

**MATERIAL SAFETY DATA SHEET
RESISTANCE ALLOYS**

SECTION I – PRODUCT IDENTIFICATION
This MSDS covers the Resistance Alloys

SECTION II – HAZARDOUS INGREDIENTS
Defined by OSHA 29 CFR 1910.1200

Element	CAS #	PEL	TLV	ELEMENT	CAS#	PEL	TVL
Nickel	7440-02-0	1	1	Silicon	7440-21-3	None	5
Chromium	7440-47-3	1	1	Aluminum	7429-90-5	None	10
Zirconium	7440-67-7	5	5	Iron	1309-37-1	None	None
				Cobalt	7440-48-4	0.1	0.05

Duralite Names and nominal compositions
RESISTANCE ALLOYS
Other Manufacturers Materials
of Similar Characteristic May also Be Used

Duralite Designation	CMF	Ni	Cr	Fe	Si	Al	Co
650-NiCr	650	78	20		.75		.85
670-NiCr	670	58.5	16	23	.75		
635-NiCr	625	35	21	42	1.62		
815-FeCrAl	815	.4	22.5	71.5	.85	4.7	
875-FeCrAl	875	.4	22.5	71	.55	5.6	
837-FeCrAl	837	.4	22.5	71	.55	5.6	

Note: CMF – Circular Mil Foot – resistance specification

SECTION III – PHYSICAL DATA
All Materials produced as rod, wire, strip or ribbon

SECTION IV – FIRE AND EXPLOSION DATA
Nonflammable, although sparks from grinding or welding
may ignite flammable or combustible materials

Note: TLV-Threshold Limit Value (mg/m3)
PEL-Permissible Exposure Level(mg/m3)

SECTION V – HEALTH HAZARD INFORMATION

****THIS PRODUCT POSES NO HEALTH HAZARD AS SHIPPED****

The grinding powder or welding fume generated from this product may pose a potential health hazard. OSHA has determined that the potential effects of overexposure resulting from the welding or grinding of this product are as follows:

PRIMARY ROUTE OF ENTRY: Fumes, gases and dust can be a health hazard through inhalation. Skin sensitivity may also be noted upon contact.

ACUTE EXPOSURE: Irritation to the nose, eyes, throat, or skin, nausea, tightness of chest, or slight discomfort such as dizziness.

CHRONIC EXPOSURE: Watering of the eyes, headaches, difficulty in breathing pneumoconiosis, or neurological damage

FIRST AID; INHALATION: Move to fresh air. **SKIN:** Wash affected area with soap and water. **EYES:** Immediately wash with large amounts of water.

INGESTION: Seek medical attention. In all cases, seek medical attention for first aid.

SECTION VI – REACTIVITY INFORMATION

The following list is meant to be a guide in determining the potential reaction products formed during grinding or welding. These reaction products cannot be classified simply, and can vary depending on the particular application, atmospheres, and coatings uses.

ALUMINUM metal oxide, or fume

CHROMIUM as chromate

COBALT metal, dust or fume

COPPER fume, dust or mist

SILICA dust

SILICON tetrahydroxide

IRON fume

MANGANESE metal, tetrahydride

NICKEL metal, oxide

TUNGSTEN metal

ZIRCONIUM metal

VANADIUM pentoxide dust, fume

SECTION VII – SPILL OR LEAK PROCEDURE

Grinding dusts, welding fume and chemical cleaning solution generated from this material must be disposed of in accordance with proper regulating agencies.

SECTION VIII – SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Required when exposed to levels that exceed those established by OSHA when grinding or welding. Use on NIOSH approved respirators.

VENTILATION: Required when the exposure levels exceed those established by OSHA when grinding or welding.

EYE PROTECTION AND PROTECTIVE CLOTHING: Protect yourself and others. Use only NIOSH approved gloves, face shields and protective clothing when required.

SECTION IX – SPECIAL PRECAUTIONS

IMPORTANT: Practice proper industrial hygiene to insure that the use of this material does not generate grinding dusts or welding fumes in excess of OSHA limits. Consult THE FEDERAL REGISTER, 29 cfr 1910.,1200 for further explanation of terms and abbreviations used in this material safety data sheet.

SECTION X – SARA Title III(sections 313, Toxic Chemicals)

NOTIFICATION: The alloys products listed in Section II of this Material Safety Data Sheet contain toxic chemicals subject to the reporting requirements of Section 313 of TITLE III of the Superfund Amendments and Reauthorization ACT of 1986 and 40CFR Part 372 of the Federal Resister. However, if this material is considered “Article” as defined by 40CFR 372.3 and 372.38(b), it maybe exempt from reporting.