



WHEELABRATOR ABRASIVES, INC.

MATERIAL SAFETY DATA SHEET

CAST STEEL ABRASIVES

Date of Preparation: January 1, 2007

Section 1. PRODUCT IDENTIFICATION.

Product Name: Steel Shot, Steel Grit,
Steel Shot/Grit blend. Manufacturer: Wheelabrator Abrasives, Inc.
1 Abrasive Avenue
Bedford, Virginia 24523 USA
www.wheelabr.com

Chemical Name: Steel
Chemical Family: Metals
Formula: Not Applicable (N/A) Emergency Phone: (540) 586-0856

Section 2. HAZARDOUS INGREDIENTS.

Round or angular steel pellets used primarily for impact treatment of metallic surfaces. There are no threshold limit values (TLV) or permissible exposure limits (PEL) for cast steel abrasives.

CHEMICAL NAME	CAS NUMBER	% WEIGHT	ACGIH LEVEL (mg/m3)	OSHA PEL (mg/m3)
Iron – Fe Oxide & Fume, as Fe	7439-89-6	>95	5	10
Manganese – Mn Inorganic compounds, as Mn Fume, as Mn	7439-96-5	<1.2	0.2	5 (ceiling) 5 (ceiling)
Silicon – Si Total Dust Respirable Fraction	7440-21-3	<1.2	10	15 5
Carbon – C	1333-86-4	<1.2	3.5	3.5
Chromium – Cr Metal Cr II compounds, as Cr Cr III compounds, as Cr Cr VI compounds, water soluble Cr VI compounds, insoluble	7440-47-3	<0.8	0.5 0.5 0.05 0.01	0.5 0.5 0.5
Nickel – Ni Metal & other compounds, as Ni Elemental Soluble inorganic compounds Insoluble inorganic compounds	7440-02-0	<0.2	1.5 0.1 0.2	1

Note: This product is manufactured from recycled steel scrap and may contain hazardous materials not listed above. The following is a list of typical chemicals that may be found in recycled steel scrap (this list is not all inclusive): aluminum, antimony, arsenic, bismuth, cadmium, chromium, cobalt, copper, lead, magnesium, molybdenum, nickel, phosphorus, potassium, selenium, sodium, sulfur, tin, vanadium, zinc.

Section 3. PHYSICAL DATA.

Melting Point: 1371-1482°C
Vapor Pressure: Not applicable
Vapor density: Not applicable
Solubility in water: Negligible
Specific gravity: > 7 g/cc
% Volatile: N/A
Evaporation rate: N/A
Appearance and odor: Metallic gray to blue odorless spherical and/or angular pellets.

Section 4. FIRE AND EXPLOSION HAZARD DATA.

Flash Point: Not applicable
Flammable limits: Not applicable
Autoignition Temperature (of solid iron exposed to oxygen): 930°C
Extinguishing media: Select media appropriate for the surrounding area, including dry chemical, soda ash etc. **Note:** Do not use water, CO, or form of Iron Oxide fume/dust materials.

Unusual fire and explosion hazards: Dusts generated from use may be explosive.
Special fire fighting equipment: Dry chemicals, dry sand, soda ash or lime.

Section 5. REACTIVITY DATA.

Stability: Stable
Incompatibility: Strong Acids
Hazardous Polymerization: Not applicable
Conditions to avoid: None

Section 6. HEALTH HAZARD DATA.

There is no applicable statutory or recommended occupational exposure limits for cast steel abrasives. However, operations that elevate the temperature of the product or the dust to above its melting point, generate metal fumes and result in the breaking down of the product into dusts may present hazards. These operations should be performed in well-ventilated areas. The major exposure hazard is inhalation.

Inert or nuisance dust:	OSHA PEL:
Respirable fraction:	5 mg/m ³
Total dust:	15 mg/m ³

Carcinogenicity:

Chromium and Nickel are confirmed human carcinogens according to the ACGIH.

Carbon and Nickel are potential occupational carcinogens according to the NIOSH Pocket Guide to Chemical Hazards.

The NIOSH Pocket Guide to Chemical Hazards list the following symptoms for chronic or prolonged inhalation of fumes or dust:

Iron oxide: Benign pneumoconiosis with X-ray shadows indistinguishable from fibrotic pneumoconiosis (siderosis).

Manganese: Parkinson's; asthenia, insomnia, mental confusion; metal fume fever: dry throat, cough, chest tightness, dyspnea (breathing difficulty), rales, flu-like fever; lower back pain; vomiting; malaise (vague feeling of discomfort); fatigue; kidney damage.

Silicon: irritation eyes, skin, upper respiratory system; cough.

Carbon: cough, irritation eyes.

Chromium: irritation eyes, skin; lung fibrosis (histologic); sensitization dermatitis.

Nickel: sensitization dermatitis, allergic asthma, pneumonitis.

Copper: irritation eyes, upper respiratory system, nose, pharynx; nasal septum perforation; dermatitis; metal fume fever: chills, muscle ache, nausea, fever, dry throat, cough, weakness, lassitude (weakness, exhaustion); metallic or sweet taste; discoloration skin, hair.

Lead: weakness, lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypotension.

Section 6a. EMERGENCY AND FIRST AID PROCEDURES.

- If inhaled, move to fresh air, and if symptoms persist, consult a qualified medical person.
- If shot, grit or dust particles get in the eyes, flush eyes with running water for at least 15 minutes and have any remaining particles removed from eyes by a qualified medical person.
- Wash with soap and water after contact with dust.

Section 7. SPILL OR LEAK PROCEDURES.

Shot and/or grit spilled or leaked onto floors can create hazardous walking conditions. In case material is released or spilled, sweep up and collect for reclamation or disposal.

Waste disposal method: the material may be reused or disposed of in sanitary landfills in compliance with local, federal and state regulations. The dust generated by the use of the material may be classified as hazardous and therefore must be disposed of according to local, federal and state regulations.

Section 8. SPECIAL PROTECTION INFORMATION.

- Ventilation: adequate ventilation and exhaust of the dust and fumes generated during operations should be provided to reduce the exposure levels.
- Respiratory protection: NIOSH approved respirator is recommended.
- Eye protection: Approved safety eye protection (ANSI-Z87) with side shields should be worn.

Section 9. SPECIAL PRECAUTIONS.

Precautions to be taken in handling and storing: keep dry to reduce rusting.

Section 10. NOTIFICATION ABOUT TOXIC CHEMICALS.

This product contains the following chemicals subject to the requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Abstract Nb	Chemical Name	% By Weight
7440-47-43	Chromium	< 0.8%
7439-96-5	Manganese	< 1.2%
7440-02-0	Nickel	< 0.2%
1336-86-4	Carbon	< 1.2%

This notification must not be detached from this MSDS and must be included in all MSDS's that are copied and distributed for this product.

DISCLAIMER.

The information contained in this Material Safety Data Sheet was obtained from sources Wheelabrator Abrasives believes to be reliable. However, Wheelabrator Abrasives makes no guarantee, representation or warranty as to the correctness or accuracy of the information.

The information in this Material Safety Data Sheet is intended as a guide to be used in safety training and education. It is the responsibility of the user to provide a safe workplace, and to determine if precautions in addition to those described herein are required.

Compliance with all applicable federal, state and local laws and regulations is the responsibility of the user. The user assumes all risk and liability for any use. Wheelabrator Abrasives, Inc. does not assume responsibility and disclaims liability for any losses, damages or expense associated with the use of these products.