

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION

SUNNEN PART NUMBER

TCS-0170, TCS-0230, TCS-0280
TCS-0330, TCS-0390

NATIONAL METAL ABRASIVE, INC.

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D-U-N-S No.:

14-421-8252

Product Names: Perma-Steel Shot
Perma-Steel GritCommon Name: Cast Steel Shot
Cast Steel Grit
Chemical Family: Ferrous

SECTION II - HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS NUMBERx	% WEIGHT	OSHA		ACGIH	
			PEL - TWA		TLV - TWA	
Iron	1309-37-1	>96	10 mg/cu.m as oxide fume		5 mg/cu.m as oxide fume	
Manganese	7439-96-5	0.35-1.3	*C 5 mg/cu.m dust		*C 5 mg/cu.m as dust	
			*C 5 mg/cu.m as fume		1 mg/cu.m as fume	
Carbon	1333-86-4	0.8-1.3	none established		none established	
Silicon	7440-21-3	0.4-1.2	15 mg/cu.m (as nuisance dust)		10 mg/cu.m	

* C Means ceiling limit, limits which shall not be exceeded even for a short time.

SECTION III - PHYSICAL DATA

Melting Point: 1371-1482 Degrees C
Evaporation Rate: Not Applicable
Boiling Point: 2850-3150 Degrees C
Specific Gravity(@ 60 degrees F): >7.6
Solubility in water: Not Applicable
Apperance and Odor: Shot is near spherical. Grit is angular. Both are grey to blue in color with slight metallic odor.

Vapor Pressure: Not Applicable
Vapor Denisty: Not Applicable
Percent Solid by Weight: 100 %
pH: Not Applicable

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not Applicable
Autoignition Temperature (solid iron exposed to oxygen): 930 Degrees C
Cast Steel Shot and Grit will not burn or explode.
The solid form of material is not combustible. Fire and explosion hazards are moderate when material is in the form of dust and exposed to heat or flames, chemical reaction, or contact with powerful oxidizer.

Fire Extinguishing Method: Use dry chemicals or sand to exclude air.

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value: See Section II Carcinogenicity: Not listed
 Carcinogenicity: None of ingredients listed in NTP, IARC, or OSHA
 Permissible Exposure Limit: See Section II
 Primary Routes of Entry: Inhalation of dust created during use; shot, grit or dust particles in eyes.
 Prolonged overexposure to manganese dust or fume can cause metal fever.
 Chronic overexposure can cause manganese poisoning.
 Overexposure to dust containing the component elements of cast steel abrasive may cause skin, nose, mouth and eye irritation.

EMERGENCY AND FIRST AID PROCEDURE:

Eye Contact: Flush with running water to remove particulate. Get additional attention by a qualified medical person.
 Skin Contact: Brush off excess dust. Wash area well with soap and water.
 Inhalation: Remove to fresh air. Get medical attention.
 Ingestion: Seek medical help if large quantities of material have been ingested.

SECTION VI - REACTIVITY DATA

Stability: Stable Hazardous Polymerization - Will not occur.
 Hazardous Decomposition Products: None. Shot and grit will break down into progressively smaller particles during normal use.

SECTION VI - SPILL / LEAK PROCEDURE

Cast steel shot or grit spilled or leaked onto floors can cause hazardous walking conditions. Spills or leaks should be vacuumed or swept from working areas. When cleaning up large quantities of dust, a NIOSH approved respirator should be worn. Spilled shot and grit can be reclaimed for reuse or disposed of as a non-hazardous solid waste. Collected dust from blast cleaning or shot peening operations always contain contaminants from the surface of the parts being processed, and therefore the dust may be classed as a hazardous waste and, as such, must be disposed of according to appropriate Local, State, or Federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Ventilation: General and local exhaust ventilation 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 LTV's indicated in Section II, a NIOSH approved respirator should be worn.
 Eye Protection: Approved safety glasses with eye shields should be worn.
 Safety eyewash stations should be provided in close proximity to work area
 Other Protection Equipment: None required.

SECTION IX - SPECIAL PRECAUTIONS

Handling and Storing Precautions: Store material away from incompatible materials, and keep dust away from sources of ignition. Keep dry to reduce rusting. Observe maximum floor loading limitations. Other Precautions: The company has no control over this product or its use after it leaves our facility. The company assumes no liability for loss or damage from the proper or improper use of this product.
 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.