



SAFETY DATA SHEET

1. Identification

Product identifier	FerroVer Iron Reagent
Other means of identification	Not available.
Recommended use	Testing reagent
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company name	Pro Products LLC
Address	6714 Pointe Inverness Way Suite 200 Fort Wayne IN 46804-7935 United States
Telephone	260-483-2519
E-mail	Not available.
Emergency phone number	1-800-424-9300 (CHEMTREC)
Supplier	See above.

2. Hazard identification

Physical hazards	Physical hazards not otherwise classified	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
	Sensitization, respiratory	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Environmental hazards	Not classified.	
WHMIS 2015 defined hazards	Not classified	
Label elements		



Signal word	Danger
Hazard statement	Harmful if swallowed. Harmful if inhaled. Causes skin irritation. Causes serious eye damage. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Precautionary statement	
Prevention	Avoid breathing dust. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, eye protection, and face protection. Wear respiratory protection.
Response	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. IF ON SKIN: Wash with plenty of water. Specific treatment (see information on this label). If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of container in accordance with local, regional, national and international regulations.

WHMIS 2015: Health Hazard(s) not otherwise classified (HHNOC)

WHMIS 2015: Physical Hazard(s) not otherwise classified (PHNOC)

Hazard(s) not otherwise classified (HNOC)

Supplemental information

Contact with acids liberates toxic gas.

Contact with acids liberates toxic gas.

None.

3. Composition/Information on ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
1,10-phenanthroline, Mono(4-methylbenzenesulfonate)		92798-16-8	1 - 5*
Sodium hydrosulfite		7775-14-6	15 - 40*
Sodium metabisulfite		7681-57-4	30 - 60*

Composition comments

US GHS: The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

*CANADA GHS: The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER.

Skin contact

IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical attention. Specific treatment (see information on this label). Take off contaminated clothing and wash it before reuse.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.

Most important symptoms/effects, acute and delayed

Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Symptoms may be delayed.

General information

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Show this safety data sheet to the doctor in attendance. Keep away from sources of ignition. No smoking. Avoid contact with eyes and skin. Wear rubber gloves and chemical splash goggles. Keep out of reach of children.

5. Fire-fighting measures

Suitable extinguishing media

Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media

Water may be ineffective.

Specific hazards arising from the chemical

Firefighters should wear a self-contained breathing apparatus.

Special protective equipment and precautions for firefighters

Firefighters should wear full protective clothing including self-contained breathing apparatus.

Fire-fighting equipment/instructions

In the event of fire, cool tanks with water spray. Cool containers with flooding quantities of water until well after fire is out.

Specific methods

Cool containers exposed to flames with water until well after the fire is out.

General fire hazards

May react violently with water.

Hazardous combustion products

May include and are not limited to: Oxides of carbon. Oxides of sulfur.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep out of low areas. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Keep cool. Use only with adequate ventilation. Avoid breathing dust. Avoid contact with eyes, skin and clothing. Do not taste or swallow. Avoid prolonged exposure. In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash thoroughly after handling. Keep container tightly closed.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (see Section 10 of the SDS). Keep out of reach of children. Keep the container dry.

8. Exposure controls/Personal protection

Occupational exposure limits

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Sodium metabisulfite (CAS 7681-57-4)	TWA	5 mg/m ³

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Sodium metabisulfite (CAS 7681-57-4)	TWA	5 mg/m ³

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
Sodium metabisulfite (CAS 7681-57-4)	TWA	5 mg/m ³

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Sodium metabisulfite (CAS 7681-57-4)	TWA	5 mg/m ³

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

Components	Type	Value
Sodium metabisulfite (CAS 7681-57-4)	TWA	5 mg/m ³

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Type	Value
Sodium metabisulfite (CAS 7681-57-4)	15 minute	10 mg/m ³
	8 hour	5 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium metabisulfite (CAS 7681-57-4)	TWA	5 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium metabisulfite (CAS 7681-57-4)	TWA	5 mg/m ³

Biological limit values	No biological exposure limits noted for the ingredient(s).
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Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Impervious gloves. Confirm with reputable supplier first.
Other	Wear chemical protective equipment that is specifically recommended by the manufacturer. As required by employer code.
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2).
Thermal hazards	Not applicable.
General hygiene considerations	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Wash hands before breaks and immediately after handling the product. When using do not eat or drink.

9. Physical and chemical properties

Appearance	Crystals
Physical state	Solid.
Form	Crystals
Color	White to Yellow
Odor	sulfur
Odor threshold	Not available.
pH	5.3 (5% solution)
Melting point/freezing point	> 752 °F (> 400 °C)
Initial boiling point and boiling range	Not available.
Pour point	Not available.
Specific gravity	Not available.
Partition coefficient (n-octanol/water)	Log Kow ~ -2.31
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	2.21
Solubility(ies)	> 1000 mg/L @ 25°C
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
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

10. Stability and reactivity

Reactivity	This product may react with strong oxidizing agents. Reacts vigorously with acids. Reacts vigorously with alkaline material.
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Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Chemical stability	Instability caused by moisture, heat, ignition sources. Instability caused by elevated temperatures. Instability caused by exposure to light.
Conditions to avoid	Exposure to light. Heating can release hazardous gases. Do not mix with other chemicals.
Incompatible materials	Not corrosive to SAE 1020 Steel or non-clad Aluminum based on test data (UN Manual of Tests and Criteria, Part III, Section 37.1 -Corrosion to metals).
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Oxides of sulfur. Oxides of sodium.

