

# Safety Data Sheet: STEEL-BRADE

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## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** STEEL-BRADE

**Recommended use** Welding

**Information on Manufacturer**

X-ERGON by Partsmaster, Div of NCH Corp.

P.O. Box 655326

Dallas, TX 75265-5326

**Product Code** 17120000

**Chemical nature** Inorganic solid blend

**Emergency Telephone Number**

CHEMTREC® 800-424-9300

## 2. HAZARD IDENTIFICATION

**Color** 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

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

P273 - Avoid release to the environment

25 % of the mixture consists of ingredient(s) of unknown toxicity

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Iron	7439-89-6	60-70
Titanium dioxide	13463-67-7	10-30
Cellulose	9004-34-6	1-10
Potassium silicate	1312-76-1	1-11
Calcium carbonate	471-34-1	1-5
Manganese	7439-96-5	1-10
Chromium	7440-47-3	1-10
Feldspar	68476-25-5	1-5
Kaolinite, Hydrous Aluminum Silicate	1332-58-7	1-5
Magnesium silicate, hydrate	14807-96-6	1-5

## 4. FIRST AID MEASURES

**General advice**

If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.

**Eye Contact**

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If eye irritation persists, consult a specialist.

**Skin Contact**

In case of contact, immediately flush skin with soap and plenty of water. If skin irritation persists, call

**Inhalation** a physician.  
 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** Not applicable **Method** Not applicable  
**Upper** No data available **Lower** No data available  
**Suitable Extinguishing Media**  
 Carbon dioxide (CO2). Dry chemical. Foam. Water spray.  
**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** Use personal protective equipment. Prevent further leakage or spillage if safe to do so. Material can create slippery conditions.  
**Environmental Precautions** Do not flush into surface water or sanitary sewer system.  
**Methods for Containment** Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).  
**Methods for Cleaning Up** Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).  
**Neutralizing Agent** Not applicable.

**7. HANDLING AND STORAGE**

**Handling** Avoid contact with skin, eyes and clothing.  
**Storage** Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.  
**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
Titanium dioxide	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup>	IDLH: 5000 mg/m <sup>3</sup>
Cellulose	: 10 mg/m <sup>3</sup> TWA	: 15 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction)	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>
Potassium silicate	No data available	No data available	No data available
Calcium carbonate	No data available	No data available	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>
Manganese	TWA: 0.2 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>
Chromium	TWA: 0.5 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>	IDLH: 250 mg/m <sup>3</sup> TWA: 0.5 mg/m <sup>3</sup>
Feldspar	No data available	No data available	No data available
Kaolinite, Hydrous Aluminum Silicate	TWA: 2 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>
Magnesium silicate, hydrate	TWA: 2 mg/m <sup>3</sup>	No data available	IDLH: 1000 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>

**Engineering Measures** Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gases below the TLV's in the worker's breathing zone and in the general area. Train the worker to keep his head out of the fumes .

**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

<p><b>Skin Protection</b></p> <p><b>Respiratory Protection</b></p> <p><b>General Hygiene Considerations</b></p>	<p>shade that is too dark to see the weld zone. Then go next lighter shade which gives sufficient view of the weld zone .</p> <p>Welder's leather gloves, Wear fire/flame resistant/retardant clothing.</p> <p>Use a NIOSH/MSHA approved or equivalent fume respirator or air supplied respirator when welding in confined spaces, or where local exhaust or ventilation does not keep exposure below TLV's .</p> <p>Do not eat, drink or smoke when using this product.</p>
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**9. PHYSICAL AND CHEMICAL PROPERTIES**

<p><b>Physical State</b></p> <p><b>Color</b></p> <p><b>Odor Threshold</b></p> <p><b>pH</b></p> <p><b>Evaporation Rate</b></p> <p><b>VOC Content (%)</b></p> <p><b>Vapor Density</b></p> <p><b>n-Octanol/Water Partition</b></p> <p><b>Decomposition Temperature</b></p> <p><b>Flammability (solid, gas)</b></p> <p><b>Flash Point</b></p> <p><b>Autoignition Temperature</b></p> <p><b>Upper</b> No data available <b>Lower</b> No data available</p>	<p>Solid</p> <p>gray</p> <p>Not applicable</p> <p>Not applicable</p> <p>Not applicable</p> <p>No information available</p> <p>Not applicable</p> <p>No data available</p> <p>No data available</p> <p>No data available</p> <p>Not applicable</p> <p>Not applicable</p> <p>No data available</p> <p>No data available</p>	<p><b>Viscosity</b></p> <p><b>Odor</b></p> <p><b>Appearance</b></p> <p><b>Specific Gravity</b></p> <p><b>Percent Volatile (Volume)</b></p> <p><b>Vapor Pressure</b></p> <p><b>Solubility</b></p> <p><b>Melting Point/Range</b></p> <p><b>Boiling Point/Range</b></p> <p><b>Method</b></p>	<p>Not applicable</p> <p>Odorless</p> <p>Textured black paste</p> <p>No data available</p> <p>No information available</p> <p>Not applicable</p> <p>Insoluble</p> <p>1560 - 2000 °F / 849 - 1499 °C</p> <p>5500 °F / 3038 °C</p> <p>Not applicable</p>
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**10. STABILITY AND REACTIVITY**

<p><b>Chemical Stability</b></p> <p><b>Conditions to Avoid</b></p> <p><b>Incompatible Products</b></p> <p><b>Hazardous Decomposition Products</b></p> <p><b>Possibility of Hazardous Reactions</b></p>	<p>Stable under normal conditions</p> <p>None known</p> <p>Strong acids, Strong oxidizing agents.</p> <p>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</p> <p>Hazardous polymerization does not occur</p>
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**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
<b>Primary Routes of Entry</b>	Inhalation
<b>Acute Effects</b>	
<b>Eyes</b>	Causes eye irritation.
<b>Skin</b>	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
<b>Inhalation</b>	May cause irritation of respiratory tract. Inhalation may cause central nervous system effects. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in

