



**Be Right™**

# SAFETY DATA SHEET

Issue Date 10-Jan-2019

Revision Date 10-Feb-2025

Version 3.7

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## 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

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#### 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

|                                           |                                                                                                                                                                                                                                                                                   |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General advice</b>                     | Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.                                                                                                                                                                                 |
| <b>Inhalation</b>                         | 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. |
| <b>Eye contact</b>                        | 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.                  |
| <b>Skin contact</b>                       | 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.                                                                                            |
| <b>Ingestion</b>                          | 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.                                                             |
| <b>Self-protection of the first aider</b> | 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

|                 |                                                                                                                                                  |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Symptoms</b> | 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

|                           |                                                                        |
|---------------------------|------------------------------------------------------------------------|
| <b>Note to physicians</b> | May cause sensitization in susceptible persons. Treat symptomatically. |
|---------------------------|------------------------------------------------------------------------|

## 5. FIRE-FIGHTING MEASURES

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

## 6. ACCIDENTAL RELEASE MEASURES

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>U.S. Notice</b> | 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<br>CAS#: 7681-57-4 | TWA: 5 mg/m <sup>3</sup> | (vacated) TWA: 5 mg/m <sup>3</sup> | TWA: 5 mg/m <sup>3</sup> |

### 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. Ensure adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Wear breathing apparatus if exposed to vapors/dusts/aerosols.

#### Hand Protection

Wear suitable gloves. Impervious gloves. Barrier creams may help to protect the exposed areas of skin. 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             |
| Appearance     | crystalline       |
| Odor           | Sulfur-like       |
| Color          | White to yellow   |
| Odor threshold | No data available |

| Property                                        | Values                      | Remarks • Method |
|-------------------------------------------------|-----------------------------|------------------|
| Molecular weight                                | No data available           |                  |
| pH                                              | 5.3                         | 5% Solution      |
| Melting point / freezing point                  | > 400 °C / 752 °F           |                  |
| Initial boiling point and boiling range         | No data available           |                  |
| Evaporation rate                                | Not applicable              |                  |
| Vapor pressure                                  | Not applicable              |                  |
| Relative vapor density                          | No data available           |                  |
| Specific gravity - VALUE 1                      | 2.21                        |                  |
| Partition coefficient                           | log K <sub>OW</sub> ~ -2.31 |                  |
| Soil Organic Carbon-Water Partition Coefficient | log K <sub>OC</sub> ~ -0.09 |                  |
| Autoignition temperature                        | No data available           |                  |
| Decomposition temperature                       | No data available           |                  |
| Dynamic viscosity                               | Not applicable              |                  |
| Kinematic viscosity                             | Not applicable              |                  |

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### Solubility(ies)

#### Water solubility

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

#### Solubility in other solvents

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

### Other information

#### Corrosive to metals

**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

| <u>Chemical name</u>                                | <u>CAS No.</u> | <u>Volatile organic compounds (VOC) content</u> | <u>CAA (Clean Air Act)</u> |
|-----------------------------------------------------|----------------|-------------------------------------------------|----------------------------|
| 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

**Sensitivity to Mechanical Impact** None.

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**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**

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

**Mixture**  
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<br>LD <sub>50</sub> | <b>Behavioral</b><br>Chewing motion<br>Coma<br>Flaccid muscle tone<br>Lethargy<br>Prostration<br>Sedation<br>Tonic convulsions<br>Tremor<br>Twitching<br><b>Chronic</b><br>Death<br><b>Eye</b><br>Ptosis<br><b>Gastrointestinal</b><br>Diarrhea<br>Enteritis of the intestines<br>Gas<br>Inflammation of the small and large intestine<br>Inflammation of the stomach<br><b>Kidney, Ureter, or Bladder</b><br>Abnormalities of the kidneys<br><b>Lungs, Thorax, or Respiration</b><br>Congestion of the lungs<br>Respiratory depression<br>Hemorrhagic lungs<br><b>Nutritional and Gross Metabolic</b><br>Wetness of the anogenital area<br><b>Reproductive</b><br><b>Skin and Appendages</b><br>Piloerection | Outside testing                                       |

