

MATERIAL SAFETY DATA SHEET

Company: Steel Warehousing, Div. of Namasco Inc. Highway 20 West Dubuque, IA 52003	Issue Date 3/15/86 Reviewed 1/5/96	Identification Carbon & Alloy
Trade Name (Common Name or Synonym) Carbon, Alloy, Steels	Phone Number (319) 588-0501	
Chemical Name Steel	Form Bar, Sheet, Plate, Tubing, Structurals	

I. INGREDIENTS

Material or Component	CAS Number	% Weight	Exposure Limits	
			OSHA PEL (mg/m ³)	ACGIH TLV (mg/m ³)
Base Metal Iron (Fe)	7439-89-6	Balance	10 (Fe ₂ O ₃ Fume)	5.0 (Fe ₂ O ₃ Fume)
Alloying Elements			None Listed	None Listed
Carbon (C)	7440-44-0	0.01 - 1.5	1.0 as chrome	0.5 as chrome
Chromium (Cr)	7440-47-3	0.01 - 12	.1 as fume; 1.0 as dust	0.2 as fume; 1.0 as dust
Copper (Cu)	7440-50-8	0.04 - 0.7	.05 dust; .15 fume	.05 dust; .15 fume
Lead (Pb)	7439-92-1	0.15 - 0.35	5 as manganese	5 as dust; 1 as fume
Manganese (Mn)	7439-96-5	0.05 - 2.0	15 as insoluble compds	10 as insoluble compds
Molybdenum (Mo)	7439-98-7	0.01 - 1.10	1.0 as Nickel	1.0 as Nickel
Nickel (Ni)	7440-02-0	0.01 - 10	0.1 as Phosphorous	0.1 as Phosphorous
Phosphorous (P)	7723-14-0	0.15 Max	Total dust 15.0; respirable dust 5.0	10 total dust
Silicon (Si)	7440-21-3	0.15 - 2.20	13 sulfur dioxide	5 sulfur dioxide
Sulfur (S)	7704-34-9	0.001 - 0.35	0.5 dust; 0.1 fume	0.05 dust and fume
Vanadium (V)	7440-62-2	0.01 - 1.0	5.0 as fume; 15 Zinc Oxide dust	5.0 as fume; 10 Zinc Oxide dust
Zinc (An) coating	7440-66-6	10 Max		

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.

II. PHYSICAL DATA

Material is (At Normal Conditions): <input type="checkbox"/> Liquid <input type="checkbox"/> Solid <input type="checkbox"/> Gas <input type="checkbox"/> Other	Appearance and Odor Gray-Black With Metallic Lustre -- Odorless
Acidity Alkalinity	Vapor Pressure (mm Hg at 20°C) N/A
Melting Point Approx. 2750° F Boiling Point NA °F	Specific Gravity (H ₂ O = 1) > 7 Solubility in water (% by weight) - NA

III. PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection NIOSH approved dust/mist/fume respirator should be used during welding or burning if OSHA PEL or TLV is exceeded.	Hands, Arms, and Body Use appropriate protective clothing such as welders aprons & gloves when welding or burning. Check local codes.
Eyes and Face Safety glasses should always be worn when grinding or cutting; face shields should be worn when welding or burning.	Other Clothing and Equipment As required.

IV. EMERGENCY MEDICAL PROCEDURES

Inhalation: Remove to fresh air; if condition continues, consult physician.

Eye Contact: Immediately flush well with running water to remove particulate; get medical attention.

Skin Contact: If irritation develops, remove clothing and wash well with soap and water. If condition persists, seek medical attention.

Ingestion: If significant amounts of metal are ingested, seek medical attention.