



Be Right™

SAFETY DATA SHEET

Issue Date 10-Jan-2019

Revision Date 25-Jan-2022

Version 3

Page 1 / 17

1. IDENTIFICATION

Product identifier

Product Name FerroVer® Iron Reagent

Other means of identification

Product Code(s) 92799

Safety data sheet number M00020

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis. Iron determination.

Uses advised against None.

Restrictions on use None.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|--|------------|
| Acute toxicity - Oral | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 1 |
| Respiratory sensitization | Category 1 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Chronic aquatic toxicity | Category 3 |

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Danger



Hazard statements

H302 - Harmful if swallowed
H315 - Causes skin irritation
H318 - Causes serious eye damage
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P280 - Wear protective gloves, protective clothing, eye protection, and face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical attention
P362 - Take off contaminated clothing and wash before reuse
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/physician
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P285 - In case of inadequate ventilation wear respiratory protection
P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P501 - Dispose of contents/ container to an approved waste disposal plant
P271 - Use only outdoors or in a well-ventilated area
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P273 - Avoid release to the environment
P270 - Do not eat, drink or smoke when using this product
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 - Rinse mouth

Other Hazards Known

May be harmful in contact with skin
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Mixture.

Percent ranges are used where confidential product information is applicable.

| Chemical name | CAS No | Percent Range | HMRIC # |
|---|------------|---------------|---------|
| Sodium metabisulfite | 7681-57-4 | 40 - 50% | - |
| Sodium dithionite | 7775-14-6 | 20 - 30% | - |
| 1,10-Phenanthroline, mono(4-methylbenzenesulfonate) | 92798-16-8 | 1 - 5% | - |

4. FIRST AID MEASURES

Description of first aid measures

| | |
|---|---|
| General advice | Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. |
| Inhalation | Remove to fresh air. May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention. |
| Eye contact | Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. |
| Skin contact | Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician. |
| Ingestion | Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. May produce an allergic reaction. Get immediate medical advice/attention. |
| Self-protection of the first aider | Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. |

Most important symptoms and effects, both acute and delayed

| | |
|-----------------|--|
| Symptoms | Burning sensation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives. |
|-----------------|--|

Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|--|
| Note to physicians | May cause sensitization in susceptible persons. Treat symptomatically. |
|---------------------------|--|

5. FIRE-FIGHTING MEASURES

| | |
|---|--|
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable Extinguishing Media | Caution: Use of water spray when fighting fire may be inefficient. |
| Specific hazards arising from the chemical | Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact. |
| Hazardous combustion products | Sulfur oxides. Sodium oxides. Carbon monoxide, Carbon dioxide. |
| Special protective equipment for fire-fighters | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

6. ACCIDENTAL RELEASE MEASURES

| | |
|--------------------|---|
| U.S. Notice | Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations |
|--------------------|---|

should respond to a spill involving chemicals.

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Remove contaminated clothing and shoes. Take off contaminated clothing and wash before reuse. Avoid breathing vapors or mists.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH |
|---|--------------------------|------------------------------------|--------------------------|
| Sodium metabisulfite CAS#: 7681-57-4 | TWA: 5 mg/m ³ | (vacated) TWA: 5 mg/m ³ | TWA: 5 mg/m ³ |

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

| | |
|--|---|
| Respiratory protection | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Wear breathing apparatus if exposed to vapors/dusts/aerosols. |
| Hand Protection | Wear suitable gloves. Impervious gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016. |
| Eye/face protection | Tight sealing safety goggles. |
| Skin and body protection | Wear suitable protective clothing. Long sleeved clothing. |
| General Hygiene Considerations | Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. |
| Environmental exposure controls | Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water. |
| Thermal hazards | None under normal processing. |

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|-----------------------|-------------|-----------------------|-------------------|
| Physical state | Solid | Color | White to yellow |
| Appearance | crystalline | Odor threshold | No data available |
| Odor | Sulfur-like | | |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--|-----------------------------|-------------------------|
| Molecular weight | No data available | |
| pH | 5.3 | 5% Solution |
| Melting point/freezing point | > 400 °C / 752 °F | |
| Boiling point / boiling range | No data available | |
| Evaporation rate | Not applicable | |
| Vapor pressure | Not applicable | |
| Relative vapor density | No data available | |
| Specific gravity (water = 1 / air = 1) | 2.21 | |
| Partition Coefficient (n-octanol/water) | log K _{ow} ~ -2.31 | |
| Soil Organic Carbon-Water Partition Coefficient | log K _{oc} ~ -0.09 | |
| Autoignition temperature | No data available | |
| Decomposition temperature | No data available | |
| Dynamic viscosity | Not applicable | |
| Kinematic viscosity | Not applicable | |

