventilation system.

Exposure Limits CAS# 64-19-7: United States OSHA: 10 ppm TWA; 25 mg/m³ TWA Belgium - TWA: 10 ppm VLE; 25 mg/m³ VLE Belgium - STEL: 15 ppm VLE; 38 mg/m³ VLE France - VLE: 10 ppm VLE; 25 mg/m³ VLE Germany: 10 ppm TWA; 25 mg/m³ TWA Japan: 10 ppm OEL; 25 mg/m³ OEL Malaysia: 10 ppm TWA; 25 mg/m³ TWA Netherlands: 10 ppm MAC; 25 mg/m³ MAC Russia: 5 mg/m³ TWA Spain: 10 ppm VLA-ED; 25 mg/m³ VLA-ED Spain: 15 ppm VLA-EC; 37 mg/m³ VLA-EC CAS# 1310-73-2: United Kingdom, WEL - STEL: 2 mg/m³ STEL United States OSHA: 2 mg/m³ TWA Belgium - TWA: 2 mg/m³ VLE France - VME: 2 mg/m³ VME Germany: 2 mg/m³ TWA (inhalable fraction) Japan: 2 mg/m³ Ceiling Malaysia: 2 mg/m³ Ceiling Spain: 2 mg/m³ VLA-EC CAS# 7732-18-5: Personal Protective Equipment Eyes: Wear chemical splash goggles and face shield.

Skin:

Wear appropriate gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Color: clear colorless

Odor: Not available.

pH: 4.0 (=/- 0.1)

Vapor Pressure: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: Not available.

Autoignition Temperature: Not available.

Flash Point: > 141 deg F (> 60.56 deg C)

Explosion Limits, lower: Not available.

Explosion Limits, upper: Not available.

Decomposition Temperature:



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Solubility in water:

Specific Gravity/Density:

Molecular Formula: Solution

Molecular Weight: 0

10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid:

Ignition sources, excess heat, freezing temperatures, confined spaces, Note: Use great caution in mixing with water due to heat evolution that causes explosive spattering. Always add the acid to water, never the reverse..

Incompatibilities with Other Materials:

Metals, strong oxidizing agents, bases, chlorine trifluoride, nitric acid, acetaldehyde, chlorosulfonic acid, oleum, bromine pentafluoride, perchloric acid, potassium tert-butoxide, ethyleneimine, 2-aminoethanol, ethylene diamine, phosphorus trichloride, phosphorus isocyanate, chromic acid.

Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide, sodium oxide.

Hazardous Polymerization: Has not been reported

11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 64-19-7: AF1225000 CAS# 1310-73-2: WB4900000 CAS# 7732-18-5: ZC0110000 LD50/LC50:

CAS# 64-19-7: Draize test, rabbit, skin: 50 mg/24H Mild; Inhalation, mouse: LC50 = 5620 ppm/1H; Oral, rat: LD50 = 3310 mg/kg; Skin, rabbit: LD50 = 1060 uL/kg.

CAS# 1310-73-2: Draize test, rabbit, eye: 400 ug Mild; Draize test, rabbit, eye: 1% Severe; Draize test, rabbit, eye: 50 ug/24H Severe; Draize test, rabbit, eye: 1 mg/24H Severe; Draize test, rabbit, skin: 500 mg/24H Severe.

CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg.

Carcinogenicity:

Acetic acid - Not listed by ACGIH, IARC, or NTP.

Sodium hydroxide - Not listed by ACGIH, IARC, or NTP.

Water - Not listed by ACGIH, IARC, or NTP.

Other:

See actual entry in RTECS for complete information.

12 - ECOLOGICAL INFORMATION

Ecotoxicity:

Fish: Fathead Minnow: LC50 = 88 mg/L; 96 Hr; Static bioassay @ 18-22CFish: Bluegill/Sunfish:

LC50 = 75 mg/L; 96 Hr; UnspecifiedFish: Goldfish: LC50 = 423 mg/L; 24 Hr; UnspecifiedWater flea

Daphnia: EC50 = 32-47 mg/L; 24-48 Hr; UnspecifiedBacteria: Phytobacterium phosphoreum:

EC50 = 8.86-11 mg/L; 5,15,25 min; Microtox testIf released to water or soil, acetic acid will biodegrade readily. Evaporation from dry surfaces is likely to occur. When spilled on soil, the



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liquid will spread on the surface and penetrate into the soil at a rate dependent on the soil type and its water content. Acetic acid shows no potential for biological

13 - DISPOSAL CONSIDERATIONS

Products which are considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local waste regulator for advice. Empty containers must be decontaminated before returning for recycling.

14 - TRANSPORT INFORMATION

IATA

Shipping Name: ACETIC ACID SOLUTION

Hazard Class: 8

UN Number: 2790

Packing Group: II

IMO

Shipping Name: ACETIC ACID SOLUTION

Hazard Class: 8

UN Number: 2790

Packing Group: II

RID/ADR

Shipping Name: ACETIC ACID SOLUTION

Hazard Class: 8

UN Number: 2790

Packing group: II

USA RQ: CAS# 64-19-7: 5000 lb final RQ; 2270 kg final RQ

USA RQ: CAS# 1310-73-2: 1000 lb final RQ; 454 kg final RQ

15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases:

R 35 Causes severe burns.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 37/39 Wear suitable gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where



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possible).

WGK (Water Danger/Protection)

CAS# 64-19-7: 1

CAS# 1310-73-2: 1

CAS# 7732-18-5: No information available.

Canada

CAS# 64-19-7 is listed on Canada's DSL List.

CAS# 1310-73-2 is listed on Canada's DSL List.

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 64-19-7 is listed on Canada's Ingredient Disclosure List.

CAS# 1310-73-2 is listed on Canada's Ingredient Disclosure List.

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

US FEDERAL

TSCA

CAS# 64-19-7 is listed on the TSCA inventory.

CAS# 1310-73-2 is listed on the TSCA inventory.

CAS# 7732-18-5 is listed on the TSCA inventory.