

## SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

### PL Iron MR 1

Revision date 05-12-2025

Revision Number 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Product Code(s)** PLpow20IronMR1  
**Product Name** PL Iron MR 1  
**Unique Formula Identifier (UFI)** AV00-70PC-100P-FU0D

Contains Sodium metabisulfite, 1,10-Phenanthroline Monohydrate

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Recommended use** Reagent for water analysis  
**Uses advised against** Others

### 1.3. Details of the supplier of the safety data sheet

#### Manufacturer

Water-i.d. GmbH  
Daimlerstr. 20  
76344 Eggenstein, Germany  
Tel.: +49 (0) 721 78 20 29 0, Fax: +49 (0) 721 78 20 29 11  
Website: [www.water-id.com](http://www.water-id.com)  
EHS / Compliance: [lab@water-id.com](mailto:lab@water-id.com)

### 1.4. Emergency telephone number

Emergency Telephone +44 1235 239670  
English, Albanian, Bosnian, Bulgarian, Croatian, Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Russian, Serbian, Slovak, Spanish, Swedish, Turkish and Ukrainian.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute toxicity - Oral	Category 4 - (H302)
Serious eye damage/eye irritation	Category 1 - (H318)
Hazardous to the aquatic environment - chronic	Category 2 - (H411)

### 2.2. Label elements

Contains Sodium metabisulfite, 1,10-Phenanthroline Monohydrate



**Signal word**  
Danger

**Hazard statements**

H302 - Harmful if swallowed  
H318 - Causes serious eye damage  
H411 - Toxic to aquatic life with long lasting effects  
EUH031 - Contact with acids liberates toxic gas

**Precautionary Statements - EU (§28, 1272/2008)**

P264 - Wash face, hands and any exposed skin thoroughly after handling  
P273 - Avoid release to the environment  
P280 - Wear eye and face protection  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor  
P391 - Collect spillage

**Additional information**

This product requires tactile warnings if supplied to the general public.

**2.3. Other hazards**

Toxic to aquatic life.

## SECTION 3: Composition/information on ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

Chemical name	Weight-%	REACH registration number	EC No. (Index No.)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Sodium metabisulfite 7681-57-4	20-30	No data available	231-673-0	Acute Tox. 4 (H302) Eye Dam. 1 (H318) (EUH031)			
Sodium dithionite 7775-14-6	1-10	No data available	231-890-0	Acute Tox. 4 (H302) (EUH031) Self-heat. 1 (H251)			
1,10-Phenanthroline Monohydrate 5144-89-8	1-10	No data available	-	Acute Tox. 3 (H301) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)			

**Full text of H- and EUH-phrases: see section 16**

Acute Toxicity Estimate

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture

based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Sodium metabisulfite 7681-57-4	1310	2000			
Sodium dithionite 7775-14-6	2500				
1,10-Phenanthroline Monohydrate 5144-89-8	132				

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (Regulation (EC) No. 1907/2006 (REACH), Article 59)

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

<b>Inhalation</b>	Remove to fresh air. Treatment should be symptomatic and supportive.
<b>Eye contact</b>	Get medical attention if irritation develops and persists. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>Skin contact</b>	Get medical attention if irritation develops and persists. IF ON SKIN: Wash with plenty of soap and water.
<b>Ingestion</b>	Clean mouth with water. Do NOT induce vomiting. If symptoms persist, call a doctor.

### 4.2. Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Irritating. Itching. May cause redness and tearing of the eyes. Rashes. Redness.
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### 4.3. Indication of any immediate medical attention and special treatment needed

<b>Note to doctors</b>	Treat symptomatically.
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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.

### 5.2. Special hazards arising from the substance or mixture

<b>Specific hazards arising from the chemical</b>	Fire may produce irritating, corrosive and/or toxic gases.
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### 5.3. Advice for firefighters

<b>Special protective equipment and precautions for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation.
For emergency responders	Use personal protection recommended in Section 8.

### 6.2. Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
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### 6.3. 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.