Product Code(s) 92799
Issue Date 10-Jan-2019
Version 3

Product Name FerroVer® Iron Reagent
Revision Date 25-Jan-2022
Page 6 / 17

Solubility(ies)

Water solubility

| | | |
|---------------------------------|------------------|------------------------------|
| Water solubility classification | Water solubility | Water Solubility Temperature |
| Soluble | > 1000 mg/L | 25 °C / 77 °F |

Solubility in other solvents

| | | | |
|---------------|---------------------------|-------------|------------------------|
| Chemical Name | Solubility classification | Solubility | Solubility Temperature |
| Acid | Soluble | > 1000 mg/L | 25 °C / 77 °F |

Other information

Metal Corrosivity

Steel Corrosion Rate 2.06 mm/yr / 0.08 in/yr
Aluminum Corrosion Rate 0.25 mm/yr / 0.01 in/yr

Volatile Organic Compounds (VOC) Content

Not applicable

| Chemical name | CAS No | Volatile organic compounds (VOC) content | CAA (Clean Air Act) |
|---|------------|--|---------------------|
| Sodium metabisulfite | 7681-57-4 | Not applicable | - |
| Sodium dithionite | 7775-14-6 | Not applicable | - |
| 1,10-Phenanthroline, mono(4-methylbenzenesulfonate) | 92798-16-8 | No data available | - |

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point Not applicable

Flammability Limit in Air

Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidizing properties

No data available.

Bulk density

No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Product Code(s) 92799
Issue Date 10-Jan-2019
Version 3

Product Name FerroVer® Iron Reagent
Revision Date 25-Jan-2022
Page 7 / 17

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of hazardous reactions
None under normal processing.

Hazardous polymerization
None under normal processing.

Conditions to avoid
None known based on information supplied.

Incompatible materials
Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products
Sodium oxides. Sulfur oxides. Carbon dioxide. Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

| | |
|---------------------|--|
| Inhalation | May cause sensitization in susceptible persons. May cause irritation of respiratory tract. |
| Eye contact | Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes. |
| Skin contact | Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Causes skin irritation. |
| Ingestion | Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause additional affects as listed under "Inhalation". Harmful if swallowed. |

Symptoms Redness. Burning. May cause blindness. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing. May cause redness and tearing of the eyes.

Acute toxicity
Harmful if swallowed

Product Acute Toxicity Data
Test data reported below.

Oral Exposure Route

| <u>Endpoint type</u> | <u>Toxicological effects</u> | <u>Key literature references and sources for data</u> |
|-------------------------|---|---|
| Rat LD ₅₀ | Behavioral Chewing motion Coma Flaccid muscle tone Lethargy Prostration Sedation Tonic convulsions Tremor Twitching Chronic Death Eye Ptosis Gastrointestinal Diarrhea Enteritis of the intestines Gas Inflammation of the small and large intestine Inflammation of the stomach Kidney, Ureter, or Bladder Abnormalities of the kidneys Lungs, Thorax, or Respiration Congestion of the lungs Respiratory depression Hemorrhagic lungs Nutritional and Gross Metabolic Wetness of the anogenital area Reproductive Skin and Appendages Piloerection | Outside testing |

Inhalation (Gas) Exposure Route

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|---------------------------|----------------------|----------------------|------------------------------|---|
| Sodium metabisulfite (40 - 50%) CAS#: 7681-57-4 | Rat LD ₅₀ | 500 mg/kg | None reported | None reported | Vendor SDS |
| Sodium dithionite (20 - 30%) | Mouse LD ₅₀ | 1500 mg/kg | None reported | None reported | ERMA (New Zealand's Environmental Risk |

| | | | | | |
|--|----------------------|-------------|---------------|---------------|-----------------------|
| CAS#: 7775-14-6 | | | | | Management Authority) |
| 1,10-Phenanthroline, mono(4-methylbenzenesulfonate) (1 - 5%) CAS#: 92798-16-8 | Rat LD ₅₀ | 245.6 mg/kg | None reported | None reported | Internal Data |

