

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Auralloy 620 (Easy-Flow Aluminum Alloy Wire)
AURALLOY PART NUMBER: 8750 - 8752
PRODUCT TYPE: Aluminum Bare Welding Wire
CHEMICAL FAMILY: N/A

DATE PREPARED: January 2000

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2. COMPOSITION / INFORMATION ON INGREDIENTS

IMPORTANT: Welding electrodes are a nonhazardous solid at ambient temperatures. This section covers the materials from which products are manufactured. The fumes and gases produced while welding during normal use of these products are covered in Sections III and VI

CHEMICAL NAME	OSHA PEL	ACGIH TLV	STEL	CAS#
Chromium (VI) (Soluble)*	N/D	0.05 mg/m ³	0.10 mg/m ³	7440-47-3
Nickel*	0.10 mg/m ³	0.10 mg/m ³	N/D	7440-02-0
Aluminum (Welding Fume)	5.00 mg/m ³	5.00 mg/m ³	N/D	7429-90-5
Titanium (Dioxide)*	15.0 mg/m ³	10.0 mg/m ³	N/D	13463-67-7
Manganese (Fume)*	1.00 mg/m ³	1.00 mg/m ³	3.00 mg/m ³	7439-96-5
Magnesium (Oxide Fume)	15.0 mg/m ³	10.0 mg/m ³	N/D	1309-48-4
Iron (Oxide Dust & Fume)	10.0 mg/m ³	5.00 mg/m ³	N/D	1309-37-1
Zinc (Fume)*	5.00 mg/m ³	5.00 mg/m ³	N/D	1314-13-2
Zirconium	5.00 mg/m ³	5.00 mg/m ³	N/D	7440-67-7
Silica (Amorphous Silica, Fused)	0.10 mg/m ³	0.10 mg/m ³	N/D	60676-86-0
Copper (Fume)	0.10 mg/m ³	0.20 mg/m ³	N/D	7440-50-8
Welding Fume	5.00 mg/m ³	5.00 mg/m ³	N/D	NOC

*Substance identified by other sources as suspected or confirmed human carcinogen

* An asterisk (*) indicates the toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and 40 CFR 372.

3. HAZARDS IDENTIFICATION

EFFECTS OF CHRONIC (LONG TERM) OVEREXPOSURE: Overexposure to air contaminants may lead to their accumulation in the lungs, a condition which may be seen as dense areas on chest x-rays. The severity of the change is proportional to the length of the exposure. The changes seen are not necessarily associated with symptoms or signs of reduced lung function or disease. In addition, the changes on x-rays may be caused by non-work factors such as smoking, etc. Nickel and chromium are considered carcinogenic. Long term overexposure to nickel fumes may also cause pulmonary fibrosis and edema. Overexposure to manganese compounds may affect the central nervous system, symptoms of which are languor, sleepiness, muscular weakness, emotional disturbances and spastic gait. **Exposure limits** for the ingredients are listed in Section II. The 1989 OSHA TWA for welding fume 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 excessive concentrations. When these products are used as recommended and the preventive measures taught in this MSDS are followed, overexposure to hazardous substances will not occur.

Electric arc working may create one or more of the following health or physical hazards. Fumes and gases can be dangerous to your health. Electric shock can kill you. Arc rays can injure eyes and burn skin. Noise can damage hearing.

ROUTE OF OVEREXPOSURE: The primary route of entry of the decomposition products is by inhalation. Skin contact, eye contact, and ingestion are possible. Absorption by skin contact is unlikely. When these products are used as recommended and ventilation maintains exposure to the decomposition products below the limits recommended in this section, overexposure is unlikely.

EFFECTS OF ACUTE (SHORT TERM) OVEREXPOSURE to the gases, fumes and dusts may include irritation of the eyes, lungs, nose and throat. Some toxic gases associated with welding may cause pulmonary edema, asphyxiation and death. Acute overexposure may include signs and symptoms such as watery eyes, nose and throat irritation, headache, dizziness, difficulty in breathing, frequent coughing, or chest pain. The presence of chromium/chromate in fume can cause irritation of nasal membranes and skin. The presence of nickel compounds in fume can cause metallic taste, nausea, tightness of chest fever and allergic reaction.

PRE-EXISTING MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Individuals with allergies or impaired respiratory function may have symptoms worsened by exposure to welding fumes. However, such reaction cannot be predicted due to the variation in composition and quantity of the decomposition products.

4. FIRST AID MEASURES

EMERGENCY FIRST AID PROCEDURES:

INHALATION: If breathing is difficult, give oxygen and call for a physician. For electric shock, disconnect and turn off the power. If not breathing, begin artificial respiration, preferably mouth-to-mouth. If no detectable pulse, begin Cardio Pulmonary Resuscitation (CPR). Immediately call a physician.

INGESTION: In case of emergency, call for medical aid. Employ first aid techniques recommended by American Red Cross.

