



## Material Safety Data Sheet (MSDS)

### 1. PRODUCT AND COMPANY IDENTIFICATION

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#### 1.1 Product Identifiers

Product Name: **Iron Wire**  
Purity: 99.99+% Iron  
Product Number: N-RSFE  
Source: Engineering Analytics Laboratories  
CAS-No.: 7439-89-6

#### 1.2 Relevant Identified Uses

Identified Uses: Equipment Calibration  
Advised Against: None suggested

#### 1.3 Company Identification (MSDS Supplier)

Company: Engineering Analytics Laboratories  
(Accredited to ISO 17034:2016, #122465 by PJLA)  
Address: PO Box 500146, Malabar, FL 32950, USA  
Telephone: +1 321-720-6578  
E-mail: EngAnLab@gmail.com

#### 1.4 Emergency Telephone Number

Emergencies: **Dial 911 first!**  
Emergency Phone #: +1-703-527-3887 (CHEMTREC)

### 2. HAZARDS IDENTIFICATION

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#### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

#### 2.2 GHS Label elements, including precautionary statements

Pictogram: *None*  
Signal Word: *None*  
Hazard Statement(s): Not a hazardous material in supplier form.  
Precautionary Statement(s): Not a hazardous material in supplier form.

#### 2.3 Hazards Not Otherwise Classified (HNOC) or Not Covered by GHS

None known at this time.

In the form provided by EA Labs, this product is considered safe due to the form and small quantity. Use as directed and in accordance with safe laboratory and materials handling practices.

### 3. COMPOSITION (INFORMATION ON INGREDIENTS)

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#### 3.1 Substances

Formula: Iron (Fe)  
Molecular Weight: 55.85 g/mol  
CAS-No.: 7439-89-6  
EC-No.: 231-096-4

#### Hazardous Components

CAS #	Component	Classification	Concentration
7439-89-6	Iron		99.99%

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 4. FIRST AID MEASURES

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#### 4.1 Description of First Aid Measures

In supplied form, this material is not expected to cause the following first aid measures.

##### General Advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### In case of skin contact

Wash off with soap and plenty of water. Consult a physician if any irritation.

##### In case of eye contact

Flush open eyes with water for several minutes.

##### If swallowed

Never give anything by mouth to an unconscious person. Turn the individual's head and/or body to one side, and rinse the mouth with water (if safe and possible to do so). Consult a physician.

##### If unconscious

Turn body to one side for transportation; call emergency services.

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

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

### 5. FIREFIGHTING MEASURES

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#### 5.1 Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Material is non-flammable when used for the stated purposes.

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

No data available

#### 5.3 Advice for Firefighters

Wear self-contained breathing apparatus for firefighting, if necessary.

#### 5.4 Further information

No data available

## 6. ACCIDENTAL RELEASE MEASURES

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### 6.1 Personal Precautions, Protective Equipment (PPE), and Emergency Procedures

Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

### 6.2 Environmental Precautions

No environmental precautions required.

### 6.3 Clean-up and Containment Methods

Pick up and arrange disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4 Disposal

For disposal see section 13.

## 7. HANDLING AND STORAGE

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### 7.1 Precautions for Safe Handling

Processing of solid materials may result in the formation of irritable dusts. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

### 7.2 Conditions for Safe Storage, including incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510): Non Combustible Solids.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### 8.1 Control Parameters

Does not contain substances in significant quantity with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

#### Personal Protective Equipment (PPE)

##### *Eye/face protection*

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### *Skin protection*

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

##### *Full contact*

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

##### *Body Protection*

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### *Respiratory protection*

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Control environmental exposure to prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

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### **9.1 Basic Physical and Chemical Properties**

- a) Appearance Form: Wire
- b) Odor: *No data available*
- c) Odor Threshold: *No data available*
- d) pH: *No data available*
- e) Melting/freezing point:  
Melting point: 1,535 °C (2,795 °F).
- f) Initial boiling point and boiling range:  
2,750 °C (4,982 °F)
- g) Curie Point:  $767 \pm 3.0$  °C<sup>1</sup>
- h) Flash point: *Not applicable*
- i) Evaporation rate: *No data available*
- j) Flammability (solid, gas): Not flammable in this form.
- k) Upper/lower flammability or explosive limits: *No data available*
- l) Vapor pressure: *No data available*
- m) Vapor density: *No data available*
- n) Relative density: 7.86 g/cm<sup>3</sup> at 25 °C (77 °F)
- o) Water Solubility: Insoluble in supplied form.
- p) Partition coefficient: *No data available*
- q) Auto-ignition Temperature: *No data available*
- r) Decomposition Temperature: *No data available*
- s) Viscosity: *No data available*
- t) Explosive Properties: Does not present an explosion hazard in this form.
- u) Oxidizing Properties: *No data available*