Dermal Exposure Route

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|----------------------|---------------|---------------|-----------------------|--|
| Sodium metabisulfite (40 - 50%) CAS#: 7681-57-4 | Rat LD ₅₀ | > 2000 mg/kg | None reported | None reported | LOLI |

Inhalation (Dust/Mist) Exposure Route

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|----------------------|---------------|---------------|-----------------------|--|
| Sodium metabisulfite (40 - 50%) CAS#: 7681-57-4 | Rat LC ₅₀ | > 5.5 mg/L | 4 hours | None reported | RTECS (Registry of Toxic Effects of Chemical Substances) |

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

| | |
|-------------------------------|--------------------------|
| ATEmix (oral) | No information available |
| ATEmix (dermal) | 4,626.40 mg/kg |
| ATEmix (inhalation-dust/mist) | No information available |
| ATEmix (inhalation-vapor) | No information available |
| ATEmix (inhalation-gas) | No information available |

Skin corrosion/irritation

Classification based on data available for ingredients. Irritating to skin.

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

| Chemical name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|---|----------------------|---------|---------------|---------------|--------------------|--|
| Sodium dithionite (20 - 30%) CAS#: 7775-14-6 | Standard Draize Test | Rabbit | 800 mg | None reported | Mild skin irritant | IUCLID (The International Uniform Chemical Information Database) |

Serious eye damage/irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

| Chemical name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|---|----------------------|---------|---------------|---------------|-------------------|--|
| Sodium metabisulfite (40 - 50%) CAS#: 7681-57-4 | Standard Draize Test | Rabbit | 107 mg | None reported | Corrosive to eyes | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Sodium dithionite (20 - 30%) CAS#: 7775-14-6 | Standard Draize Test | Rabbit | 100 mg | None reported | Eye irritant | IUCLID (The International Uniform Chemical Information Database) |

Respiratory or skin sensitization

May cause sensitization by inhalation.

Product Sensitization Data

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

| Chemical name | Test method | Species | Results | Key literature references and sources for data |
|--|---------------------------|---------|---------------------------------------|--|
| Sodium dithionite (20 - 30%) CAS#: 7775-14-6 | Based on human experience | Human | Not confirmed to be a skin sensitizer | OECD 429: Skin Sensitization: Local Lymph Node Assay |

Respiratory Sensitization Exposure Route

| Chemical name | Test method | Species | Results | Key literature references and sources for data |
|---|---------------------------|---------|--|---|
| Sodium metabisulfite (40 - 50%) CAS#: 7681-57-4 | Based on human experience | Human | Confirmed to be a respiratory sensitizer | GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance) |

STOT - single exposure

May cause respiratory irritation.

Product Specific Target Organ Toxicity Single Exposure Data

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Repeat Dose Data

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Oral Exposure Route

| Chemical name | Endpoint | Reported | Exposure | Toxicological effects | Key literature references and |
|---------------|----------|----------|----------|-----------------------|-------------------------------|
|---------------|----------|----------|----------|-----------------------|-------------------------------|

Product Code(s) 92799
Issue Date 10-Jan-2019
Version 3

Product Name FerroVer® Iron Reagent
Revision Date 25-Jan-2022
Page 11 / 17

| | type | dose | time | | sources for data |
|---|-------------------------|-----------|---------------|--|--|
| Sodium metabisulfite (40 - 50%) CAS#: 7681-57-4 | Rat TD _{Lo} | 75 mg/kg | 15 days | Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (phosphatases and dehydrogenases) Kidney, Ureter, or Bladder Other changes in urine composition | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Sodium dithionite (20 - 30%) CAS#: 7775-14-6 | Rat NOAEL | 217 mg/kg | None reported | None reported | OECD 429: Skin Sensitization: Local Lymph Node Assay |

Carcinogenicity

Based on available data, the classification criteria are not met.

Product Carcinogenicity Data

No data available.

