SERVICE STEEL
Div Van Pelt Corp

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Tonawanda, NY
Detroit, MI
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East Moline, IL

Material Safety Data Sheet

TRADE NAME (Common Name or Synonym)
Chrome Plated Carbon Steel

CHEMICAL NAME
Chrome Plated 1045, 1050

I. INGREDIENTS

Material or Component	CAS Number	% Weight	EXPOSURE LIMITS OSHA PEL (mg/m³)	EXPOSURE LIMITS ACGIH TLV (mg/m³)
Base Metal				
Iron (Fe)	1309-37-1	95-99	10 (Oxide Fume)	5 (As Iron Oxide)
Alloying Elements				
Aluminum (Al)	7429-90-5	<2	15 Dust	10 (Dust)
Carbon (C)	7440-44-0	<2	N/A	3.5 AS Carbon Black
Manganese (Mn)	7439-96-5	<2	5	5 (Dust Ceiling)
Bismuth (Bl)	7440-69-9	<1	N/A	N/A
Chromium(Cr)	7440-47-3	<1	1 (Cr. & insol. salts)	.5
Copper (Cu)	7440-50-8	<1	0.2	1 (Dust & Mist)
Molybdenum (Mo)	7439-98-7	<1	5	10 (insol. salts)
Nickel (Ni)	7440-02-0	<1	1.0	1.0
Niobium (Nb)	7440-03-1	<1	N/A	N/A
Phosphorous (P)	7723-14-0	<1	0.1 (as yellow Phos.)	N/A
Silicon (Si)	7440-21-3	<1	15 Dust	10 Total Dust
Sulfur (S)	7704-34-9	<1	13 (as SO_2)	5 (as SO_2)
Vanadium (V)	7440-62-2	<1	0.05 (V_2O_5 dust & fume)	0.05 (V_2O_5) dust & fume)
Metallic Coating				
Chromium (Cr)	7440-47-3	>98	1 (Cr. & insol. salts)	0.5

Note: The above listing is a summary of elements used in alloying steel. Various grades of steel will contain different combinations of these elements. Trace elements may also be present in minute amounts. No permissible exposure limits (PEL) or thresh olds limit values (TLV) exist for steel. Values shown are applicable to component elements.

II. PHYSICAL DATA

MATERIAL IS (At Normal Conditions)	APPEARANCE AND ODOR	% VOLATILE BY VOLUME	VAPOR DENSITY
☐ LIQUID ■ SOLID ☐ GAS ☐ OTHER	Grey w/Metalic Luster, Odorless	N/A	N/A

ACIDITY/ALKALINITY			VAPOR PRESSURE
pH = N/A	Melting Point Greater than 1600 °F	Specific Gravity (H_2O) = 1) Approx. 7	(mm Hg at 20° C)
	Boiling Point N/A °F	Solubility in water (% by weight) N/A	N/A

III. PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION Appropriate dust/mist/fume respirator should be used to avoid excessive inhalation of particulates. If exposure limits are reached or exceeded, use NIOSH approved equipment.	HANDS, ARMS AND BODY Protective gloves should be worn as required for welding, burning or handling operations.
EYES AND FACE Safety glasses should be worn when grinding or cutting. Face shields should be worn when welding or cutting.	OTHER CLOTHING AND EQUIPMENT As required depending on operations and safety codes.

IV. EMERGENCY MEDICAL PROCEDURES

INHALATION:	Remove to fresh air; if condition continues, consult a physician.
EYE CONTACT:	Flush thoroughly with running water to remove particulate; obtain medical attention.
SKIN CONTACT:	Remove particles by washing thoroughly with soap and water. Seek medical attention if condition persists.
INGESTION:	If significant amounts of metal are ingested, consult physician.

V. HEALTH/SAFETY INFORMATION

Health

Steel products in their solid state present no inhalation, ingestion, or contact health hazard. Operations such as burning, welding, sawing, grinding, and machining, which result in elevating the temperature of the product to, or above its melting point, or result in the generation of airborne particulates may present hazards. The major exposure hazard is inhalation. Effects or overexposure to fume and dust are as follows:

ACUTE: Excessive inhalation of metallic fumes and dust may result in irritation of eyes, nose and throat. High concentrations of fumes and dusts of iron-oxide, manganese, copper, zinc and lead may result in metal fume fever. Typical symptoms last from 12 to 48 hours and consist of a metallic taste in the mouth, dryness and irritation of the throat, chills and fever.

CHRONIC: Chronic and prolonged inhalation of high concentrations of fumes or dust of the following elements may lead to the conditions listed opposite the element:

Aluminum: May initiate fibrotic changes to lung tissue
Bismuth: No chronic debilitating symptoms indicated
Chromium: Lesions of the skin and mucous membranes, possibly cancer of the nose or lungs-bronchogenic carcinoma
Copper: No chronic debilitating symptoms indicated
Iron: Siderosis, pulmonary effects. No chronic debilitating symptoms indicated
Manganese: Bronchitis, pneumonitis, lack of coordination
Molybdenum: Respiratory tract irritation, possible liver and kidney damage, bone deformity
Nickel: Lesions of the skin and mucous membranes, possibly cancer of the nose or lungs-bronchogenic carcinoma
Phosphorous: Necrosis of the mandible
Sulfur: (As sulfur dioxide) Edema of the lungs
Vanadium: (As vanadium pentoxide) Emphysema, pneumonia

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with chronic respiratory disorders (i.e.: asthma, chronic bronchitis, emphysema, etc.) may be adversely affected by any fume or airborne particulate matter exposure.

OCCUPATIONAL EXPOSURE LIMITS: See Products Ingredients Section I. Chromium and Nickel have been identified by the International Agency for Research on Cancer (IARC) and/or the National Toxicology Program (NTP) as potential cancer causing agents.

Fire and Explosion

FLASH POINT	AUTO IGNITION TEMPERATURE	FLAMMABLE LIMITS IN AIR	EXTINGUISHING MEDIA
N/A °F	N/A	Lower N/A % Upper N/A %	For molten metal use dry powder or sand.

FIRE AND EXPLOSION HAZARDS
Steel tubular products do not present fire or explosion hazards under normal conditions. Fine metal particles such as produced in grinding or sawing can burn. High concentrations of metallic fines in the air may present anexplosion hazard.

EXTINGUISHING MEDIA NOT TO BE USED
Do not use water on molten metal.

Reactivity

STABILITY	INCOMPATIBILITY (MATERIALS TO AVOID)
■ Stable ☐ Unstable	Reacts with strong acids to form hydrogen gas.

CONDITIONS TO AVOID: Steel at temperatures above the melting point may liberate fume containing oxides of iron and alloying elements. Avoid generation of airborne fume and dust.

HAZARDOUS DECOMPOSITION PRODUCTS:
Metallic dust or fumes may be produced during welding, burning, grinding and possibly machining. Refer to ANSI Z49.1.

VI. ENVIRONMENTAL

SPILL OR LEAK PROCEDURES
Fine turnings and small chips should be swept or vacuumed. Scrap metal can be reclaimed for re-use.

WASTE DISPOSAL METHOD*
Used or unused product should be disposed of in accordance with Federal, State or Local Laws and Regulations.
*Disposer must comply with Federal, State and Local disposal or discharge laws.

VII. ADDITIONAL INFORMATION

In welding, precautions should be taken for airborne contaminants which may originate from components of the welding rod.

Arc or spark generated when welding or burning could be a source of ignition for combustion and flammable materials.

DISCLAIMER

The information in this MSDS was obtained from sources which we believe are reliable, however, the information is provided without any representation or warranty, express or implied, regarding the accuracy or correctness.

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