### 6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.
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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Advice on safe handling	Ensure adequate ventilation.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

### 7.3. Specific end use(s)

Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.
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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Sodium metabisulfite 7681-57-4	-	-	TWA: 5 mg/m <sup>3</sup>	-	TWA: 5 mg/m <sup>3</sup>
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Sodium metabisulfite 7681-57-4	-	-	TWA: 5 mg/m <sup>3</sup>	-	-
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Sodium metabisulfite 7681-57-4	TWA: 5 mg/m <sup>3</sup>	-	-	TWA: 5 mg/m <sup>3</sup>	-
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Sodium metabisulfite	TWA: 5 mg/m <sup>3</sup>	-	TWA: 5 mg/m <sup>3</sup>	-	-

7681-57-4	STEL: 15 mg/m <sup>3</sup>				
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Sodium metabisulfite 7681-57-4	-	-	-	STEL: 10 mg/m <sup>3</sup>	-
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Sodium metabisulfite 7681-57-4	TWA: 5 mg/m <sup>3</sup>	-	-	-	TWA: 5 mg/m <sup>3</sup>
Chemical name	Sweden	Switzerland	United Kingdom		
Sodium metabisulfite 7681-57-4	-	TWA: 5 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup> STEL: 15 mg/m <sup>3</sup>		

**Biological occupational exposure limits**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

**Derived No Effect Level (DNEL)** No information available.  
**Predicted No Effect Concentration (PNEC)**

**8.2. Exposure controls****Personal protective equipment**

**Eye/face protection** No special protective equipment required.

**Hand protection** Nitrile rubber. Gloves must conform to standard EN 374.

**Skin and body protection** No special protective equipment required.

**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.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

**Physical state** Solid Powder  
**Appearance** Powder  
**Colour** yellow light yellow  
**Odour** Pungent.  
**Odour threshold**

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point / boiling range</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Flash point</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>		None known

pH	No data available	None known
pH (as aqueous solution)	No data available	No information available
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapour pressure	No data available	None known
Relative density	No data available	None known
Bulk density	No data available	
Liquid Density	No data available	
Relative vapour density	No data available	None known
Particle characteristics		
Particle Size		
Particle Size Distribution		

## 9.2. Other information

9.2.1. Information with regards to physical hazard classes  
Not applicable

9.2.2. Other safety characteristics

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity Stable.

### 10.2. Chemical stability

Stability Stable under normal conditions.

#### Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

### 10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

### 10.5. Incompatible materials

Incompatible materials None known based on information supplied.

### 10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Information on likely routes of exposure

##### Product Information

Inhalation Specific test data for the substance or mixture is not available.

<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.

#### **Symptoms related to the physical, chemical and toxicological characteristics**

<b>Symptoms</b>	No information available.
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#### **Numerical measures of toxicity**

##### **Acute toxicity**

**The following ATE values have been calculated for the mixture**

**ATEmix (oral)** 919.30 mg/kg

32.2 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.  
 100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour).  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

##### **Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium metabisulfite	= 1310 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	
Sodium dithionite	= 2500 mg/kg ( Rat )		
1,10-Phenanthroline Monohydrate	= 132 mg/kg ( Rat )		

#### **Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/eye irritation</b>	No information available.
<b>Respiratory or skin sensitisation</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.

**Aspiration hazard** No information available.

## 11.2. Information on other hazards

### 11.2.1. Endocrine disrupting properties

**Endocrine disrupting properties**

### 11.2.2. Other information

**Other adverse effects**

## **SECTION 12: Ecological information**

### 12.1. Toxicity

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Unknown aquatic toxicity** Contains 41 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Sodium metabisulfite	EC50: =40mg/L (96h, <i>Desmodesmus subspicatus</i> ) EC50: =48mg/L (72h, <i>Desmodesmus subspicatus</i> )	LC50: =32mg/L (96h, <i>Lepomis macrochirus</i> )	-	-
Sodium dithionite	EC50: =120mg/L (72h, <i>Desmodesmus subspicatus</i> ) EC50: =87mg/L (96h, <i>Desmodesmus subspicatus</i> )	-	-	EC50: =98mg/L (48h, <i>Daphnia magna</i> Straus)

### 12.2. Persistence and degradability

**Persistence and degradability**

### 12.3. Bioaccumulative potential

**Bioaccumulation** There is no data for this product.

#### **Component Information**

Chemical name	Partition coefficient
Sodium metabisulfite	-3.7

### 12.4. Mobility in soil

**Mobility in soil**

### 12.5. Results of PBT and vPvB assessment

**PBT and vPvB assessment**

Chemical name	PBT and vPvB assessment
Sodium metabisulfite	The substance is not PBT / vPvB PBT assessment does not apply
Sodium dithionite	PBT assessment does not apply

### 12.6. Endocrine disrupting properties



**Endocrine disrupting properties****12.7. Other adverse effects**

No information available.