Ingredient Carcinogenicity Data

Test data reported below.

| Chemical name | CAS No | ACGIH | IARC | NTP | OSHA |
|---|------------|-------|---------|-----|------|
| Sodium metabisulfite | 7681-57-4 | - | Group 3 | - | - |
| Sodium dithionite | 7775-14-6 | - | - | - | - |
| 1,10-Phenanthroline, mono(4-methylbenzenesulfonate) | 92798-16-8 | - | - | - | - |

Legend

| | |
|---|--|
| ACGIH (American Conference of Governmental Industrial Hygienists) | Does not apply |
| IARC (International Agency for Research on Cancer) | Group 3 - Not classifiable as a human carcinogen |
| NTP (National Toxicology Program) | Does not apply |
| OSHA (Occupational Safety and Health Administration of the US Department of Labor) | Does not apply |

Oral Exposure Route

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|---------------|---------------|---------------|--------------------------------------|--|
| Sodium dithionite (20 - 30%) CAS#: 7775-14-6 | None reported | 942 mg/kg | 2 years | Negative results for carcinogenicity | No information available |

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

Test data reported below.

| Chemical name | Test | Cell Strain | Reported dose | Exposure time | Results | Key literature references and sources for data |
|------------------------------------|----------------------|---------------|---------------|---------------|---------------------------------------|--|
| Sodium metabisulfite (40 - 50%) | Cytogenetic analysis | Hamster ovary | 0.18 mg/L | None reported | Positive test result for mutagenicity | RTECS (Registry of Toxic Effects of |

| | | | | | | |
|---|----------------------------|-------------------------------|---------------|---------------|---------------------------------------|--|
| CAS#: 7681-57-4 | | | | | | Chemical Substances) |
| Sodium dithionite (20 - 30%) CAS#: 7775-14-6 | Mutation in microorganisms | <i>Salmonella typhimurium</i> | None reported | None reported | Negative test result for mutagenicity | IUCLID (The International Uniform Chemical Information Database) |

Product Germ Cell Mutagenicity *in vivo* Data
 No data available.

Ingredient Germ Cell Mutagenicity *in vivo* Data
 Test data reported below.

Oral Exposure Route

| Chemical name | Test | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|---|----------------------|---------|---------------|---------------|---------------------------------------|--|
| Sodium dithionite (20 - 30%) CAS#: 7775-14-6 | Cytogenetic analysis | Rat | 1200 mg/kg | None reported | Negative test result for mutagenicity | IUCLID (The International Uniform Chemical Information Database) |

Reproductive toxicity

Based on available data, the classification criteria are not met.

Product Reproductive Toxicity Data
 No data available.

Ingredient Reproductive Toxicity Data
 Test data reported below.

Oral Exposure Route

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|----------------------|---------------|---------------|-------------------------------|--|
| Sodium metabisulfite (40 - 50%) CAS#: 7681-57-4 | Rat TD _{Lo} | 20000 mg/kg | None reported | Effects on Newborn Stillbirth | RTECS (Registry of Toxic Effects of Chemical Substances) |

Aspiration hazard

Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity
 No data available.

Aquatic Chronic Toxicity
 No data available.

Product Code(s) 92799
Issue Date 10-Jan-2019
Version 3

Product Name FerroVer® Iron Reagent
Revision Date 25-Jan-2022
Page 13 / 17

Ingredient Ecological Data

Aquatic Acute Toxicity

Test data reported below.

Fish

| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|--|---------------|------------------------|------------------|---------------|---|
| Sodium metabisulfite (40 - 50%) CAS#: 7681-57-4 | 96 hours | <i>Salmo gairdneri</i> | LC ₅₀ | 15 mg/L | IUCLID (The International Uniform Chemical Information Database) |
| Sodium dithionite (20 - 30%) CAS#: 7775-14-6 | 96 hours | <i>Leuciscus idus</i> | LC ₅₀ | >= 46 mg/L | IUCLID (The International Uniform Chemical Information Database) |
| 1,10-Phenanthroline, mono(4-methylbenzene nesulfonate) (1 - 5%) CAS#: 92798-16-8 | 96 hours | None reported | LC ₅₀ | 1353 mg/L | Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™ |

Crustacea

| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|--|---------------|----------------------|------------------|---------------|---|
| Sodium dithionite (20 - 30%) CAS#: 7775-14-6 | 48 Hours | <i>Daphnia magna</i> | EC ₅₀ | 98 mg/L | IUCLID (The International Uniform Chemical Information Database) |
| 1,10-Phenanthroline, mono(4-methylbenzene nesulfonate) (1 - 5%) CAS#: 92798-16-8 | 48 Hours | None reported | LC ₅₀ | 717 mg/L | Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™ |

Algae

| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|--|---------------|--------------------------------|------------------|---------------|---|
| Sodium metabisulfite (40 - 50%) CAS#: 7681-57-4 | 96 hours | <i>Scenedesmus subspicatus</i> | EC ₅₀ | 40 mg/L | IUCLID (The International Uniform Chemical Information Database) |
| 1,10-Phenanthroline, mono(4-methylbenzene nesulfonate) (1 - 5%) CAS#: 92798-16-8 | 96 hours | None reported | EC ₅₀ | 402 mg/L | Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™ |

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Product Biodegradability Data

No data available.

