



SAFETY DATA SHEET

Version 2.0

Issued January 31, 2018

In Accordance with OSHA Standard (HCS) (29 CFR 1910.1200(g))

1. PRODUCT & COMPANY IDENTIFICATION

Product names: High Carbon Steel Shot, High Carbon Steel Grit, Sigma Steel Abrasives, Low Carbon Steel Shot

Manufacturer: Sigma Wear Parts (Pty) Ltd – South Africa

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Product Description: Steel Shot and Grit comprised of steel particles in size range 0.025mm up to 4mm diameter for abrasive blasting applications.

2. HAZARD(S) IDENTIFICATION

1. **During Storage** this product is considered inert and does not pose any risks to individuals or the environment.
2. **During use** this product may generate dust that may have specific hazards depending on the substrate being shot blasted.
 - a. Ensure that all risks have been identified with respect to the substrate, and appropriate containment of the dust is exercised. Ensure all personnel are wearing the appropriate level of safety gear for the risks identified.
 - b. Inhalation of the dust may cause:
 - i. Allergic reactions if exposed to the skin or inhaled.
 - ii. Breathing difficulties and/or asthma like symptoms if inhaled.
 - c. Ensure all personal wear the appropriate safety gear to prevent exposure to dust.

3. COMPOSITION / INFORMATION ON INGREDIENTS

The term HAZARDOUS should be interpreted as a term required and defined by laws, regulations, Statutes or ordinances, and does not necessarily imply the existence of any hazard when the products are used as directed by the manufacturer.

<u>Chemical Name</u>	<u>CAS Reg. No</u>	<u>% Weight</u>	<u>ACGIH TLV (mg/m³)</u>	<u>OSHA PEL(mg/m³)</u>
Carbon (C)	7740-44-0	<1.20	3.5 (Carbon Black)	3.5 (Carbon Black)
Iron (Fe)	7439-89-6	Balance	5 (As Oxide Fume)	10 (Total Particulate)
Manganese (Mn) Elemental and Inorganic compounds, as Mn Fume as Mn and Mn Oxide	7439-96-5	<2.0	0.2 (Fume)	5 (Ceiling) 5 (Ceiling)
Sulphur (S)	7704-34-9	<0.035		
Phosphorus (P)	7723-14-0	<0.035		



Chromium (Cr)	7440-47-3	<0.2		
Silicon (Si) As Silicon Dioxide (SiO ₂)	7440-21-3 14808-60-7	<4.0 0.00	10 (Dust) 0.05 (Respirable fraction)	5 (Respirable) 10/(%SiO ₂ +2); SiO ₂ measured as Respirable fraction

All the above elements are held in a Metal matrix and are not released as individual elements at any time during the use of the product.

4. FIRST-AID MEASURES

If in doubt, seek medical attention

Eye Contact: Flush with water for 15 Minutes. Seek medical attention to ensure all foreign particles are removed.

Skin Contact: Dust off excess dust, wash affected area carefully with soap and water.

Ingestion: Seek medical attention if large quantities have been ingested.

Inhalation: Remove person to an area of fresh air, seek immediate medical attention.

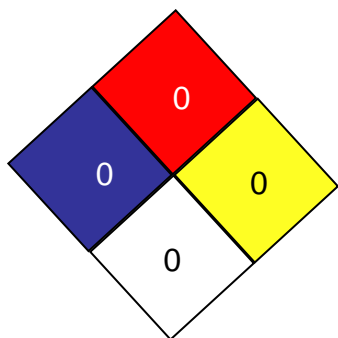
5. FIRE-FIGHTING MEASURES

Flash Point: Not Applicable

Auto-ignition Temperature: (Solid iron exposed to oxygen)-1200°K

Flammability Limits: Not Applicable

Cast steel shot and grit will not burn or explode. A mild fire or explosion hazard situation may be created due to the fine dust that may result from use, when the vacuum condition of the shot blaster is poor. Fire extinguishing method for dust created due to use-use Class D extinguishing agents or dry sand to exclude air. Do not use water or other liquids or foam.