### **9.2 Other safety information**

*No data available*

## **10. STABILITY AND REACTIVITY**

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### **10.1 Reactivity**

*No data available*

### **10.2 Chemical Stability**

Stable under recommended storage conditions.

### **10.3 Possibility of Hazardous Reactions**

*No data available*

### **10.4 Conditions to avoid**

*No data available*

### **10.5 Incompatible Materials**

Oxidizing agents at temperature and specific conditions not applicable to its intended use.

## 10.6 Hazardous Decomposition Products

Hazardous decomposition products formed under fire conditions: **Iron Oxides**

Conditions to avoid: Acids, Oxidizing Agents, Sulfur

In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

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### 11.1 Toxicological Effects

Acute Toxicity: LD50 – Oral – Rat: 30,000 mg/kg

Remarks: Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

Inhalation: *No data available*

Dermal: *No data available*

Skin Corrosion/Irritation: Irritation possible through contact.

Serious Eye Damage/Eye Irritation: *No data available*

Respiratory or Skin Sensitization: Irritation possible through contact.

Germ Cell Mutagenicity: *No data available*

Carcinogenicity:

IARC: No component greater than or equal to 0.1% has been identified as a carcinogen.

NTP: No component greater than or equal to 0.1% has been identified as a carcinogen.

California: No component greater than or equal to 0.1% has been identified as a carcinogen.

OSHA: No component greater than or equal to 0.1% has been identified as a carcinogen.

Reproductive Toxicity: *No data available*

Specific Target Organ Toxicity - Single Exposure: *No data available*

Specific Target Organ Toxicity - Repeated Exposure: *No data available*

Aspiration Hazard: *No data available*

Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Information provided is based on available data.

## 12. ECOLOGICAL INFORMATION

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### 12.1 Toxicity

Toxicity to Fish: *No data available*

The US Environmental Protection Agency (EPA) does not classify unused product as a hazardous waste.

### 12.2 Persistence and Degradability

*No data available*

### 12.3 Bioaccumulative Potential

*No data available*

### 12.4 Mobility in Soil

*No data available*

### 12.5 Results of PBT and vPvB Assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### 12.6 Other Adverse Effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Do not allow this product to contaminate ground water, water course, or sewage systems.

### 13. DISPOSAL CONSIDERATIONS

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#### 13.1 Waste Treatment Methods

*Product*

Offer surplus and non-recyclable solutions to a licensed disposal company. The EPA does not classify the unused product as hazardous waste.

*Packaging*

Dispose of as unused product.

### 14. TRANSPORT INFORMATION

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DOT (US)

Not dangerous goods

IMDG

Not Regulated

IATA

Not Regulated

Canada

This SDS meets the requirements for CPR

Additional Information

*No additional Information*

### 15. REGULATORY INFORMATION

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See Section 2 for Safety, Health, and Environmental data specific to this material. Individual Lots may not contain all items listed herein.

SARA 335 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 335.

SARA 313 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA 311/312 Hazards

TSCA (Toxic Substance Control Act)

*No data available*

California Prop. 65 Components

*No data available*

TLV Established by ACGIH

*No data available*

NIOSH-CA

*No data available*

Water Hazard Class

*No data available*

## 16. OTHER INFORMATION

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### Full text of H-Statements referred to under sections 2 and 3.

No additional data available.

#### HMIS Rating

Health hazard: 0

Chronic Health Hazard:

Flammability: 0

Physical Hazard: 0

#### NFPA Rating

Health hazard: 0

Fire Hazard: 0

Reactivity Hazard: 0

### Further Information

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## 17. Literature Sources

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1. Langner, Jeremy and Cahoon, J.R. "Increase in the Alpha to Gamma Transformation Temperature of Pure Iron upon Very Rapid Heating." *Metallurgical and Materials Transactions A* vol. 41A (2010) pp. 1278

Preparation Information

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