Bioaccumulation

MATERIAL DOES NOT BIOACCUMULATE

Product Bioaccumulation Data

No data available.

Product Code(s) 92799
Issue Date 10-Jan-2019
Version 3

Product Name FerroVer® Iron Reagent
Revision Date 25-Jan-2022
Page 14 / 17

Partition Coefficient (n-octanol/water)

log K_{ow} ~ -2.31

Mobility

Soil Organic Carbon-Water Partition Coefficient

log K_{oc} ~ -0.09

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

Special instructions for disposal

Work in an approved fume hood. Working in a large container, cautiously add small portions of the material to cold water with agitation. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. If permitted by regulation. Open cold water tap completely, slowly pour the reacted material to the drain. Allow cold water to run for 5 minutes to completely flush the system. Check with national, local municipal and state authorities and waste contractors for pertinent local information on the disposal of this article.

14. TRANSPORT INFORMATION

DOT

Special Provisions

Not regulated
Contact with acids liberates toxic gas, sulfur dioxide.

TDG

Not regulated

IATA

Not regulated

IMDG

Not regulated

Note:

No special precautions necessary.

Additional information

15. REGULATORY INFORMATION

National Inventories

TSCA

Complies

DSL/NDSL

Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS

Complies

ENCS

Complies

IECSC

Complies

KECL - Existing substances

Complies

PICCS

Does not comply

TCSI

Complies

Product Code(s) 92799
Issue Date 10-Jan-2019
Version 3

Product Name FerroVer® Iron Reagent
Revision Date 25-Jan-2022
Page 15 / 17

AICS Complies
NZIoC Complies

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
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

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

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

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

U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues

| Chemical name | U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues |
|--|--|
| Sodium dithionite (20 - 30%) CAS#: 7775-14-6 | Sabotage/Contamination |

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|-----------------------------------|-------------------|----------------------|---------------------|
| Sodium metabisulfite 7681-57-4 | X | X | X |
| Sodium dithionite 7775-14-6 | X | X | X |

U.S. EPA Label Information

Product Code(s) 92799
 Issue Date 10-Jan-2019
 Version 3

Product Name FerroVer® Iron Reagent
 Revision Date 25-Jan-2022
 Page 16 / 17

| Chemical name | FIFRA | FDA |
|----------------------|-------|-----------------|
| Sodium metabisulfite | - | 21 CFR 182.3766 |
| Sodium dithionite | - | 21 CFR 182.90 |

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

| Chemical name | Global Automotive Declarable Substance List Classifications | Global Automotive Declarable Substance List Thersholds |
|-----------------------------------|---|--|
| Sodium metabisulfite 7681-57-4 | Declarable Substance (LR) Prohibited Substance (LR) | 0 % |

NFPA and HMIS Classifications

| NFPA | Health hazards - 3 | Flammability - 0 | Instability - 0 | Physical and chemical properties - |
|------|---------------------------|------------------|----------------------|------------------------------------|
| HMIS | Health hazards - 2 - * | Flammability - 0 | Physical hazards - 0 | Personal protection - X - I |

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH *Immediately Dangerous to Life or Health*
 ACGIH ACGIH (American Conference of Governmental Industrial Hygienists)
 NDF *no data*

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|------|---------------------------------|---------|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| MAC | Maximum Allowable Concentration | Ceiling | Ceiling Limit Value |
| X | Listed | Vacated | These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations. |
| SKN* | Skin designation | SKN+ | Skin sensitization |
| RSP+ | Respiratory sensitization | ** | Hazard Designation |
| C | Carcinogen | R | Reproductive toxicant |
| M | mutagen | | |

Prepared By Hach Product Compliance Department

Issue Date 10-Jan-2019

Product Code(s) 92799
Issue Date 10-Jan-2019
Version 3

Product Name FerroVer® Iron Reagent
Revision Date 25-Jan-2022
Page 17 / 17

Revision Date 25-Jan-2022

Revision Note SDS sections updated
2

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

End of Safety Data Sheet