



MATERIAL SAFETY DATA SHEET
STEEL CLIP-ON WHEEL WEIGHTS GENERAL INFORMATION

TRADE NAME: (Common Name or Synonym) Steel Wheel Weight

MANUFACTURER: BADA Division / Hennessy Industries
 759 Hennessy Way
 Bowling Green, KY 42101
 (270) 781-1013

HAZARDOUS INGREDIENTS

	INGREDIENT	CAS NUMBER	WEIGHT %	PERMISSIBLE AIR LEVEL	
				OSHA PEL	ACGIH TLV
Mass	Iron	7439-89-6	Balance	10mg/m ³	5mg/m ³
	Carbon	7440-44-0	0.1-0.86	N/A	3.5 (as carbon black)
	Chromium	7440-47-3	0-0.80	0.1	0.05
	Copper	7440-50-8	0-0.20	0.1	0.2
	Manganese	7439-96-5	0-1.30	5	11
	Nickel	7440-02-0	0-0.10	1	101
	Silicon	7440-21-3	0-1.60	10	0.10 (as dust)
	Vanadium (as V ₂ O ₅)	1314-62-1	0-0.30**	0.5	0.05 (TWA)
	Trace Elements (Pb, AL, Mo, Zn)		0-0.10	N/A	N/A
	Coating (Three layers)	Phosphophyllite	12274-71-4	98.00	NE
Hopeite		15491-18-6	2.00	NE	NE
Zinc (metal)		7440-66-6	69.38	NE	NE
Titanium Dioxide		13463-67-7	13.75	NE	NE
Aluminum (metal)		7429-90-5	8.87	NE	NE
Phenol Polymer w/ Formaldehyde		9003-35-4	28.10	NE	NE
Aluminum		7429-90-5	24.10	NE	NE
PTFE			16.72	NE	NE
Bisphenol A, Epichlorohydrin polymer		25068-38-6	9.36	NE	NE
Silicon Dioxide		7631-86-9	7.36	NE	NE
Magnesium-oxide		1309-48-4	6.36	NE	NE
Balance		Non hazardous	16		
			(Total Three layers)	NE = Not Established	

** V₂O₅ - OSHA = Respirable Dust Ceiling Limit = 0.5 mg (V₂O₅)/m³
 FUME=CL 0.1 mg/m³ - Respirable Dust & Fume: TWA 0.05 mb; ACGII = TWA 0.05 mg/ m³

PHYSICAL DATA

APPEARANCE AND ODOR Silver; Odorless	PHYSICAL STATE: Solid
BOILING POINT Not Applicable	MELTING POINT 2800° F
SPECIFIC GRAVITY 7.6-7.8	VAPOR DENSITY Not applicable
SOLUBILITY IN WATER Negligible	VAPOR PRESSURE Not applicable
EVAPORATE RATE Not applicable	% VOLATILES BY VOLUME Not applicable

FIRE AND EXPLOSION DATA

FLASH POINT Not combustible as a coated article.	FLAMMABLE LIMITS Not established
AUTO IGNITION TEMP Not combustible as a coated article.	
SPECIAL FIRE FIGHTING PRECAUTIONS: Fire fighters & others who may be exposed to products of combustion should wear full protective clothing including self-contained breathing apparatus. Avoid breathing metal oxide fumes which may cause metal fume fever. (See Section V)	
UNUSUAL FIRE & EXPLOSION HAZARDS: DO NOT use water on molten metals.	

HEALTH HAZARD DATA

USUAL ROUTES OF ENTRY:	Inhalation or skin contact
-------------------------------	----------------------------

EFFECTS OF OVEREXPOSURE:

In the inert form, steel wire should not present any toxic effects. However, hazardous fumes or dusts may result during heating, grinding, cutting, welding, brazing or related operations. Non-metallic coatings on the wire should also be considered in the additional or miscellaneous information section. The effect of overexposure to steel wire fumes or dusts would have the following adverse health effects:

IRON (Fe)

A benign lung condition known as Siderosis can result during long-term exposure to iron oxide fumes or dusts. Iron oxide is the result of subjecting iron & alloys to high temperature in the presence of oxygen as in a welding operation.

MANGANESE (Mn):

Manganese intoxication is usually due to the oxide or salts of Mn. Elemental manganese exhibits very low irritants to the eyes & respiratory tract. Both acute & chronic exposures may adversely affect the central nervous system, but symptoms are more likely to occur after at least one(1) or two (2) years of prolonged or repeated exposures. Early symptoms may include weakness in lower extremities, sleepiness, salivation, nervousness & apathy. In more advanced stages, severe muscular incoordination, impaired speech, spastic walking, mask-like facial expression & uncontrollable laughter may occur. Manganese fumes have also been reported to result in metal fume fever, a flu-like syndrome with nausea. And increased incidence of pneumonia, bronchitis and pneumonitis has been reported in some worker populations exposed to manganese. Animal studies indicate that manganese exposure may increase susceptibility to bacterial and viral infections.

