



MATERIAL SAFETY DATA SHEET
 IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION HAZARD COMMUNICATION STANDARD #29 C.F.R. 1910.1200

SECTION I – PRODUCT DESCRIPTION – Stainless Steel COMMON NAME / GRADE - Stainless Steel

SECTION II – HAZARDOUS INGREDIENTS

BASE METAL, ALLOYING ELEMENTS, METALLIC COATING	% COMPOSITION BY WEIGHT (a)	CAS #	ACGIH TLV (mg/m ³) (b)
BASE METAL			
ALLOYING ELEMENTS			
Iron (Fe)	>50	7439-89-6	5 mg/m ³ (dust & fume as Fe) TWA
Nickel (Ni)	<35.1	7440-02-0	1.5 mg/m ³ (Inhalable fraction) TWA
Chromium (Cr)	<30.1	7440-47-3	.05 mg/m ³ TWA
Manganese (Mn)	<13.1	7439-96-5	0.2 mg/m ³ TWA
Molybdenum (Mn)	<5.1	7439-98-7	0.2 mg/m ³ TWA
Copper (Cu)	<5.1	7440-50-8	10 mg/m ³ (Inhalable fraction) 3 mg/m ³ (respirable fraction) TWA
Silicon (Si)	<5.1	7440-21-3	0.2 mg/m ³ (fume) 1 mg/m ³ (Dust & Mist as Cu) TWA
Tin (Sn) (Alloy C711 only)	<0.9	7440-31-5	2 mg/m ³ TWA
Aluminum (Al)	<2.1	7429-90-5	10mg/ m ³ TWA (metal dust)
Titanium (Ti)	<2.1	7440-32-6	
Cobalt (Co)	<1.1	7440-48-4	0.02 mg/m ³ TWA
Tantalum (Ta)	<1.1	7440-25-7	5 mg/m ³ TWA (Dust)

(a) % of alloying materials varies with grade of material – (b) 1965-1966 ACGIH threshold limit value. (C) TWA (Time Weighted Average)

SECTION III – PHYSICAL DATA

Material is (at normal conditions) – Solid	Appearance and Odor – Metallic / Odorless
Melting Point (Base Metal) – 2500-2795°F (1371-1535°C)	Specific Gravity - ~0.29lb/in ³ (~7.9g/cm ³)

SECTION IV – FIRE AND EXPLOSION DATA

Extinguishing media – Dry chemical powders, salt or inert gas – Do not use water or liquid explosion hazard could result
 Special fire fighting procedure – If ignitable waste is generated. Special precautions and firefighting procedures should be followed ; Keep work areas free of the waste, store wet and keep away from heat and open flame – maintain humidity above 50% to prevent an electrostatic build-up. No smoking in area, use non-sparkling metal equipment.

SECTION V – HEALTH HAZARD DATA

Steel products in the natural state do not represent an inhalation, ingestion, or contact hazard. However, operations such as burning, welding, sawing, brazing, and grinding may release fumes and/or dust, which may present health hazard.

SECTION VI – REACTIVITY DATA

Stability – Stable	Incompatibility (Material to avoid) -
Hazardous Decomposition Products	

SECTION VII – SPILL, LEAK OR DISPOSAL PROCEDURE

SECTION VIII – SPECIAL PROTECTION INFORMATION

Local exhaust ventilation should be utilized when welding, burning, grinding, or machining, NIOSH/MSHA approved dust and fume respirator should be used to avoid excessive inhalation of particulates, when exposure exceeds TLV’s. Safety glasses or goggles should be utilized as required by exposure. Other protective equipment should be utilized as required by the welding standards.