

# Safety Data Sheet: ER70S-2

Supersedes Date 03/14/2011

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## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** ER70S-2

**Recommended use** Welding

**Information on Manufacturer**

X-ERGON by Partsmaster, Div of NCH Corp.

P.O. Box 655326

Dallas, TX 75265-5326

**Product Code** 200470S2

**Chemical nature** Inorganic solid blend

**Emergency Telephone Number**

CHEMTREC® 800-424-9300

## 2. HAZARD IDENTIFICATION

**Color** Light brown - gray

**Physical State** Solid

**Odor** Odorless

**GHS**

**Classification**

Physical Hazards

None

Health Hazard

Acute Oral Toxicity

Category 4

Other hazards

None

**Labeling**

Signal Word

**WARNING**



Hazard Statements

H302 - Harmful if swallowed

Precautionary Statements

P270 - Do not eat, drink or smoke when using this product

P264 - Wash face, hands and any exposed skin thoroughly after handling.

P301+ P312 - IF SWALLOWED: Call a physician if unwell

P330 - Rinse mouth

P273 - Avoid release to the environment

P501 - Dispose of contents and container to an approved waste disposal plant.

4 % of the mixture consists of ingredient(s) of unknown toxicity

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Iron	7439-89-6	90-100
Manganese	7439-96-5	1-5
Silicon	7440-21-3	.1-1
Copper	7440-50-8	.1-1
Aluminum	7429-90-5	.1-1
Titanium	7440-32-6	.1-1
Zirconium	7440-67-7	.1-1

## 4. FIRST AID MEASURES

**General advice**

Do not breathe dust or fume. If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

**Skin Contact**

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

**Inhalation**

Remove person to fresh air. If signs/symptoms continue, get medical attention.

**Ingestion**

If swallowed, do not induce vomiting - seek medical advice. Rinse mouth.

**Notes to physician** Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Flash Point** The product is not flammable **Method** Not applicable  
**Upper** No data available **Lower** No data available

#### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Specific hazards arising from the chemical

Arcs and sparks can ignite combustibles and flammable products. See American National Standard Z49.1; Safety in Welding and Cutting published by The American Welding Society .

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA** **Health** 2 **Flammability** 0 **Instability** 0  
**HMIS** **Health** 2 **Flammability** 0 **Instability** 0

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions** Wear appropriate protective clothing. Avoid creating dusty conditions. Transfer solid into a properly labeled container for re-use or disposal. If necessary, wash area with water and pick up wash water for disposal.

**Environmental Precautions** Prevent product from contaminating soil or from entering sewage, drainage systems, and bodies of water .

**Methods for Containment** Pick up and arrange disposal without creating dust.

**Methods for Cleaning Up** Shovel or vacuum any spilled material into a suitable container. Alloy wastes are normally collected to recover metal value .

**Neutralizing Agent** Not applicable.

### 7. HANDLING AND STORAGE

**Handling** Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation.

**Storage** Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

**Storage Temperature** **Minimum** No information available **Maximum** No information available

**Storage Conditions** **Indoor** X **Outdoor** **Heated** **Refrigerated**

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH
Iron	No data available	No data available	No data available
Manganese	TWA: 0.02 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	Ceiling: 5 mg/m <sup>3</sup>	IDLH: 500 mg/m <sup>3</sup> STEL 3 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>
Silicon	No data available	TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>
Copper	TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	IDLH: 100 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>
Aluminum	TWA: 1 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>
Titanium	No data available	No data available	No data available
Zirconium	TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>	IDLH: 50 mg/m <sup>3</sup> STEL 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>

**Engineering Measures** Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gasses below the TLV's in the workers' breathing zone and the general area. Train the worker to keep his head out of the fumes. Use MSHA/NIOSH approved or equivalent fume respirator or air supplied respirator when welding in a confined space or when local exhaust or ventilation does not keep exposure below TLV.

#### Personal Protective Equipment

##### Eye/Face Protection

Wear a helmet or use face shield with filter lens of appropriate shade number (SEE ANSI/ASCZ49.1) provide protective screen and flash goggles, if necessary, to shield others. As a rule of thumb, start a shade that is too dark to see the weld zone. Then go next lighter shade which gives sufficient view of the weld zone .

##### Skin Protection

Welder's leather gloves, Wear fire/flame resistant/retardant clothing.

##### Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate

certified respirators. Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gasses below the TLV's in the workers' breathing zone and the general area. Train the worker to keep his head out of the fumes. Use MSHA/NIOSH approved or equivalent fume respirator or air supplied respirator when welding in a confined space or when local exhaust or ventilation does not keep exposure below TLV.

