

Product: Iron Filings

Page 1 of 5



American Scientific, LLC

Safety Data Sheet

Section 1

Product Description

Iron Filings

Product Name:	Iron Filings
Recommended Use:	Science education applications
Synonyms:	None known
Manufacturer:	American Scientific, LLC 6420 Fiesta Drive, Columbus, OH 43235
Chemical Information:	800-227-1150 (8am-5pm (ET) M-F)
Chemtrec for Emergency:	800-424-9300 (Transportation Spill Response 24 hours)
Phone Number for Information:	(614) 764-9002
Fax Number for Information:	(614) 764-9043

Section 2

Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER



GHS Classification:

Not a hazardous substance according to GHS.

Acute Toxicity Dermal Contains N/A

Acute Toxicity Inhalation Gas
Contains

N/A

Acute Toxicity Inhalation Vapor
Contains

N/A

Acute Toxicity Inhalation Dust/Mist
Contains

Color:	Gray
Physical State:	Solid [Powder]
Hazard Statements	Not expected to produce significant adverse health effects when the recommended instructions for use are followed.
Precautions:	No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing.
OSHA/HCS status:	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.
Routes of Entry:	Dermal contact. Eye contact. Inhalation. Ingestion.

Potential Acute Health Affects

Inhalation:	May cause respiratory tract irritation.
Ingestion:	No known significant effects or critical hazards.
Skin:	No known significant effects or critical hazards.
Eyes:	May cause eye irritation.

Potential Chronic Health Effects

Chronic Effects:	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
Carcinogenicity:	No known significant effects or critical hazards.
Mutagenicity:	No known significant effects or critical hazards.
Teratogenicity:	No known significant effects or critical hazards.
Developmental Effects:	No known significant effects or critical hazards.
Fertility Effects:	No known significant effects or critical hazards.

Over-exposure Signs/Symptoms

Inhalation:	Adverse symptoms may cause respiratory tract irritation or coughing.
Ingestion:	No specific data.
Skin:	No specific data.
Eyes:	Adverse symptoms may cause irritation and/or redness.
Medical conditions aggravated by over-exposure:	Repeated exposure of the eyes to a low level of dust can produce eye irritation.

Section 3 Composition / Information on Ingredients

Chemical Name: Iron

CAS # 7439-89-6

>98

There are no additional ingredients presented within the current knowledge of the supplier and in the concentration applicable, are classified as hazardous or the environment and hence require reporting in this section.

Section 4

First Aid Measures

Emergency and First Aid Procedures



Inhalation:	In case of accident by inhalation: Move person into fresh air. Get medical attention if breathing difficulty occurs.
Eyes:	In case of contact with eyes: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention if irritation occurs.
Skin Contact:	In case of contact with skin: Wash with soap and water. Get medical attention if irritation occurs.
Ingestion:	If swallowed, do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
Notes to Physician:	No specific treatment. Treat symptomatically.

Section 5

Firefighting Procedures

Extinguishing Media:	ENTER
Fire Fighting Methods and Protection:	ENTER
Fire and/or Explosion Hazards:	ENTER
Hazardous Combustion Products:	ENTER



Section 6

Spill or Leak Procedures

Steps to Take in Case Material is Released or Spilled:

Personal Precautions:	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protection equipment.
Environmental Precautions:	Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning Up:	If emergency personnel are unavailable, vacuum or carefully scoop up spilled material and place in appropriate container for disposal. Avoid creating dusty conditions and prevent wind dispersal.



Section 7

Handling and Storage

Handling: Avoid breathing dusts. Avoid prolonged contact with eyes, skin, and clothing. Wash thoroughly after handling. Keep container in ventilated area.

Storage: Keep container closed. Keep container in ventilated area.



Section 8**Protection Information**

Chemical Name	TWA	ACGIH	STEL	TWA	OSHA PEL	STEL
Iron	N/A	N/A	N/A	N/A	N/A	A

Control Parameters

<u>United States</u>	
Ingredient:	Iron
Exposure Limits:	ACGIH TLV (United States), TWA: 10 mg/m ³
<i>Consult local authorities for acceptable</i>	
Recommended Monitoring Procedures:	Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
Engineering Measures:	Use only with adequate ventilation.
Hygiene Measures:	Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	
Eyes:	Safety eyewear complying with an approved standard should be used and selected based on the task being performed and the risks involved (avoid exposure to liquid splashes, mists, gases or dusts). Safety glasses are recommended.
Skin:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved. Recommended: Overalls.
Respiratory:	Use a properly fitted; particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.
Hands:	Leather gloves are recommended.
Environmental Exposure Controls:	Emissions from ventilation or work in the process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

**Section 9****Physical Data**

Formula: N/A
Weight: N/A
Appearance: N/A
Odor: N/A
Odor Threshold: N/A
pH: N/A
Melting Point: 1535°C (2795°F)
Boiling Point: N/A
Flash Point: N/A
Flammable Limits in Air: N/A
Physical State: Solid [Powder]
Relative Density: The only known value is 7.8 (Iron)

Vapor Pressure: N/A
Evaporation Rate (BuAc=1): N/A
Vapor Density: (Air=1) N/A
Specific Gravity: 2.4 to 3.2 g/cm³
Solubility in Water: Insoluble in cold water and hot water.
Log Pow (calculated): N/A
Autoignition Temperature: N/A
Decomposition Temperature: N/A
Available Viscosity: N/A
Percent Volatile by Volume: N/A
Color: Grey

Section 10**Reactivity Data**

Chemical Stability:	The product is stable.
Conditions to Avoid:	No specific data.
Incompatible Materials:	Reactive with oxidizing materials and reducing materials.
Hazardous Decomposition Products:	Under normal conditions of storage and use hazardous
Hazardous Polymerization:	Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11**Toxicity Data****Iron Filings For Toxicity Data**

Acute Toxicity:	CAS Number 7439-89-6	Oral LD50 Oral LD Rat 230	Dermal LD50 Not applicable	Inhalation LC50 Not applicable
Carcinogenicity:	CAS Number 7439-89-6	IARC Not Listed	NTP Not Listed	OSHA Not Listed

Routes of Entry
Symptoms (Acute):
Delayed Effects:

Inhalation and ingestion
N/A



Chronic Effects:
Mutagenicity:
Teratogenicity:
Sensitization:
Reproductive:

N/A
N/A
N/A

Target Organ Effects:
Acute:
Chronic:

No specific data.
No specific data.

