

AUFHAUSER BROTHERS CORPORATION
FORM AGNOCD. Prepared: 8-29-88
MATERIAL SAFETY DATA SHEET
(Conforms to OSHA 29 CFR 1910.1200)

Section I: Product Identification.

Product type: Cadmium free brazing alloy of silver
Product name: Silver alloy: A-56T, A-75, A-70, A-65, A-60, A-50, A-45, A-40, A-40L, A-35, A-30, A-25, A-20, A-9, A-5, A-54N, A-50, A-40N2, A-40N5, A-40T, A-36T, A-25T.
Classification: A.W.S. A5.8, Federal Spec. QQ-B-654
Manufacturer/supplier: Aufhauser Brothers Corp.
Address: 39 West Mall, Plainview, New York 11803
Emergency & Information telephone: 516-694-8696

Section II: Hazardous Ingredients*

A. Chemical Elements listed and contained in alloys in amounts greater than 1%.

Material (Cas #)	Weight %	TLV-(Pel*)
1. Ag(7440-22-4)	5-75	0.01 Mg/M ³ as Ag
2. Cu(7440-50-8)	20-58	0.1 Mg/M ³ as Cu
3. Zn(7440-66-6)	3-38	5.00 Mg/M ³ as Zn Oxide fume
4. Ni(7440-02-0)	2-5	1.00 Mg/M ³ as Ni

B: Chemical elements contained in alloys which are listed carcinogens (source: IARC) and which are present in amounts greater than or equal to 0.1%.

1. Nickel(7440-47-3) 0 to 100

C. Chemicals contained in the above alloys which are not listed: Gold, Boron, Gallium, Germanium, Indium, Lithium, Palladium, Platinum, Rhodium, Ruthenium, Rhodium, Tin.

*The term "hazardous" should be interpreted as a term required and defined in the OSHA Hazard Communication Standard (29 CFR 1910-1200) and does not necessarily imply the existence of any hazard. Some of the products listed may not contain all of the ingredients shown in Section II. Typical analyses can be found in the appropriate AWS Specification or from your supplier. *OSHA PEL Value Limits are the same as the TLV unless otherwise listed.

Section III: Physical/Chemical Characteristics

Boiling Point, 760 mm Hg: Melting Point 1125-1365°F
Flow Point: 1175-1370

Specific Gravity @ 20 C/20 C: 9.49

Solubility in Water, % by Wt: Negligible

Appearance and Odor: Silver alloy metal rod or wire.

Section IV: Fire & Explosion Hazard Data

Non-flammable. Welding arc and sparks can ignite combustible and flammable products. See ANSI Z49.1 "Safety in Welding & Cutting" (referenced in Section VII) for fire prevention and protection information.

Special Fire Fighting Procedures: At high temperatures this alloy could melt and continuous heating could produce metal vapor.

Section V: Reactivity Data

Hazardous Decomposition Products

Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedures, and electrodes used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating, or galvanizing), the number of welders and the volume of the work area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities).

When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section II. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in Section II, plus those from the base metal and coating, etc., as noted above.

Reasonably expected fume constituents of this product would include: Primarily Oxides Of Silver; Secondly Oxides Of Copper, Tin, Zinc, And Nickel. Conditions to avoid: avoid overheating while brazing to minimize zinc vaporization. Hazardous decomposition or byproducts: zinc vapors while brazing. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by radiation from the arc.

One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample inside the welder's helmet if worn or in the worker's breathing zone. See ANSI Z49.1 for methods for sampling fumes and gases.

American Welding Society, P.O. Box 351040, Miami, FL 33135.

Section VI: Health Hazard Data

Threshold limit value: The ACGIH 1984-85 recommended limit for welding fume, not otherwise classified (NOC) is 5 mg/m³.

TLV-TWA's should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations. See Section V for specific fume constituents which may modify this TLV-TWA.

Fumes & gases can be dangerous to your health. Primary route of entry is by inhalation. Pre-existing medical conditions: Individuals with impaired respiratory function may have symptoms worsened by exposure to welding fumes. Short term (acute) overexposure to zinc vapors when heated form zinc oxide when inhaled can cause habituation which you become immune to. Long term (chronic) overexposure to welding fumes can lead to siderosis (iron deposits in lung) and affect pulmonary function. Arc rays can injure eyes and burn skin. Heat rays (infrared radiation from flame or hot metal) can injure eyes. Electric shock can kill. NOISE can damage hearing. Carcinogenic assessment: nickel must be considered a possible carcinogen under OSHA 29CFR1910.1200. IARC has indicated that nickel and certain of its compounds are probably carcinogenic for humans, but the compounds cannot be specified precisely. These conclusions were drawn from operations different from welding. Regardless, exposure level must be kept below those levels specified in Section II.

Emergency first aid procedures: Call for medical aid. Employ first aid techniques recommended by the American Red Cross. If breathing is difficult, give oxygen. Call a physician. In case of electrical shock disconnect and turn off power. If not breathing, begin artificial respiration, preferably mouth-to-mouth. If no detectable pulse, begin external heart massage. Immediately call a physician. In case of arc burn call a physician.

Section VII: Precautions for Safe Handling and Use

Read and understand the manufacturer's instructions and the precautionary label on the product. See American National Standard Z49.1. Safety in Welding and Cutting, published by the American Welding Society, P.O. Box 351040, Miami, FL 33135; OSHA Publication 2206 (29CFR1910), U.S. Government Printing Office, Washington, D.C. 20402; for more details on many of the following:

Ventilation: Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases below TLV's in the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes. Use respirable fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below TLV. Select as per OSHA 29 CFR 1910.134. Eye protection: Wear helmet or use face shield with filter lens. As a rule of thumb, start with a shade that is too dark to see the weld zone and then go the next lighter shade (See ANSI Z49.1). Provide protective screens and flash goggles, if necessary, to shield others.

Protective clothing: Wear hand, head, and body protection which help to prevent injury from radiation, sparks, and electrical shock. See ANSI Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.

Waste disposal: Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal, state, and local regulations. Material has reclaim value as scrap due to silver and copper content.

Aufhauser Brothers Corporation requests the users of this product to study this Material Safety Data Sheet (MSDS) and become aware of product hazards and safety information. To promote safe use of this product a user should (1) notify its employees, agents and contractors of the information on this MSDS and any product hazards and safety information, (2) furnish this same information to each of its customers for the product, and (3) request such customers to notify their employees and customers for the product of the same product hazards and safety information.

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.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising from the use of this product.