**General Hygiene Considerations** Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes and clothing. Wear head and body protection which help to prevent injury from radiation, sparks, and electrical shock. See ANSI Z49.1. At minimum, this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hat, shoulder protection as well as dark nonsynthetic clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground .

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Solid	<b>Viscosity</b>	Not applicable
<b>Color</b>	Light brown - gray	<b>Odor</b>	Odorless
<b>Odor Threshold</b>	Not applicable	<b>Appearance</b>	Textured black paste
<b>pH</b>	Not applicable	<b>Specific Gravity</b>	No data available
<b>Evaporation Rate</b>	Not applicable	<b>Percent Volatile (Volume)</b>	No information available
<b>VOC Content (%)</b>	Not applicable	<b>Vapor Pressure</b>	Not applicable
<b>Vapor Density</b>	Not applicable	<b>Solubility</b>	Insoluble
<b>n-Octanol/Water Partition</b>	No data available	<b>Melting Point/Range</b>	No data available
<b>Decomposition Temperature</b>	No data available	<b>Boiling Point/Range</b>	No data available
<b>Flammability (solid, gas)</b>	No data available	<b>Method</b>	Not applicable
<b>Flash Point</b>	The product is not flammable		
<b>Autoignition Temperature</b>	No information available.		
<b>Upper</b> No data available	<b>Lower</b> No data available		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Hazardous polymerization does not occur. Stable under normal conditions.
<b>Conditions to Avoid</b>	Exposure to air or moisture over prolonged periods
<b>Incompatible Products</b>	Incompatible with oxidizing agents, Strong acids.
<b>Hazardous Decomposition Products</b>	Fumes and gasses produced by welding, brazing and similar processes cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, the procedures and the filler metal being used. Other conditions which also influence the composition and quantity of fumes and gases to which the worker may be exposed include: coatings on the metal being welded, the number of welders and the volume of the work space, the quality and amount of ventilation used, the position of the welder's head in relation to the fume plume, as well as the presence of contaminants in the atmosphere when the filler metal is consumed. The fume and gas decomposition products generated are different in percent and form the product ingredients listed in Section III. The products formed in normal operation include those originating from the volatilization, reaction and oxidation of the filler metal, the metal being welded, the coatings, etc. as noted above. One recommended way to determine the composition and quality of fumes and gases to which workers are exposed is to take an air sample inside the welders helmet if worn or in the workers breathing zone. See ANSI/AWS F1.1 "Method For Sampling Airborne Particles Generated By Welding And Allied Processes" available from the American Welding Society, P.O. Box 35140, Miami, FL 33135
<b>Possibility of Hazardous Reactions</b>	None under normal processing

## 11. TOXICOLOGICAL INFORMATION

### Product Information

The following values are calculated based on chapter 3.1 of the GHS document (Rev. 3, 2009):

<b>Oral LD50</b>	No information available
<b>Dermal LD50</b>	No information available
<b>Inhalation LC50</b>	
<b>Gas</b>	No information available
<b>Mist</b>	No information available
<b>Vapor</b>	No information available

<b>Principle Route of Exposure</b>	Inhalation, Ingestion.
<b>Primary Routes of Entry</b>	Inhalation

**Acute Effects****Eyes**

Causes eye irritation. Welding arc may damage eyes .

**Skin**

Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May cause skin irritation.

**Inhalation**

Welding fumes may result in discomfort such as: dizziness, nausea, or dryness or irritation of nose, throat, or eyes. Fumes can aggravate asthma, bronchial conditions, or allergies. Individuals with allergies or impaired respiratory function may have symptoms worsen by exposure to welding fumes . Excessive inhalation of iron oxides fumes or dust can lead to irritation of the respiratory tract .

**Ingestion**

May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Chronic Toxicity**Prolonged exposure may cause chronic effects. Long term overexposure to iron fumes may lead to siderosis (iron deposits in the lung) and is believed by investigators to affect pulmonary function. Lungs will clear in time when exposure to iron and its components cease . Inhalation of manganese fumes may affect the central nervous system, may cause spastic gait, drowsiness, paralysis and other neurological problems with symptoms including weakness and tremors resembling Parkinson's disease. Behavioral changes and changes in handwriting may also appear . The TLV for Manganese (0.02 mg/m<sup>3</sup>) will be reached before the general limit for welding fumes of 5mg/m<sup>3</sup> is reached. Monitor fumes for manganese levels. Fume may cause Wilson's disease in some individuals with a rare inherited metabolic disorder characterized by retention of copper in the liver, brain, kidney and corneas. Wilson's disease, if untreated can result in liver failure .**Target Organ Effects**

Respiratory system, Central nervous system, Kidney, Blood, Liver.

**Aggravated Medical Conditions**

Pre-existing respiratory and skin conditions such as asthma, emphysema, and dermatitis, Central nervous system, Allergies, Kidney disorders, Liver disorders.