SKIN CONTACT: For arc burn, apply cold, clean compresses and call a physician.

EYE CONTACT: Call for medical aid. Employ first aid techniques recommended by American Red Cross.

5. FIRE FIGHTING MEASURES

FLASH POINT (METHOD USE): None **FLAMMABLE LIMITS: LEL** None **UEL** None

EXTINGUISHING MEDIA: Only the packaging for this product will burn. This alloy is noncombustible. However, welding arcs and sparks can ignite combustible and flammable materials. Use extinguishing media appropriate to the surrounding fire.

FIRE FIGHTING PROCEDURES: If this material is reduced to powder form, caution must be used to prevent fire or explosion. To extinguish a metal powder fire, use dry sand, dry graphite or other class "D" fire extinguishing powder.

UNUSUAL AND EXPLOSION HAZARDS: No unusual fire or explosion hazards are associated with this material.

6. ACCIDENTIAL RELEASE MEASURES

SPILLS OR LEAKS: No data available

7. HANDLING AND STORAGE

SPECIAL PRECAUTIONS: Read and understand the manufacturer's instructions and the precautionary label on this product. See American National Standard Z-49.1, Safety in Welding and cutting, published by the American Welding Society, P.O. Box 31040, Miami FL 33135 and OSHA Publication 2206 (29CFR 1910), U.S. Government Printing Office, Washington D.C. 20402 for more details.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN: Read and understand the manufacturer's instructions and the precautionary label on this product. See American National Standard Z-49.1, Safety in Welding and Cutting, published by the American Welding Society, P.O. Box 351040, Miami, FL 33135 and OSHA Publication 2206 (29CFR 1910), U.S. Government Printing Office, Washington D.C. 20402 for more detail on the following:

RESPIRATORY: 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.

SKIN PROTECTION: Wear head, hand and body protection which help to prevent injury from radiation, sparks and electrical shock. See ANSI Z-49.1. At a minimum this includes welder's gloves 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.

EYE PROTECTION: Wear helmet or use face shield with filter lens. As a rule of thumb, start with a shade which is too dark to see the weld zone. Then go to the next lighter shade which gives sufficient view of the weld zone. Provide protective screens and flash goggles, if necessary, to shield others.

VENTILATION: Use enough ventilation, local exhaust at the arc or both, to keep the fumes and gases below the PEL's, TLV'S, or STEL's in the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: N/A

VAPOR DENSITY (AIR = 1): N/A

SOLUBILITY IN WATER: Not Soluble

PERCENT VOLATILE BY VOLUME: N/A

APPEARANCE & ODOR: Solid wire or rod, odorless and grey to silver in color

PRODUCT WEIGHT: N/D

SPECIFIC GRAVITY (H₂O = 1): N/D

MELTING POINT: N/D **pH:** N/A

EVAPORATION RATE: N/A

FORM: Solid **VOLATILE COMPONENTS:** N/A

10. STABILITY AND REACTIVITY

STABILITY: SEE ATTACHED SUPPLEMENT

CONDITIONS TO AVOID: SEE ATTACHED SUPPLEMENT

HAZARDOUS POLYMERIZATION: SEE ATTACHED SUPPLEMENT

INCOMPATIBILITY (MATERIALS TO AVOID): SEE ATTACHED SUPPLEMENT

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: SEE ATTACHED SUPPLEMENT

11. TOXICOLOGICAL INFORMATION

EYE: No data available. **SKIN:** No data available. **INGESTION:** No data available. **INHALATION:** No data available.

CARCINOGENIC ASSESSMENT (NTP Annual Report, IARC Monographs, Other): Nickel and Chromium must be considered possible carcinogens under OSHA (29CFR1910.1200). IARC has indicated Nickel, Chromium and certain of their compounds are probably carcinogenic for humans, but the compounds cannot be specified precision. Their conclusions were drawn from operations different from welding. Regardless, exposure level must be kept below those levels specified in Section II.

TERATOLOGY: No data available.

REPRODUCTION: No data available.

MUTAGENICITY: No data available.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: No data available.

CHEMICAL FATE INFORMATION: No data available.

13. DISPOSAL CONSIDERATIONS

RCRA HAZARD CLASS: No data available

WASTE DISPOSAL METHOD: Prevent waste from contaminating surrounding environment. Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with Federal, State and Local regulations.

14. TRANSPORT INFORMATION

TRANSPORTATION REQUIREMENTS (49CFR172-101)

D.O.T. CLASSIFICATION: Not regulated

D.O.T. SHIPPING NAME: Not regulated

15. REGULATORY INFORMATION

EXPOSURE LIMITS: No data available.

16. OTHER INFORMATION

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in this MSDS. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

N/D — NOT DETERMINED N/A — NOT APPLICABLE N/R — NOT REGULATED

Conforms to 29 CFR 1910.1200, OSHA

ANSI Z129.1 - 1988 American National Standard for Hazardous Industrial Chemicals