



Trade Name: Ferroweld  
Sizes: All  
Date: September 23, 1985

88960 + 88961

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Effects of Overexposure **SECTION IV — HEALTH HAZARD DATA continued**

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

Fumes and Gases can be dangerous to your health. Common entry is by inhalation.

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) over-exposure to welding fumes can lead to siderosis (iron deposits in lung) and affect pulmonary function.

Arc Rays can injure eyes and burn skin.  
Electric Shock can kill.

Emergency and First Aid Procedures: Call for medical aid. Employ first aid techniques recommended by the American Red Cross. IF BREATHING IS DIFFICULT give oxygen. IF NOT BREATHING employ CPR (Cardiopulmonary Resuscitation) techniques. IN CASE OF ELECTRICAL SHOCK, turn off power and follow recommended treatment. In all cases call a physician.

**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, procedure 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 iron oxide; secondarily complex oxides of manganese, potassium, silicon and sodium.

Maximum fume exposure guideline for this product is  $5.0 \text{ mg/m}^3$ .

Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the 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 from inside the welder's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1 "Method for Sampling Airborne Particles Generated by Welding and Allied Processes," available from the American Welding Society, 550 N.W. LeJeune Road, Miami, Florida 33126.

**SECTION VI AND VII — CONTROL MEASURES AND 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, 550 N.W. LeJeune Road, Miami, Florida, 33126 and OSHA Publication 2206 (29CFR1910), U.S. Government Printing Office, Washington, D.C. 20402 for more detail on many of the following:

**Ventilation**

Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases from the worker's 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 general work area when local exhaust or ventilation does not keep exposure below TLV.

**Eye Protection**

Wear helmet or use face shield with filter lens shade number 12 or darker. Shield others by providing screens and flash goggles.

**Protective Clothing**

Wear hand, head, and body protection which help to prevent injury from radiation, sparks, and electrical shock. See 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 permit electrically live parts or electrodes to contact skin... or clothing or gloves if they are wet. Insulate from work and ground.

**Disposal Information**

Discard any product, residue, disposable container, or liner as ordinary waste in an environmentally acceptable manner unless otherwise noted.