## Component Information

**Acute Toxicity**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
Iron	= 984 mg/kg ( Rat )	no data available	no data available	no data available	no data available
Manganese	no data available	no data available	no data available	no data available	no data available
Silicon	no data available	no data available	no data available	no data available	no data available
Copper	no data available	no data available	no data available	no data available	no data available
Aluminum	no data available	no data available	no data available	no data available	no data available
Titanium	no data available	no data available	no data available	no data available	no data available
Zirconium	no data available	no data available	no data available	no data available	no data available

**Chronic Toxicity**

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Iron	no data available	no data available	no data available	no data available	no data available
Manganese	no data available	no data available	no data available	no data available	CNS,respiratory system,blood,kidneys
Silicon	no data available	no data available	no data available	no data available	eyes,respiratory system,skin
Copper	no data available	no data available	no data available	no data available	eyes,kidneys,liver,respiratory system,skin
Aluminum	no data available	no data available	no data available	no data available	eyes,respiratory system,skin
Titanium	no data available	no data available	no data available	no data available	no data available
Zirconium	no data available	no data available	no data available	no data available	skin,respiratory system

**Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH	IARC	NTP	OSHA	Other
Iron	not applicable	not applicable	not applicable	not applicable	not applicable
Manganese	not applicable	not applicable	not applicable	not applicable	not applicable
Silicon	not applicable	not applicable	not applicable	not applicable	not applicable
Copper	not applicable	not applicable	not applicable	not applicable	not applicable
Aluminum	not applicable	not applicable	not applicable	not applicable	not applicable
Titanium	not applicable	not applicable	not applicable	not applicable	not applicable
Zirconium	not applicable	not applicable	not applicable	not applicable	not applicable

**12. ECOLOGICAL INFORMATION**

## Product Information

No information available.

## Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
Iron	no data available	LC50 = 13.6 mg/L Morone saxatilis 96 h LC50 = 0.56 mg/L Cyprinus carpio 96 h	no data available	no data available	N/A

Manganese	no data available	no data available	no data available	no data available	N/A
Silicon	no data available	no data available	no data available	no data available	N/A
Copper	EC50 0.0426 - 0.0535 mg/L Pseudokirchneriella subcapitata 72 h EC50 0.031 - 0.054 mg/L Pseudokirchneriella subcapitata 96 h	LC50 0.0068 - 0.0156 mg/L Pimephales promelas 96 h LC50 < 0.3 mg/L Pimephales promelas 96 h LC50 = 0.2 mg/L Pimephales promelas 96 h LC50 = 0.052 mg/L Oncorhynchus mykiss 96 h LC50 = 1.25 mg/L Lepomis macrochirus 96 h LC50 = 0.3 mg/L Cyprinus carpio 96 h LC50 = 0.8 mg/L Cyprinus carpio 96 h LC50 = 0.112 mg/L Poecilia reticulata 96 h	no data available	EC50= 0.03 mg/L 48 h	N/A
Aluminum	no data available	no data available	no data available	no data available	N/A
Titanium	no data available	no data available	no data available	no data available	N/A
Zirconium	no data available	no data available	no data available	no data available	N/A

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available.

**Mobility**

No information available.

### 13. DISPOSAL CONSIDERATIONS

**Product Disposal**

Dispose of in accordance with local regulations.

**Container Disposal**

Empty containers should be taken for local recycling, recovery, or waste disposal.

### 14. TRANSPORT INFORMATION

**DOT**

Not regulated

**TDG**

Not regulated

**ICAO**

Not regulated

**IATA**

Not regulated

**IMDG/IMO**

Not regulated

### 15. REGULATORY INFORMATION

**Inventories****TSCA**

Complies

**DSL**

Complies

**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Manganese	7439-96-5	1-5	1.0
Copper	7440-50-8	.1-1	1.0
Aluminum	7429-90-5	.1-1	1.0

**SARA 311/312 Hazardous Categorization**

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	Yes	No	No	No

**CERCLA**

Component	Hazardous Substances RQs	CERCLA EHS RQs
Iron	Not applicable	Not applicable
Manganese	Not applicable	Not applicable
Silicon	Not applicable	Not applicable
Copper	5000 lb	Not applicable

Aluminum	Not applicable	Not applicable
Titanium	Not applicable	Not applicable
Zirconium	Not applicable	Not applicable

**U.S. State Regulations  
California Proposition 65**

This product contains the following Proposition 65 chemicals

**16. OTHER INFORMATION**

**Prepared By** Christopher Drogin  
**Supersedes Date** 03/14/2011  
**Issuing Date** 07/02/2013  
**Reason for Revision** No information available.  
**Glossary** No information available.  
**List of References.** No information available.

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