#### **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<br>(40 - 50%)<br>CAS#: 7681-57-4 | Rat<br>LD <sub>50</sub>   | 500 mg/kg     | None reported | None reported         | No information available                       |
| Sodium dithionite<br>(20 - 30%)<br>CAS#: 7775-14-6    | Mouse<br>LD <sub>50</sub> | 1500 mg/kg    | None reported | None reported         | ERMA                                           |
| 1,10-Phenanthroline,<br>mono(4-methylbenze            | Rat<br>LD <sub>50</sub>   | 245.6 mg/kg   | None reported | None reported         | Internal Data                                  |



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|                                              |  |  |  |  |  |
|----------------------------------------------|--|--|--|--|--|
| nesulfonate)<br>(1 - 5%)<br>CAS#: 92798-16-8 |  |  |  |  |  |
|----------------------------------------------|--|--|--|--|--|

#### Dermal Exposure Route

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

#### 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.

#### Mixture

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<br>(20 - 30%)<br>CAS#: 7775-14-6 | Standard Draize Test | Rabbit  | 800 mg        | None reported | Mild skin irritant | IUCLID                                         |

#### Serious eye damage/irritation

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

#### Mixture

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 |
|---------------|-------------|---------|---------------|---------------|---------|-------------------------------|
|---------------|-------------|---------|---------------|---------------|---------|-------------------------------|

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|                                                       |                         |        |        |               |                   | <b>sources for data</b> |
|-------------------------------------------------------|-------------------------|--------|--------|---------------|-------------------|-------------------------|
| Sodium metabisulfite<br>(40 - 50%)<br>CAS#: 7681-57-4 | Standard Draize<br>Test | Rabbit | 107 mg | None reported | Corrosive to eyes | RTECS                   |
| Sodium dithionite<br>(20 - 30%)<br>CAS#: 7775-14-6    | Standard Draize<br>Test | Rabbit | 100 mg | None reported | Eye irritant      | IUCLID                  |

#### **Respiratory or skin sensitization**

May cause sensitization by inhalation.

#### **Mixture**

No data available.

#### **Ingredient Sensitization Data**

Test data reported below.

#### **Skin Sensitization Exposure Route**

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

#### **Respiratory Sensitization Exposure Route**

| <b>Chemical name</b>                                  | <b>Test method</b>           | <b>Species</b> | <b>Results</b>                              | <b>Key literature references and sources for data</b> |
|-------------------------------------------------------|------------------------------|----------------|---------------------------------------------|-------------------------------------------------------|
| Sodium metabisulfite<br>(40 - 50%)<br>CAS#: 7681-57-4 | Based on human<br>experience | Human          | Confirmed to be a respiratory<br>sensitizer | GESTIS                                                |

#### **STOT - single exposure**

May cause respiratory irritation.

#### **Mixture**

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.

#### **Mixture**

No data available.

#### **Ingredient Specific Target Organ Toxicity Repeat Exposure Data**

Test data reported below.

#### **Oral Exposure Route**

| <b>Chemical name</b>                                  | <b>Endpoint type</b>    | <b>Reported dose</b> | <b>Exposure time</b> | <b>Toxicological effects</b>                                                                                                                                            | <b>Key literature references and sources for data</b> |
|-------------------------------------------------------|-------------------------|----------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Sodium metabisulfite<br>(40 - 50%)<br>CAS#: 7681-57-4 | Rat<br>TD <sub>Lo</sub> | 75 mg/kg             | 15 days              | <b>Biochemical</b><br>Enzyme inhibition, induction, or<br>change in blood or tissue levels<br>(phosphatases and<br>dehydrogenases)<br><b>Kidney, Ureter, or Bladder</b> | RTECS                                                 |

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|                                                 |           |           |               |                                    |                                                      |
|-------------------------------------------------|-----------|-----------|---------------|------------------------------------|------------------------------------------------------|
|                                                 |           |           |               | Other changes in urine composition |                                                      |
| Sodium dithionite (20 - 30%)<br>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.