NFPA HAZARD RATING

4= Extreme	3=High	2=Moderate	1=Slight	0=Insignificant
Health (blue): 0	Flammability (red): 0	Reactivity (yellow): 0	Special (Colourless):	

6. ACCIDENTAL RELEASE MEASURES

Shot spilled or leaked onto floors can create hazardous walking conditions. No special precautions need to be followed when cleaning up spills or leaks of shot. When cleaning up large quantities of dust, a NIOSH approved respirator should be used. Spilled shot can be reclaimed for reuse or disposed of as a non-hazardous solid waste. Collected dust from blast cleaning or shot peening operations always contains contaminants from the surface of the parts



being processed, and therefore the dust may be classed as hazardous waste, and as such, must be disposed of according to appropriate local, state, or federal regulations.

7. HANDLING AND STORAGE

The material should be stored in a dry area to avoid corrosion. Keep away from any incompatible materials. Ensure maximum floor loading limits are adhered to.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation: General ventilation and local exhaust should be provided to keep the dust levels below the TLV's shown in Section II.

Respiratory protection: If the dust created by use exceeds the ACGIH TLV's and OSHA PEL's indicated in Section II, an OSHA approved respirator should be worn.

Eye Protection: Approved safety glasses with eye shields should be worn.

Other Protective Equipment: None required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Cast steel shot and grit is in a non-hazardous condition when received. Fine metallic dust is generated as the shot breaks down from impact and wear during normal use. The Fe content of the product is greater than 90% and thus the dust or fume produced will consist of mainly Iron Oxide. This dust so created can be a small explosion hazard.

Boiling Point:	3123-3423°C	Melting Point:	1410°C - 1480°C
Specific Gravity (at 293°K):	7.7g.ccm	Vapor Pressure:	Not Applicable
Flash Point	Not Applicable	Auto Ignition Temp	Will not burn
% Volatile by volume:	Not applicable	pH:	Not Applicable
Evaporation Rate:	Not Applicable	Vapor Density:	Not Applicable
Solubility in Water:	Not Applicable	Percent Solid by Weight:	100%

10. STABILITY AND REACTIVITY

This product does not pose any danger for any hazardous reactions to occur if used under normal working conditions.

Stability: Stable
Hazardous Polymerization: Will not occur
Hazardous Decomposition Products: None, shot will break down into progressively smaller particles and dust during normal use.

11. TOXICOLOGICAL INFORMATION

Threshold Limit Values: Permissible exposure limits – see Section II

**Carcinogenicity:**

Overexposure to dust and fumes may cause mouth, eye and nose irritation. Prolonged overexposure to manganese dust or fume affects the central nervous system. Chronic overexposure can cause manganese poisoning and attendant apathy, loss of appetite, uncontrolled laughter, insomnia followed by sleepiness, headache, difficulty in walking, frequent falling, tremors, salivation sweating and mental detachment. Prolonged overexposure to iron oxide fume can cause synderesis or "iron pigmentation" of the lung. It can be seen on a chest x-ray but causes little or no disability.

Target Organs: Lung for chromium and lung and nasal for nickel

Primary Routes of Entry: Inhalation of dust formed during use or shot or dust particles in eyes

Emergency and First Aid Procedure: If inhaled, move out of the area into fresh air. Flush eyes with running water and have any remaining particles removed from eyes by a qualified person.

12. ECOLOGICAL INFORMATION

Hazardous Decomposition Products: None

This product poses no known ecological hazard.

13. DISPOSAL CONSIDERATIONS

Cast steel abrasives can be reused or disposed of as a non -hazardous waste.

The dust collected from the blast cleaning process can contain products generated from the surface of the objects being shot blasted. These may contain hazardous components. It is the user's obligation to test, classify and dispose of this dust according to the appropriate local, state or Federal regulations.

14. TRANSPORT INFORMATION

No special conditions apply.

15. REGULATORY INFORMATION

No regulations currently apply.

16. OTHER INFORMATION

The above information is believed to be accurate based on the most current data available. Sigma Abrasives makes no warranty, either expressed or implied, with respect to such information, and assumes no liability resulting from its use. Sigma Abrasives shall not be liable for any claims, losses, or damages of any Third party or for lost profits or incidental or consequential damages, howsoever arising.

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