**Ingestion**  
**Chronic Toxicity**

extreme cases, loss of consciousness.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

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. Constant inhalation of chromium (VI) compounds may cause an ulceration and perforation of the nasal septum as well as liver and kidney damage. IARC has concluded that the evidence for carcinogenicity to humans and animals is inadequate for chromium metal and trivalent compounds, but sufficient for hexavalent chromium compounds. Chromium compounds are on the IARC list as posing a carcinogenic risk to humans. OSHA (29 CFR 1910.120) lists chromium as possible carcinogen. Chromium VI compounds are required by OSHA to be considered carcinogenic. Prolonged exposure to elevated noise levels during operations may affect hearing.

**Target Organ Effects**  
**Aggravated Medical Conditions**

Central nervous system, Lungs, Respiratory system, Blood, Central Vascular System, Kidney.  
Central nervous system, Respiratory system, Lungs, Kidney 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
Titanium dioxide	> 10000 mg/kg ( Rat )	no data available	no data available	no data available	no data available
Cellulose	> 5 g/kg ( Rat )	> 2 g/kg ( Rabbit )	> 5800 mg/m <sup>3</sup> ( Rat ) 4 h	no data available	no data available
Potassium silicate	= 1300 mg/kg ( Rat )	no data available	no data available	no data available	no data available
Calcium carbonate	= 6450 mg/kg ( Rat )	no data available	no data available	no data available	no data available
Manganese	= 9 g/kg ( Rat )	no data available	no data available	no data available	no data available
Chromium	no data available	no data available	no data available	no data available	no data available
Feldspar	no data available	no data available	no data available	no data available	no data available
Kaolinite, Hydrous Aluminum Silicate	no data available	no data available	no data available	no data available	no data available
Magnesium silicate, hydrate	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
Titanium dioxide	no data available	no data available	no data available	no data available	respiratory system
Cellulose	no data available	no data available	no data available	no data available	eyes, respiratory system, skin
Potassium silicate	no data available	no data available	no data available	no data available	no data available
Calcium carbonate	no data available	no data available	no data available	no data available	eyes, respiratory system, skin
Manganese	no data available	no data available	no data available	no data available	CNS, respiratory system, blood, kidneys
Chromium	no data available	no data available	no data available	no data available	eyes, respiratory system, skin
Feldspar	no data available	no data available	no data available	no data available	no data available
Kaolinite, Hydrous Aluminum Silicate	no data available	no data available	no data available	no data available	respiratory system, stomach
Magnesium silicate, hydrate	no data available	no data available	no data available	no data available	CVS, eyes, 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
Titanium dioxide	A4	Group 2B	not applicable	X	not applicable
Cellulose	not applicable	not applicable	not applicable	not applicable	not applicable
Potassium silicate	not applicable	not applicable	not applicable	not applicable	not applicable
Calcium carbonate	not applicable	not applicable	not applicable	not applicable	not applicable
Manganese	not applicable	not applicable	not applicable	not applicable	not applicable
Chromium	not applicable	not applicable	not applicable	not applicable	not applicable
Feldspar	not applicable	Group 2B	not applicable	not applicable	not applicable
Kaolinite, Hydrous Aluminum Silicate	not applicable	not applicable	not applicable	not applicable	not applicable
Magnesium silicate, hydrate	not applicable	not applicable	not applicable	not applicable	not applicable

**12. ECOLOGICAL INFORMATION**

Product Information  
Component Information

No information available.

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
Titanium dioxide	no data available	no data available	no data available	no data available	N/A
Cellulose	no data available	no data available	no data available	no data available	N/A
Potassium silicate	no data available	LC50 301 - 478 mg/L Lepomis macrochirus 96 h LC50 = 3185 mg/L Brachydanio rerio 96 h	no data available	EC50= 216 mg/L 96 h	N/A
Calcium carbonate	no data available	no data available	no data available	no data available	N/A
Manganese	no data available	no data available	no data available	no data available	N/A
Chromium	no data available	no data available	no data available	no data available	N/A
Feldspar	no data available	no data available	no data available	no data available	N/A
Kaolinite, Hydrrous Aluminum Silicate	no data available	no data available	no data available	no data available	N/A
Magnesium silicate, hydrate	no data available	LC50 > 100 g/L Brachydanio rerio 96 h	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	1-10	1.0
Chromium	7440-47-3	1-10	1.0
Feldspar	68476-25-5	1-5	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
Titanium dioxide	Not applicable	Not applicable
Cellulose	Not applicable	Not applicable
Potassium silicate	Not applicable	Not applicable
Calcium carbonate	Not applicable	Not applicable

Manganese	Not applicable	Not applicable
Chromium	5000 lb	Not applicable
Feldspar	Not applicable	Not applicable
Kaolinite, Hydrous Aluminum Silicate	Not applicable	Not applicable
Magnesium silicate, hydrate	Not applicable	Not applicable

**U.S. State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals

Component	CAS-No	California Prop. 65
Titanium dioxide	13463-67-7	carcinogen
Chromium	7440-47-3	carcinogen, initial date 2/27/87, developmental female, male 12/19/08

**16. OTHER INFORMATION**

**Prepared By** Christopher Drogin  
**Supersedes Date** 02/20/2012  
**Issuing Date** 06/05/2013  
**Reason for Revision** No information available.  
**Glossary** No information available.  
**List of References.** No information available.

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