MATERIAL SAFETY DATA SHEET

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SECTION I PRODUCT IDENTIFICATION

Product Name		Chemical Family
AMASTEEL SHOT	**AMABRASIVE**	**FERROUS**
AMASTEEL GRIT	**(SHOT / GRIT MIX)**	

SECTION II COMPOSITION / INGREDIENTS

Chemical Name	CAS Registry No	% Weight	ACGIH - TLV (mg/m^3)	OSHA - PEL (mg/m^3)
Iron - Fe	7439-89-6	>96		
Oxide fume as Fe			5	10
Carbon - C	7440-44-0	<1.2	none estab.	none estab.
Manganese - Mn	7439-96-5	<1.3		
Elemental, Inorganic Compounds as Mn			0.2	5 (ceiling)
Fume as Mn			none estab.	5 (ceiling)
Silicon - Si	7440-21-3	<1.2		
as total dust			10	15
Respirable fraction			none estab.	5
Chromium - Cr	7440-47-3	<0.25		
Elemental, Inorganic Compounds as Cr metal			0.5	1
Cr II compounds - as Cr			none estab.	0.5
Cr III compounds - as Cr			0.5	0.5
Cr VI compounds - water soluble			0.05	5 ug
Cr VI compounds - insoluble			0.01	5 ug
Chromic Acid and Chromates as CrO_3			none estab.	0.1 (ceiling)
Cr VI (hexavalent chromium) in product as shipped		**Not detected**	0.05 & 0.01	5 ug /2.5 action
Copper – Cu	7440-50-8	<0.25		
Fume			0.2	0.1
Dust & mists			1	1
Nickel - Ni	7440-02-0	<0.20		
Elemental metal			1.5	
Insoluble as Ni			0.1	1
Soluble compounds as Ni			0.2	1

SECTION III PHYSICAL DATA

Cast steel shot and grit are non-hazardous as received. Fine metallic dust is generated as the abrasive breaks down from impact and wear during normal use. Since the ferrous content is >96%, dust or fumes will consist mainly of iron or iron oxide. In addition, the fine steel dust created can be a mild explosion hazard (see section V).

Boiling Point - 2850-3150 Degrees C	Melting Point - 1371-1483 Degrees C
Specific Gravity (at 60 Degrees F) >7.6	Vapor Pressure - Not Applicable
% Volatile by Volume - Not Applicable	pH - Not Applicable
Appearance and Odor - Spherical - no odor	Percent Solid by Weight - 100%

SECTION IV REACTIVITY DATA

Stability – Stable Hazardous decomposition products – None Hazardous Polymerization - will not occur
Shot will break down into progressively smaller particles and dust during normal use.

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SECTION V — FIRE AND EXPLOSION HAZARD DATA

Flash Point - Not Applicable	Auto Ignition Temperature (solid iron exposed to Oxygen) -930 degree C
Flammability Limits - Not Applicable	Cast steel shot will not burn or explode

A mild fire or explosion hazard situation may be created from fine metal dust. 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: 0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

Health (blue) = 0 Flammability (red) = 0 Reactivity (yellow) = 0 Special (colorless)

SECTION VI — HEALTH HAZARD DATA

Emergency and First Aid Procedure - If inhaled, move out of area into fresh air. Flush eyes with running water, have any remaining particles removed from eyes by a qualified medical person; call 911 for immediate medical assistance.

The end user should have an industrial hygiene evaluation to determine the proper personal protective equipment for each application or blasting operation. Threshold Limit Values - Permissible Exposure Limits - see Section II

Primary Routes of entry - inhalation of dust or dust particles in eyes. Target Organs - Lung for chromium and lung & nasal for Nickel. Metallic Nickel is reasonably anticipated to be a human carcinogen.

Over exposure to dust and fumes may cause mouth, eye, and nose irritation. Prolonged overexposure to manganese dust or fume affects the central nervous system. Prolonged overexposure to iron oxide fume can cause siderosis, or "iron pigmentation" of the lung. It can be seen on a chest x-ray but causes little or no disability.

Fumes generated by welding or flame cutting a surface containing new or used abrasive or the dust created by use of the abrasive may convert a small portion of chromium to hexavalent chromium. IARC reports welding fumes are possibly carcinogenic to humans.

SECTION VII — PERSONAL PROTECTION INFORMATION

Ventilation - General ventilation and local exhaust should be provided to keep the dust levels below the limits shown in Section II.

Respiratory protection – If an industrial hygiene evaluation shows dust exceeds OSHA PEL's indicated in Section II, a NIOSH approved respirator with appropriate filters should be worn as determined by the end user.

Eye protection - Approved safety glasses w/side shields should always be worn. Other protective equipment determined by the end user.

SECTION VIII — SPILL / LEAK PROCEDURES AND WASTE DETERMINATION

Shot spilled or leaked onto floors can create hazardous walking conditions. When cleaning up quantities of dust; if exceeding OSHA permissible exposure limits, an approved respirator with appropriate filters should be used.

Dust from blasting or peening operations always contain contaminants. The dust must be tested to determine if it is hazardous or non-hazardous waste. After such determination, the dust must be disposed of according to appropriate local, State or Federal regulations.

SECTION IX — SPECIAL PRECAUTIONS

Precautions to be taken in handling and storing - Keep dry to reduce rusting. **Observe maximum floor loading limitations**.

SECTION X — TRANSPORTATION

DOT Classification - Not a regulated material Proper Shipping Name - N/A DOT ID # - Not regulated

SECTION XI — REGULATORY

a) CERCLA Hazardous Substance	**_____ yes**	**__X__no**
b) SARA, Title III, Extremely Hazardous Substance	**_____ yes**	**__X__no**
c) Toxic Chemical Release Report	**__X__ yes**	**_____no**

Nickel & Manganese are subject to requirements of Section 313 of the Community Right-to-know Act of 1986 & 40CFR Part 372.

The information presented here has been compiled from sources considered to be reliable and accurate to the best of our knowledge and belief, but is not guaranteed to be so.