#### **Mixture**

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**

|                                                                          |                                                            |
|--------------------------------------------------------------------------|------------------------------------------------------------|
| <b>ACGIH (American Conference of Governmental Industrial Hygienists)</b> | Does not apply                                             |
| <b>IARC (International Agency for Research on Cancer)</b>                | Group 3 - Not Classifiable as to Carcinogenicity in Humans |
| <b>NTP (National Toxicology Program)</b>                                 | Does not apply                                             |
| <b>OSHA</b>                                                              | 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%)<br>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.

#### **Mixture *invitro* Data**

No data available.

#### **Substance *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%)<br>CAS#: 7681-57-4 | Cytogenetic analysis       | Hamster ovary                 | 0.18 mg/L     | None reported | Positive test result for mutagenicity | RTECS                                          |
| Sodium dithionite (20 - 30%)<br>CAS#: 7775-14-6    | Mutation in microorganisms | <i>Salmonella typhimurium</i> | None reported | None reported | Negative                              | IUCLID                                         |

#### **Mixture *in vivo* Data**

No data available.

#### **Substance *in vivo* Data**

|           |              |
|-----------|--------------|
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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<br>(20 - 30%)<br>CAS#: 7775-14-6 | Cytogenetic analysis | Rat     | 1200 mg/kg    | None reported | Negative test result for mutagenicity | IUCLID                                         |

#### Reproductive toxicity

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

#### Mixture

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<br>(40 - 50%)<br>CAS#: 7681-57-4 | Rat<br>TD <sub>Lo</sub> | 20000 mg/kg   | None reported | Effects on Newborn<br>Stillbirth | RTECS                                          |

#### 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 components(s) of unknown hazards to the aquatic environment.

#### Mixture

#### Aquatic Acute Toxicity

No data available.

#### Aquatic Chronic Toxicity

No data available.

#### Substance

#### 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<br>(40 - 50%)<br>CAS#: 7681-57-4 | 96 hours      | <i>Salmo gairdneri</i> | LC <sub>50</sub> | 15 mg/L       | IUCLID                                         |
| Sodium dithionite<br>(20 - 30%)<br>CAS#: 7775-14-6    | 96 hours      | <i>Leuciscus idus</i>  | LC <sub>50</sub> | >= 46 mg/L    | IUCLID                                         |

|                                                                                  |          |               |                  |           |         |
|----------------------------------------------------------------------------------|----------|---------------|------------------|-----------|---------|
| 1,10-Phenanthroline, mono(4-methylbenzenesulfonate) (1 - 5%)<br>CAS#: 92798-16-8 | 96 hours | None reported | LC <sub>50</sub> | 1353 mg/L | ECOSARS |
|----------------------------------------------------------------------------------|----------|---------------|------------------|-----------|---------|

#### Crustacea

| Chemical name                                                                    | Exposure time | Species              | Endpoint type    | Reported dose | Key literature references and sources for data |
|----------------------------------------------------------------------------------|---------------|----------------------|------------------|---------------|------------------------------------------------|
| Sodium dithionite (20 - 30%)<br>CAS#: 7775-14-6                                  | 48 Hours      | <i>Daphnia magna</i> | EC <sub>50</sub> | 98 mg/L       | IUCLID                                         |
| 1,10-Phenanthroline, mono(4-methylbenzenesulfonate) (1 - 5%)<br>CAS#: 92798-16-8 | 48 Hours      | None reported        | LC <sub>50</sub> | 717 mg/L      | ECOSARS                                        |

#### Algae

| Chemical name                                                                    | Exposure time | Species                        | Endpoint type    | Reported dose | Key literature references and sources for data |
|----------------------------------------------------------------------------------|---------------|--------------------------------|------------------|---------------|------------------------------------------------|
| Sodium metabisulfite (40 - 50%)<br>CAS#: 7681-57-4                               | 96 hours      | <i>Scenedesmus subspicatus</i> | EC <sub>50</sub> | 40 mg/L       | IUCLID                                         |
| 1,10-Phenanthroline, mono(4-methylbenzenesulfonate) (1 - 5%)<br>CAS#: 92798-16-8 | 96 hours      | None reported                  | EC <sub>50</sub> | 402 mg/L      | ECOSARS                                        |

#### Aquatic Chronic Toxicity

No data available.