CHROMIUM (Cr):

The toxicity and health hazards of chromium are heavily dependent up on its oxidation state. The elemental (as in metal), divalent, and trivalency forms are very low toxicity. The hexavalent form (such as occurs in chromates and chromic acid) is very toxic and can produce both acute and chronic effects. Adverse effects on skin may include ulcerations, irritative dermatitis and allergic skin reactions. Adverse effects on the respiratory system may include bronchospasms, edema, hypersecretions, bronchitis, irritation, allergic asthmatic reactions & ulceration & perforation of the nasal septum. Respiratory systems may include coughing & wheezing, shortness of breath & nasal itch. Eye irritation or inflammation can also be produced. Exposure to some hexavalent chromium compounds have also been shown to be associated with an increased risk of lung cancer.

NICKEL (Ni):

Ni fumes and dusts are respiratory irritants and may cause a severe pneumonitis. Skin contact with nickel and its compounds may cause an allergic dermatitis. The resulting skin rash is often referred to as "Nickel Itch". Ni and its compounds may also produce eye irritation, particularly on the inner surfaces of nickel and certain nickel compounds to an increased incidence of cancer of the lungs and nasal passages.

COPPER (Cu):

Inhalation of Cu Fume may cause irritation of the eyes, nose and throat and a flu-like illness called the metal fume fever. Signs & symptoms of metal fume fever include: fever, muscle aches, nausea, chills, dry throat, cough and weakness. Cu fume may also produce a metallic or sweet taste. Repeated or prolonged exposure to Cu fume may cause discoloration of the skin & hair.

SILICON (Si):

May produce X-Ray changes in the lungs without disability.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED:

Chronic diseases or disorders of the respiratory system, chronic lung disease or dermatology conditions.

CARCINOGEN INFORMATION:

NTP and IARC consider chromium and certain chromium compounds to be known human carcinogens

FIRST AID AND MEDICAL EMERGENCY PROCEDURES

EYE CONTACT:	May cause irritation upon contact during exposure to dust generated during heating, brazing, cutting or welding operations. Flush with large amounts of water for at least 15 minutes and seek medical attention.
SKIN CONTACT:	Dermatitis due to sensitization may occur in some individuals from exposure to chromium fumes. Dermatitis due to sensitization may occur in some individuals from exposure during heating, brazing, cutting or welding operations. Remove contaminated clothing as needed. Wash exposed area with soap and water.
INGESTION:	May cause irritation of the mouth and throat due to prolonged exposure to fume or dust generated during heating, brazing, cutting or welding operations. Contact Poison Control Center. Seek medical attention. DO NOT INDUCE VOMITTING.
INHALATION:	Remove from excessive exposure levels unless proper respiratory protection is worn. If affected, remove individual to fresh air. If breathing has stopped give artificial respiration. Seek medical attention. Prompt action is essential.

Note: In all cases where adverse effects persist, consult a physician.

REACTIVITY DATA:

STABILITY:	Stable
POLYMERIZATION HAZARD:	Will not occur
INCOMPATIBILITY (MATERIALS TO AVOID):	Water: Reacts violently with molten metals. Some acids, some caustics, halogenated hydrocarbons & oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Metal fumes and certain noxious gases, such as CO, may be produced from welding or burning operations. High temperatures may produce smoke, carbon monoxide, carbon dioxide, zinc & aluminum oxide fumes during welding, cutting or burning operations. When exposed to fire, aluminum oxide & aluminum nitride are formed.

SPILL, LEAK AND DISPOSAL INFORMATION

IF MATERIAL IS LEAKED OR SPILLED:	Sweep up
WASTE DISPOSAL METHOD:	Any excess product can be recycled for further use, disposed in a permitted hazardous waste landfill, or disposed by other methods which are in accordance with local, state & federal regulations.

SPECIAL PROTECTION INFORMATION

VENTILATION / RESPIRATORY:	Ventilation should be sufficient to maintain exposure levels below the applicable exposure limit. Niosh approved fume and dust respirator if applicable limits may be exceeded. Avoid breathing welding fumes.
EYE PROTECTION:	Use face shield (8" min) and/or goggles when welding, burning, cutting or grinding.
SKIN PROTECTION:	Use appropriate protective clothing, such as welder's aprons, hats & gloves when welding or burning.

PRECAUTIONS TO TAKE WHEN HANDLING & STORING:

Arc or spark generated when welding or burning on these products could be a source of ignition for combustible or flammable materials. Cut ends may result in a laceration or puncture hazard. Avoid breathing welding fumes. Store coated articles in a dry area.

BADA COMPANY PROVIDES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, AND ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE DATA CONTAINED IN THIS DOCUMENT.