11. Toxicological information

Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.

Information on likely routes of exposure

Ingestion	Harmful if swallowed.
Inhalation	Harmful if inhaled.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation.

Information on toxicological effects

Acute toxicity Harmful if swallowed. Harmful if inhaled.

Components	Species	Test Results
1,10-phenanthroline, Mono(4-methylbenzenesulfonate) (CAS 92798-16-8)		
Acute		
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Not available	
Sodium hydrosulfite (CAS 7775-14-6)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg, 24 Hours, ECHA
<i>Inhalation</i>		
LC50	Rat	> 22 mg/L, 4 Hours, ECHA > 5.5 mg/L, 4 Hours, ECHA
<i>Oral</i>		
LD50	Rat	2500 mg/kg, ECHA
Sodium metabisulfite (CAS 7681-57-4)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg, 24 Hours, ECHA
<i>Inhalation</i>		
LC50	Rat	> 5.5 mg/L, 4 Hours, ECHA
<i>Oral</i>		
LD50	Rat	1540 mg/kg, ECHA
Skin corrosion/irritation	Causes skin irritation.	
Exposure minutes	Not available.	
Erythema value	Not available.	
Oedema value	Not available.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Corneal opacity value	Not available.	
Iris lesion value	Not available.	
Conjunctival reddening value	Not available.	

Conjunctival oedema value Not available.

Recover days Not available.

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

Sodium metabisulfite (CAS 7681-57-4) Irritant

Respiratory sensitization May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin sensitization This product is not expected to cause skin sensitization.

Mutagenicity Non-hazardous by WHMIS/OSHA criteria.

Carcinogenicity Non-hazardous by WHMIS/OSHA criteria.

IARC Monographs. Overall Evaluation of Carcinogenicity

Sodium metabisulfite (CAS 7681-57-4) Volume 54 - 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not listed.

Reproductive toxicity Non-hazardous by WHMIS/OSHA criteria.

Teratogenicity Non-hazardous by WHMIS/OSHA criteria.

Specific target organ toxicity - single exposure Respiratory tract irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not available.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity See below

Ecotoxicological data

Components		Species	Test Results
Sodium hydrosulfite (CAS 7775-14-6)			
Algae	IC50	Algae	120 mg/L, 72 Hours
Crustacea	EC50	Daphnia	98 mg/L, 48 Hours
Sodium metabisulfite (CAS 7681-57-4)			
Algae	IC50	Algae	48 mg/L, 72 Hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Mobility in general Not available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Consult authorities before disposal. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

Transport of Dangerous Goods (TDG) Proof of Classification Classification Method: Classified as per Part 2, Sections 2.1 – 2.8 of the Transportation of Dangerous Goods Regulations. If applicable, the technical name and the classification of the product will appear below.

U.S. Department of Transportation (DOT)

Not regulated as dangerous goods.

Transportation of Dangerous Goods (TDG - Canada)

Not regulated as dangerous goods.

15. Regulatory information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS 2015 Exemptions Not applicable

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Specific target organ toxicity (single or repeated exposure)
Hazard not otherwise classified (HNOC)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

US state regulations

US - California Hazardous Substances (Director's): Listed substance

Sodium metabisulfite (CAS 7681-57-4) Listed.

US - Minnesota Haz Subs: Listed substance

Sodium metabisulfite (CAS 7681-57-4) Listed.

US - Texas Effects Screening Levels: Listed substance

Sodium hydrosulfite (CAS 7775-14-6) Listed.

Sodium metabisulfite (CAS 7681-57-4) Listed.

US. Massachusetts RTK - Substance List

Sodium hydrosulfite (CAS 7775-14-6)

Sodium metabisulfite (CAS 7681-57-4)

US. New Jersey Worker and Community Right-to-Know Act

Sodium hydrosulfite (CAS 7775-14-6)

Sodium metabisulfite (CAS 7681-57-4)

US. Pennsylvania Worker and Community Right-to-Know Law

Sodium hydrosulfite (CAS 7775-14-6)

Sodium metabisulfite (CAS 7681-57-4)

US. Rhode Island RTK

Sodium hydrosulfite (CAS 7775-14-6)

Sodium metabisulfite (CAS 7681-57-4)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

Inventory status

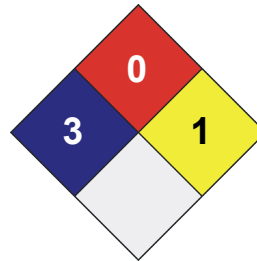
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	/ 3
FLAMMABILITY	0
PHYSICAL HAZARD	1
PERSONAL PROTECTION	X



Disclaimer

The data contained in this material safety data sheet was obtained from sources that were technically accurate, reliable, and state of the art when this document was prepared. If data was unavailable to complete certain sections, the absence of that data is identified in this document. Because the supplier cannot know the exact circumstances during actual use of this product, other hazards, exposure scenarios, disposal considerations, and regulations may apply and it is the responsibility of the user to read and understand the product label and this document before use. Do not use the product for purposes other than those stated in Section 1.

Issue date

01-June-2021

Version

02

Effective date

01-June-2021

Prepared by

Dell Tech Laboratories Ltd. Phone: (519) 858-5021

Further information

Not available.

Other information

For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.