

U.S. DEPARTMENT OF LABOR  
Occupational Safety and Health AdministrationForm Approved  
OSHA No. 44-81387**MATERIAL SAFETY DATA SHEET**Required under USDL Safety and Health Regulations for Ship Repairing,  
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

## SECTION I

MANUFACTURER'S NAME THERMACOTE-WELCO COMPANY		EMERGENCY TELEPHONE NO. 704-739-6421
ADDRESS HWY. 161, YORK ROAD P.O. BOX 112 KINGS MOUNTAIN, NORTH CAROLINA 28086		
CHEMICAL NAME AND SYNONYMS BRAZING ROD		TRADE NAME AND SYNONYMS WELCO 170 - 170FC
CHEMICAL FAMILY	FORMULA	

PHYSICAL DATAMelting Point: 1600 - 1900<sup>o</sup>F

Specific Gravity: 8.3 - 8.5 g/cc

Boiling Point: N.A.

Vapor Pressure: N.A.

The product is silver or yellow to red solid at room temperatures and exhibits no odor. The metallic rod is insoluble in water.

CHEMICAL COMPOSITION

170-170FC may contain any or all of the chemical constituents listed below:

	<u>CAS No.</u>	<u>Range (%)</u>	<u>8 Hr. TWA</u>
Copper	7440-50-8	44 - 97	1 mg/M <sup>3</sup> dust 0.1 mg/M <sup>3</sup> fume
Zinc	7440-66-6	0 - 45	5 mg/M <sup>3</sup> oxide
Iron	7439-89-6	0 - 1.5	10 mg/M <sup>3</sup>
Manganese	7439-96-5	0 - 1.5	1 mg/M <sup>3</sup>
Nickel	7440-02-0	0 - 13	1 mg/M <sup>3</sup>
Silicon	7440-21-3	0 - 3.5	10 mg/M <sup>3</sup>
Tin	7440-31-5	0 - 3	2 mg/M <sup>3</sup>
Silver	7440-22-4	0 - 0.7	0.01 mg/M <sup>3</sup>

The constituents of the flux coating do not meet the reportable quantities under OSHA 1910.1200, Hazard Communications Standard.

STORAGE, FIRE & REACTIVITY DATA

Flash Point: N.A.

Auto ignition Temp.: N.A.

Flammability Limits: N.A.

There are no fire or explosion hazards with these alloys. Never use water as an extinguishing agent around molten metal. Water will react violently with any molten metal.

The alloy is a stable, nonhazardous solid at room temperatures. Material may react with acids, bases, or oxidizers.

Material does not present a significant health hazard under normal handling and storage conditions.

## HEALTH HAZARD DATA

Use of this product in fume producing operations (welding or brazing) can result in exposure to airborne metal particulates or fume. The exposure levels in Section II are relevant to fumes and dusts. Consult the latest NIOSH requirements and American National Standard Z49.1 "Safety in Welding and Cutting."

Primary routes of exposure are inhalation of fumes, gases or particulates and ingestion of particulates. Absorption through the skin is not likely.

Chronic exposure to copper, zinc and manganese may cause metal fume fever. Symptoms of metal fume fever include fever, fatigue, dryness of throat, head and body ache, and chill. Chronic exposures may affect the central nervous system leading to emotional disturbances, gait and balance difficulties and paralysis. Overexposure to copper may result in skin and hair discoloration. Nickel has been identified as a potential cancer causing agent. Prolonged exposure to silver may produce a greyish-blue discoloration of the skin.

The product will not irritate the skin or eyes in bulk form. Particulates may cause dermatitis due to mechanical irritation.

### First Aid:

Ingestion: Ingestion of significant amounts of copper alloy are unlikely. Seek medical help if large quantities of product are ingested.

Inhalation: Remove from exposure to dust or fume if present. Seek medical help if required.

Skin Contact: Wash thoroughly with soap and water.

Eye Contact: Flush with water for at least 15 minutes. Seek medical help if required.

## SPILL PROCEDURES

Product is a non-hazardous solid. No special precautions are required for spills of bulk material. Scrap metal can be reclaimed for reuse. Follow Federal, State and Local regulations regarding disposal.

## SPECIAL PROTECTION INFORMATION

Always use eye protection equipment during welding or brazing operations. Welding may produce fumes and gases hazardous to human health. Avoid breathing these fumes or gases. Use adequate ventilation.

Refer to latest NIOSH requirements and American National Standard Z49.1 "Safety in Welding and Cutting."

## SPECIAL PRECAUTIONS AND COMMENTS

Wet material should never be charged into a molten bath.

Wash hands thoroughly after use, especially before eating, drinking or smoking.

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 out of or in any way connected with the handling, storage, use or disposal of the product.

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Completed by: Michael J. Pardus  
Telephone No.: 814-355-6212

Title: Asst. Chief Chemist

Date: 12 Nov. 1985

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