#### Persistence and degradability

##### Mixture

No data available.

##### Bioaccumulation

Material does not bioaccumulate

##### Mixture

No data available.

##### Partition coefficient

log K<sub>ow</sub> ~ -2.31

##### Mobility

##### Soil Organic Carbon-Water Partition Coefficient

log K<sub>oc</sub> ~ -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.

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**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** Not regulated  
**TDG** Not regulated  
**IATA** Not regulated  
**IMDG** Not regulated  
**Note:** No special precautions necessary.

**Additional information**

#### 15. REGULATORY INFORMATION

##### National Inventories

*For Inventory status, "complies" means, listed on the inventory, exempted or otherwise complies.*

**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** Does not comply  
**IECSC** Complies  
**KECI** Complies  
**PICCS** Does not comply  
**TCSI** Complies  
**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

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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<br>(20 - 30%)<br>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<br>7681-57-4 | X          | X             | X            |
| Sodium dithionite<br>7775-14-6    | X          | X             | X            |

**U.S. EPA Label Information**

| 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 Thresholds |
|-----------------------------------|-------------------------------------------------------------|--------------------------------------------------------|
| Sodium metabisulfite<br>7681-57-4 | Declarable Substance (LR)                                   | None reported                                          |

#### NFPA and HMIS Classifications

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

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

|             |                                                                                             |
|-------------|---------------------------------------------------------------------------------------------|
| ACGIH       | ACGIH (American Conference of Governmental Industrial Hygienists)                           |
| ATSDR       | ATSDR (Agency for Toxic Substances and Disease Registry)                                    |
| CCRIS       | CCRIS (Chemical Carcinogenesis Research Information System)                                 |
| CDC         | CDC (Center for Disease Control)                                                            |
| CEPA        | CEPA (Canadian Environmental Protection Agency)                                             |
| CICAD       | CICAD (Concise International Chemical Assessment Documents)                                 |
| ECHA        | ECHA (The European Chemicals Agency)                                                        |
| EEA         | EEA (European Environment Agency)                                                           |
| EPA         | Environmental Protection Agency                                                             |
| ERMA        | ERMA (New Zealand's Environmental Risk Management Authority)                                |
| ECOSARS     | Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™     |
| FDA         | FDA (Food & Drug Administration)                                                            |
| GESTIS      | GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance) |
| HSDB        | HSDB (Hazardous Substances Data Bank)                                                       |
| INERIS      | INERIS (The National Industrial Environment and Risks Institute)                            |
| IPCS INCHEM | IPCS INCHEM (International Programme on Chemical Safety)                                    |
| IUCLID      | IUCLID (The International Uniform Chemical Information Database)                            |
| NITE        | Japan National Institute of Technology and Evaluation (NITE)                                |
| NIH         | NIH (National Institutes of Health)                                                         |
| NIOSH       | NIOSH (National Institute for Occupational Safety and Health)                               |
| LOLI        | LOLI (List of Lists - An International Chemical Regulatory Database)                        |
| NDF         | no data                                                                                     |
| NICNAS      | Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)         |
| NIOSH IDLH  | Immediately Dangerous to Life or Health                                                     |
| OSHA        | Occupational Safety and Health Administration of the US Department of Labor                 |
| PEEN        | PEEN (Pan European Ecological Network)                                                      |
| RTECS       | RTECS (Registry of Toxic Effects of Chemical Substances)                                    |
| SIDS        | SIDS (Screening Information Dataset) for High Volume Chemicals                              |
| SYKE        | The Finnish Environment Institute (SYKE)                                                    |
| USDA        | USDA (United States Department of Agriculture)                                              |
| USDC        | USDC (United States Department of Commerce)                                                 |
| WHO         | WHO (World Health Organization)                                                             |

#### 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 |



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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

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**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**