

MATERIAL SAFETY DATA SHEET

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name: Carbon, Low Alloy, or Resulfurized Steel (Merchant, Rebar & SBQ Steel Grades: 10XX, 11XX, 12XX, 13XX, 15XX, 4XXX, 5XXX, 6XXX, 7XXX, 86XX, 87XX, 88XX, 92XX, 93XX, 63XX.)

Manufacturer Name:

Steel Dynamics, Inc.
 Engineered Bar Products Division
 8000 North County Road 225 East
 Pittsboro, IN 46167
 Telephone: (317) 892-7000

Emergency Telephone:

(317) 892-7131

Contact Person: Safety Department

2 INGREDIENTS & RECOMMENDED OCCUPATIONAL EXPOSURE LIMITS

Note: Steel Products under normal conditions do not present an Inhalation, Ingestion, or Contact Health Hazard (see Section 6).

Elements	CAS-No.	Weight %	Exposure Limits ^{(1),(2)}
			OSHA PEL mg/m ³
Iron	7439-89-6	75.0-99.0	10.0 (oxide fume)
Carbon	1333-86-4	< 1.2	3.2 (carbon black)
†Manganese	7439-96-5	< 5.0	(c) 5.0 ⁽³⁾
†Chromium	7440-47-3	< 14	0.5 (as dust or fume, as Cr ⁺³)
†Nickel	7440-02-0	< 4.00	1.0 (metal)
Silicon	7440-21-3	< 2.50	10.0 ⁽⁴⁾
†Copper	7440-50-8	< 1.50	0.1 (fume)/1.0 (dust or mist)
†Antimony	7440-36-0	< 0.50	0.5 (dust or fume)
Arsenic	7440-38-2	< 0.50	0.5 (dust or fume)
Cobalt	7440-48-4	< 0.50	0.1 (dust or fume)
†Lead	7439-92-1	< 0.50	0.005 ⁽⁵⁾

† Designated toxic chemicals contained in this product are subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (40 CFR) If this product is re-distributed, this notification must be supplied.

- 1) Normally, exposure would be to a compound (e.g., iron oxide) not the elemental metal.
- 2) Exposure limits are expressed as 8-hour Time Weighted Averages (TWA), except as noted.
- 3) (c) References that the listed value is the exposure ceiling.
- 4) Proposed PEL
- 5) Lead is regulated under 29 CFR 1910.1025.

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=10030

Notes: Other alloys and trace elements may be present, depending on the product, in quantities generally less than 0.5%. These elements may include Boron, Calcium, Niobium, Nitrogen, Phosphorus, Titanium, Vanadium, Sulfur, Aluminum, Molybdenum (<1.2%), Tin, Zinc, Bismuth, Beryllium, Tungsten, Selenium, Antimony.

Nickel and Nickel Compounds, Lead and Lead Compound, and certain Chromium Compounds (e.g., hexavalent chromium) are considered known or possible carcinogens.

Oil or Chrome coatings may be used. MSDSs for a specific coating are available upon request.

3 PHYSICAL DATA

Melting Point: 2750°F

Appearance and Odor: Metallic Gray / No Odor

4 FIRE & EXPLOSION HAZARD DATA

Steel products in the solid state present no fire or explosion hazard.

Unusual fire and explosion hazards: At temperatures above the melting point, may liberate fumes of iron, nickel, and zinc oxide.

5 REACTIVITY DATA

Stable under normal conditions of use, storage, and transport. Will react with strong acid to liberate hydrogen. At temperatures above the melting point, may liberate fumes containing oxides of Iron and alloying elements.

6 HEALTH & HAZARD DATA

- Inhalation
- Skin Contact
- Eye Contact
- Ingestion

Chronic inhalation of high concentrations of iron oxide fumes or dusts may lead to a benign Pneumoconiosis (Siderosis). Inhalation of high concentrations of ferric oxide may possibly enhance the risk of lung cancer development in workers exposed to pulmonary carcinogens.

The inhalation of high concentrations of freshly formed oxide fumes and dusts of manganese, copper, lead, and/or zinc in the respirable particle size range can cause an influenza-like illness termed Metal Fume Fever. Typical symptoms last 12 to 48 hours and are characterized by metallic taste in the mouth, dryness and irritation of the throat, followed by weakness, muscle pain, fever and chills.

Emergency and first aid procedures: For overexposure to airborne fumes and particulates, remove exposed person to fresh air. If breathing is difficult or has stopped, administer artificial respiration or oxygen as indicated. Seek medical attention promptly.

Treat Metal Fume Fever by bed rest, and administer a pain and fever reducing medication.

7 SPILL OR LEAK PROCEDURES

Not applicable to steel in the solid state.

Waste disposal method: Metals may be reclaimed. Dispose of in a land fill in accordance with all local, state and federal regulations.

8 SPECIAL PROTECTION INFORMATION

Respiratory: NIOSH/MSHA-Approved dust and fume respirators should be used to avoid excessive inhalation of particulates. Appropriate respirator selection depends on the magnitude of exposure.

Skin: Protective gloves should be worn as required for welding, burning, or handling operations.

Eye: Use safety glasses or goggles as required for welding, burning, sawing, brazing, grinding or machining operations

Ventilation: Local exhaust ventilation should be provided when welding, burning, sawing, brazing, grinding or machining to prevent excessive dust or fume exposure.

Other Protective Equipment: Depending upon the conditions of use and specific work situation, additional protective equipment and/or clothing may be required to control exposures.

Precautions To Be Taken In Handling And Storage:

Operations with the potential for generating high concentrations of airborne particulates should be evaluated and controlled as necessary. Avoid breathing metal fumes and/or dusts.

Other Comments:

Medical conditions aggravated by exposures: Individuals with chronic respiratory disorders (i.e., asthma, chronic bronchitis, emphysema, etc.) may be adversely affected by any fume or airborne particulate matter exposure.

California Proposition 65 Status:

This product contains detectable amounts of substances regulated under the California's Safe Drinking Water and Toxic Enforcement Act (Proposition 65).