

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name Zero valent iron

Brand CAP Remediation LLC

CAS-No. 7439-89-6

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

Identified uses Environmental remediation, water treatment, various

1.3 Details of the supplier of the safety data sheet

Company CAP Remediation
8 Campus Drive, Ste 105-1019
Parsippany, NJ 07054
Telephone (866) 824-4797

1.4 Emergency telephone number

Emergency Phone #: CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Not classified as hazardous

2.2 GHS Label elements, including precautionary statements

Signal Word: not applicable
Hazard Statements: not applicable
Precautionary Statements: not applicable

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS –

CAP Remediation currently knows no risk to people or the environment from this class of product.

If dust is generated during the use of handling of these materials, extra precaution for eye protection (eye glasses or goggles), skin (gloves and long sleeves) and respiration (particle dust mask) are recommended. Spills of these materials may present a slip / fall hazard.

SAFETY DATA SHEET – ZERO VALENT IRON POWDER

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula: Fe

Molecular Weight: 55.85 g/mol

CAS-No.: 7439-89-6

EC-No.: 231-096-4

C	0.70 – 2.5%	Mn	<0.60%
Si	<2.0%	S	<0.12%
P	<0.14%	Fe	Balance

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Move out of dangerous area. 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.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water.
Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

No data available

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use Class D or other metal extinguishing agent.

SAFETY DATA SHEET – ZERO VALENT IRON POWDER

5.2 Special hazards arising from the substance or mixture

These materials, as coarse particles, are non-flammable and do not react with water or other materials used for extinguishing fire. Fine metal dust may pose a risk of fire or explosion if accumulated, mixed and confined with an ignition source. When handling fine particles generated from this material, avoid creating dust clouds and ignition sources. May release iron oxide fume if involved in a fire.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for fire fighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated

place. Store under inert gas. Moisture sensitive.

Keep in a dry place.

7.3 Specific end use(s)

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

SAFETY DATA SHEET – ZERO VALENT IRON POWDER

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances 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 workday.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Impermeable gloves, protective work clothing as necessary.

Respiratory Protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form: Solid metallic particles	Solubility in water: very low - may form rust
Odor: None	Non-flammable, except as fine dust
Bulk Density: 2.4 to 4.8 tonne/m ³	Color: various - grey, lustrous metallic, black
Specific Density: 6.8 to 7.8 tonne/m ³	Vapor pressure: Very low at room temperature
Melting Temperature: 1200 _o to 1500 _o C	

10. STABILITY AND REACTIVITY

SAFETY DATA SHEET – ZERO VALENT IRON POWDER

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

Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Acids, Oxygen, Strong oxidizing agents, Halogens, Phosphorus

10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

No known severe toxicity. No known local effects. Nuisance dust exposure may cause eye and/or throat irritation.

12. ECOLOGICAL INFORMATION

Non-hazardous

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

May be disposed as non-hazardous solid waste in compliance with local regulations. Special conditions may apply if mixed with other material.

14. TRANSPORT INFORMATION

Shipping Regulations:		Not regulated
UN Number:	N/A	
UN Proper Shipping Name:		N/A
Transport Hazard Class:		N/A

SAFETY DATA SHEET – ZERO VALENT IRON POWDER

Packing Group: N/A
Marine Pollutant: No

15. REGULATORY INFORMATION

None apply

16. OTHER INFORMATION

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. CAP Remediation, LLC, and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

Version: 1.1 Revision Date: 7/18/2023