



MATERIAL SAFETY DATA SHEET

MAY BE USED TO COMPLY WITH OSHA'S HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200 AND SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) OF 1986 PUBLIC LAW 99-499. STANDARD SHOULD BE CONSULTED FOR SPECIFIC REQUIREMENTS.

SECTION I (IDENTIFICATION)

**MANUFACTURER/
SUPPLIERS NAME:** Amtec Welding Products, Inc.
2800 Capital Street
Wylie, TX 75098

EMERGENCY PHONE:
(800) 223-5712

PRODUCT NAME Amtec 1028FC

PRODUCT CLASSIFICATION: BRAZING FILLER ALLOY

SECTION II (HAZARDOUS INGREDIENTS/IDENTITY INFORMATION)

IMPORTANT: This section covers the materials from which these products are manufactured. The fumes and gases produced during normal use of these products are covered in Section V. The term "Hazardous" in "Hazardous Ingredients" should not be interpreted as a term required and defined in OSHA Hazard Communication Standard (29 CFR Part 1910.1200). The chemicals or compounds subject to reporting under Title III, in Section 313, of the Superfund Amendments and Reauthorization Act (SARA) are marked by the symbol #. If flux coated:

WARNING: This product contains or produces a chemical known to the State of California to cause birth defects (or other reproductive harm) and cancer. (California Health & Safety Code 25249.5 et seq.)

INGREDIENTS	CAS NUMBER	EXPOSURE LIMIT (mg/m ³)		Weight PERCENT INGREDIENTS
		OSHA PEL	ACGIH-TLV	
<u>BARE</u>				
Copper #	7440-50-8	0.1	0.2	40 - 70
Zinc #	7440-66-6	5	5	Balance
Manganese #	7440-96-5	5 (ceiling)	0.2	0.1 - 1.0
Iron	7439-89-6	10	5	0.1 - 1.1
<u>FLUX COATING</u>				
Boric acid	1303-86-2	5	10	
Borates	1330-43-4	n.a.	1	50 % ceiling
Toluene #	108-88-3	100 ppm	50 ppm	10 % ceiling

Remaining ingredients non hazardous binder

The balance of ingredients in the flux coating are proprietary and claimed as trade secret.

SECTION III (PHYSICAL DATA) - NOT APPLICABLE

SECTION IV (FIRE AND EXPLOSION HAZARD DATA)

Non-Flammable: Welding arc and sparks can ignite combustibles. Refer to American National Standard Z49.1 for fire prevention during welding/brazing. Rating under National Fire Protection 704: Health, 1; Flammability, 0; Reactivity, 0.

SECTION V (REACTIVITY DATA) STABILITY: Stable

CONDITIONS TO AVOID: None

INCOMPATIBILITY (conditions to avoid): None

HAZARDOUS POLYMERIZATION: Will not occur.

Brazing fumes cannot be classified simply. The composition and quantity of both are dependent upon the metal being brazed, the process, procedure, and the filler material 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 brazed (such as paint, plating, or galvanizing), the number of workers and the volume of the work are, the quality and the amount of ventilation, position of the workers' 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 material is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section II. Fume and decomposition products, not the ingredients in the flux, are important. Decomposition products include those originating from the volatilization, reaction, or oxidation of materials in Section II, plus those from the base metal and coating, etc., as noted above. These components are virtually always present as complex oxides and not as metals (Characterization of Arc Welding Fume: American Welding Society).

Monitor fume levels. 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 workers' face shield, if worn, or in the worker's breathing zone (See ANSI/AWS F1.1 available from the "American Welding Society" P.O. Box 351040, Miami, FL 33135).

The table below lists some of the reasonably expected fumes that would be generated:

<u>SUBSTANCE</u>	<u>CAS No.</u>	<u>EXPOSURE LIMIT (mg/m³)</u>	
		<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Zinc oxide #	1314-13-2	5	5
Copper #	7440-50-8	0.1	0.2

Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may also be formed by radiation from the arc. Monitor fume levels. The limit for general welding fumes not otherwise classified is 5 mg/m³. 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/AWS F1.1 available from the "American Welding Society" P.O. Box 351040, Miami, FL 33135).

SECTION VI (HEALTH HAZARD DATA)

Threshold Limit Value: The ACGIH and OSHA have set the exposure level for welding fumes at 5 mg/m³. The ACGIH 1984-85 preface states: "The TLV-TWA should be used as guides in the control of health hazards and should not be used as firm lines between safe and dangerous concentrations." See Section V for specific fume constituents which may modify the TLV.

Effects of Over Exposure: Electric arc welding may create one or more of the following health hazards:

FUMES AND GASES can be dangerous to your health. **PRIMARY ROUTES OF ENTRY** are the respiratory system, eyes, and or/skin. **PREEXISTING** respiratory or allergic conditions may be aggravated in some individuals. **SHORT TERM (ACUTE) OVEREXPOSURE** to welding fumes may result in discomfort such as dizziness, nausea, or dryness or irritation of nose, throat, or eyes. **LONG TERM (CHRONIC) OVEREXPOSURE** may lead to siderosis (iron deposits in lungs) and is believed by some investigators to affect pulmonary functions. **PRIMARY ROUTE OF ENTRY** is the respiratory system. **WELDING FUMES:** Welding fumes (not otherwise classified) are considered to be carcinogenic defined with no further categorization by NIOSH. **ARC RAYS** can injure eyes. **ELECTRIC SHOCK** can kill. See Section VII. If flux coated:

WARNING: This product contains or produces a chemical known to the State of California to cause birth defects (or other reproductive harm) and cancer. (California Health & Safety Code 25249.5 et seq.)

Emergency & First Aid Procedures: Call for medical aid. Employ first aid techniques recommended by The American Red Cross.

SWALLOWING: Call a physician or your poison control center at once. Advise of Section II. **SKIN:** Wash thoroughly with water to remove all residue. If a rash develops, call a physician. **INHALATION:** Remove to fresh air. **EYES:** Flush with water for at least 15 minutes to remove all residue. Get medical attention immediately.

<u>Carcinogenicity</u>	<u>NTP</u>	<u>NIOSH</u>	<u>IARC Monographs</u>	<u>OSHA Regulated</u>
When Present		Welding Fumes (n.o.c.)		

SECTION VII (PRECAUTION FOR SAFE HANDLING AND USE/APPLICABLE CONTROL MEASURES)

Read and understand the manufacturer's instructions and precautionary label on this 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 and OSHA Publication 2206 (29CFR 1910), U.S. Government Printing Office, Washington, D.C. 20402 for more detail on the following:

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

Respiratory Protection: 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.

Eye Protection: Wear a helmet or face shield with a filter lens. As a rule of thumb, start with a shade darker to see the weld zone. Then go to the next lighter shade which gives sufficient view of the weld zone. Provide screens and flash goggles to shield others.

Protective Clothing: Wear head, hand, and body protection which help to prevent injury from radiation, sparks, and electrical shock. See ANSI Z49.1. At a minimum, this includes welders' gloves and a protective face shield and may include arm protectors, aprons, hats, shoulder protection, and any other equipment used in soldering operations as to prevent any contact.

Waste: Dispose of any grinding dust and waste residues in accordance with EPA or local regulations. If material is spilled or released, contain spillage, absorb, sweep up, dispose. For core, wash with water to a chemical sewer.

Storage: Store in dry conditions, ambient temperatures.

Wash thoroughly after handling to remove all residue. Remove and professionally wash contaminated clothing before reuse.

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