**SECTION 13: Disposal considerations****13.1. 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.

**SECTION 14: Transport information****IATA**

**14.1 UN number or ID number** UN3077  
**14.2 UN proper shipping name** Environmentally hazardous substance, solid, n.o.s.(1,10-Phenanthroline)  
**14.3 Transport hazard class(es)** 9  
**14.4 Packing group** III  
**14.5 Environmental hazards** Yes  
**14.6 Special precautions for user**  
**Special Provisions** None

**IMDG**

**14.1 UN number or ID number** UN3077  
**14.2 UN proper shipping name** Environmentally hazardous substances, solid, n.o.s. (1,10-Phenanthroline)  
**14.3 Transport hazard class(es)** 9  
**14.4 Packing group** III  
**14.5 Marine pollutant** P  
**Environmental hazards** Yes  
**14.6 Special precautions for user**  
**Special Provisions** None  
**14.7 Maritime transport in bulk according to IMO instruments**

**RID**

**14.1 UN number or ID number** UN3077  
**14.2 UN proper shipping name** Environmentally hazardous substances, solid, n.o.s. (1,10-Phenanthroline)  
**14.3 Transport hazard class(es)** 9  
**14.4 Packing group** III  
**14.5 Environmental hazards** Yes  
**14.6 Special precautions for user**  
**Special Provisions** None

**ADR**

**14.1 UN number or ID number** UN3077  
**14.2 UN proper shipping name** Environmentally hazardous substances, solid, n.o.s. (1,10-Phenanthroline)  
**14.3 Transport hazard class(es)** 9  
**14.4 Packing group** III  
**14.5 Environmental hazards** Yes  
**14.6 Special precautions for user**  
**Special Provisions** 274  
**Classification code** M7  
**Tunnel restriction code** (E)

**SECTION 15: Regulatory information**

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****France****Occupational Illnesses (R-463-3, France)**

Chemical name	French RG number	Title
Sodium metabisulfite 7681-57-4	RG 66	-

**Water hazard class (WGK)** strongly hazardous to water (WGK 3)

**European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

**Authorisations and/or restrictions on use:**

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

**Persistent Organic Pollutants**

Not applicable

**Dangerous substance category per Seveso Directive (2012/18/EU)**

E2 - Hazardous to the Aquatic Environment in Category Chronic 2

**Ozone-depleting substances (ODS) Regulation (EU) 2024/590**

Not applicable

**International Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDL</b>	Does not comply
<b>EINECS/ELINCS</b>	Does not comply
<b>ENCS</b>	Does not comply
<b>IECSC</b>	Complies
<b>KECL</b>	Does not comply
<b>PICCS</b>	Complies
<b>AICS</b>	Complies

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**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  
**AICS** - Australian Inventory of Chemical Substances

**15.2. Chemical safety assessment****Chemical Safety Report****SECTION 16: Other information**

**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of any hazard and/or precautionary statements referred to under Sections 2-15**

EUH031 - Contact with acids liberates toxic gas  
 H251 - Self-heating; may catch fire  
 H301 - Toxic if swallowed  
 H302 - Harmful if swallowed  
 H318 - Causes serious eye damage  
 H400 - Very toxic to aquatic life  
 H410 - Very toxic to aquatic life with long lasting effects

**Legend**

SVHC: Substances of Very High Concern for Authorisation:

**Legend Section 8: Exposure controls/personal protection**

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)  
 Ceiling Maximum limit value \* Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - Vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AEGL(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 Japan GHS Classification  
 Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
 Organisation for Economic Co-operation and Development Screening Information Data Set  
 World Health Organization

Revision date

05-12-2025

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**