Section 12**Ecological Data**

Overview:	N/A
Mobility: Persistence: Bioaccumulation:	N/A
Degradability:	N/A
Other Adverse Effects:	N/A
Chemical Name (Iron)	N/A
Eco Toxicity	N/A
Environmental Effects:	Not established
Other Adverse Effects:	No known significant effects or critical hazards.
CAS Number	7439-89-6



Section 13**Disposal Information**

Disposal Methods: The generation of waste should be avoided or minimized whenever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residue. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Dispose in accordance with all applicable Federal, State and Local regulations.
Always contact a permitted waste disposer (TSD) to assure compliance.

Waste Disposal Code(s): Not Determined

**Section 14****Transport Information**

Ground - DOT Proper Shipping Name:	Regulatory Information DOT/TDG/MXT/IMDG/IATA
N/A	Not regulated

**Section 15****Regulatory Information**

TSCA Status: All components are listed or exempted.

Chemical Name: Iron

CAS Number: 7439-89-6

§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
No	No	No	No	No

United States

HCS Classification: Not Regulated

<u>U.S. Federal Regulations</u>	
United States inventory (TSCA 8b):	All components are listed or exempted.
SARA 302/304/311/312 Extremely Hazardous Substances:	No products were found.
SARA 302/304 Emergency Planning and Notification:	No products were found.
SARA 302/304/311/312 Hazardous Chemicals:	No products were found.
SARA 311/312 MSDS distribution- Chemical Inventory- Hazard Identification:	Iron: Fire Hazard
Clean Water Act (CWA) 307:	No products were found.
Clean Water Act (CWA) 311:	No products were found.
Clean Air Act (CAA) 112 Accidental Release Prevention:	No products were found.
Clean Air Act (CAA) 112 Regulated Flammable Substances:	No products were found.
Clean Air Act (CAA) 112 Regulated Toxic Substances:	No products were found.

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs): Not listed

Clean Air Act Section 602 Class I substances: Not listed

Clean Air Act Section 602 Class II substances: Not listed

DEA List I Chemicals (Precursor Chemicals): Not listed

DEA List II Chemicals (Essential Chemicals): Not listed

State Regulations:

Connecticut Carcinogen Reporting: None of the components are listed.
 Connecticut Hazardous Material Survey: None of the components are listed.
 Florida Substances: None of the components are listed.
 Illinois Chemical Safety Act: None of the components are listed.
 Illinois Toxic Substances Disclosures to the Employee Act: None of the components are listed.
 Louisiana Reporting: None of the components are listed.
 Louisiana Spill: None of the components are listed.
 Massachusetts Spill: None of the components are listed.
 Massachusetts Substances: None of the components are listed.
 Michigan Critical Material: None of the components are listed.
 Minnesota Hazardous Substance: None of the components are listed.
 New Jersey Hazardous Substance: None of the components are listed.
 New Jersey Spill: None of the components are listed.
 New Jersey Toxic Catastrophe Prevention: None of the components are listed.
 New York Acutely Hazardous Substances: None of the components are listed.
 New York Toxic Chemical Release Reporting: None of the components are listed.
 Pennsylvania RTK Hazardous Substances: None of the components are listed.
 Rhode Island Hazardous Substances: None of the components are listed.
California Prop 65: No products were found.
WHMIS (Canada): Not controlled under WHMIS (Canada)

Canadian Lists:

CEPA Toxic Substances: None of the components are listed.
 Canadian ARET: None of the components are listed.
 Canadian NPRI: None of the components are listed.
 Alberta Designated Substances: None of the components are listed.
 Ontario Designated Substances: None of the components are listed.
 Quebec Designated Substances: None of the components are listed.

Canada Inventory: All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contain all the information required by the Controlled Products Regulations.

International Regulations:**International Lists**

Australia inventory (AICS): All components are listed or exempted.
 China inventory (IECSC): All components are listed or exempted.
 Japan inventory: Not determined.
 Korea inventory: All components are listed or exempted.
 New Zealand inventory of Chemicals (NZIoc): All components are listed or exempted.
 Philippines inventory (PICCS): All components are listed or exempted.

Chemical Weapons Convention List Schedule I Chemicals:	Not listed
Chemical Weapons Convention List Schedule II Chemicals	Not listed
Chemical Weapons Convention List Schedule III Chemicals	Not listed

Section 16**Additional Information**

Label requirements:	Not expected to produce significant adverse health effects when the recommended instructions for use are followed.
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Hazardous Material Information System (USA)

Health	0
Flammability	1
Physical hazard	1

Caution: HMISØ ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risk. Although, HMISØ ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMISØ ratings are to be used with a fully implemented HMISØ program. HMISØ is a registered mark of the National Paint & Coatings Association (NPCA). The customer is responsible for

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. American Scientific, LLC makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV IDLH	Threshold Limit Value Immediately dangerous to life and health