



## MATERIAL SAFETY DATA SHEET

The information requested will be kept confidential and disclosed only as necessary to meet requirements of the Occupational Safety and Health Act of 1970 or as required by any other federal, state or local regulations.

### SECTION I - GENERAL INFORMATION

Alton Steel Incorporated  
 #5 Cut Street  
 Alton, IL 62002

Phone: (618) 463-4490  
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CHEMICAL NAME & SYNONYMS: High Carbon and Alloy Steel  
 CHEMICAL FAMILY: Metals

### SECTION II - HAZARDOUS INGREDIENTS

GRADES % BY WEIGHT

COMPONENT	OSHA PEL mg/m3	1000	1100	1300	1500	4000/4100	5000/5100	8500/8700
Iron (Oxide Fume)	10	>97.9	>97.4	>97.4	>97.4	>96.6	>96.7	>96.2
Carbon	N/E	0.06 - 1.03	0.14 - 0.55	0.27 - 0.49	0.17 - 0.51	0.17 - 0.51	0.17 - 0.65	0.14 - 0.65
Manganese (Fume)	5	0.25 - 1.00	0.30 - 1.65	1.45 - 2.05	0.50 - 1.75	0.30 - 1.10	0.05 - 1.10	0.60 - 1.05
Phosphorus	0.1	0.04 Max	0.04 Max	0.035 Max	0.04 Max	0.035 Max	0.035 Max	0.035 Max
Sulfur	N/E	0.05 Max	0.08 - 0.13	0.04 Max	0.05 Max	0.04	0.04	0.04
Silicon	5	0.15 - 0.35	0.15 - 0.35	0.15 - 0.30	0.15 - 0.30	0.15 - 0.30	0.15 - 0.30	0.3
Nickel	1	-	-	-	-	-	-	0.35 - 0.75
Chromium	1	-	-	-	-	0.30 - 1.20	0.13 - 1.20	0.35 - 0.65
Molybdenum	15	-	-	-	-	0.08 - 0.35	-	0.15 - 0.30

There are no chemical exposure hazards associated with uncoated steel products at room temperature.

### SECTION III - PHYSICAL DATA

VAPOR PRESSURE (MMHg) @ 3249°F	1	Boiling Point (°F)	5432	APPEARANCE AND ODOR
SPECIFIC GRAVITY (H <sub>2</sub> O=1) @ 77°F	7.6 - 7.8	Melting Point (°F)	2650 - 2750	Metallic luster - no odor

### SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASHPOINT °F	N/A	AUTOIGNITION TEMPERATURE	N/A	FLAMMABLE LIMITS IN AIR % BY VOLUME	N/A
EXTINGUISHING MEDIA	N/A	UNUSUAL FIRE AND EXPLOSION HAZARDS	Explosion hazard with water in molten form		

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#### SECTION V - HEALTH HAZARD INFORMATION

**ROUTE OF EXPOSURE:** Inhalation  
**COMMENT:** If fumes or dusts are generated as a result of grinding, welding, cutting or burning.

**EFFECTS OF OVEREXPOSURE:**  
**ACUTE:** Short term exposure to iron oxide fumes may result in discomfort, dizziness, nausea and dryness of the throat.  
**CHRONIC:** Long term exposure to iron oxide fumes may contribute to pulmonary irritation. Long term exposure to fumes may produce siderosis, which is a benign condition.

**EMERGENCY AND FIRST AID PROCEDURES:**  
**SKIN** - No ill effect or injury expected.      **INHALATION** - Remove to fresh air; seek medical attention.  
**EYE** - Flush with copious amounts of water for 15 minutes; seek medical attention.

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#### SECTION VI - REACTIVITY DATA

**CONDITIONS CONTRIBUTING TO INSTABILITY:** Temperatures exceeding 5500°F.  
**INCOMPATIBILITY (Materials to avoid):** Strong Acids.  
**HAZARDOUS DECOMPOSITION PRODUCTS:** Melting can produce elemental or oxides of materials listed in Section II. Combination of Zn and acids may produce hydrogen gas which is combustible.

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#### SECTION VII - SPILL OR LEAK PROCEDURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED OR RELEASED:** Material is in solid form at room temperature. Spills of molten material should be isolated from flammable materials.  
**WASTE DISPOSAL METHOD:** Scrap or waste should be recycled, if at all possible. If recycling is not possible, dispose of material in accordance with local, state and federal regulations.

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#### SECTION VIII - SPECIAL PROTECTION INFORMATION

**RESPIRATORY PROTECTION:** A NIOSH/MSHA approved respirator, with HEPA (high efficiency particulate air filters), should be used if exposures exceed applicable limits when burning, cutting, brazing, grinding, melting, etc..  
**GLOVES**-----> Should be utilized to protect hands against cuts and abrasions from sharp ends.  
**EYE PROTECTION**-----> Should be used at all times when handling steel products.

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#### SECTION IX - SPECIAL PRECAUTIONS

**PRECAUTIONS TO BE TAKEN IN HANDLING, USAGE, AND STORAGE:** Material should not be stored in areas where strong acids, liquid or mists can contact steel products.  
**OTHER PRECAUTIONS:** Material shipped in its present state is non-hazardous.

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Prepared by: Steve Vaughan  
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