

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:** **EUTECTIC CORPORATION**
N94 W14355 Garwin Mace Drive
Menomonee Falls, WI 53051 USA

TELEPHONE NUMBER:
1-800-558-8524

PRODUCT NAME: **THERMOTEC 18929**

PRODUCT CLASSIFICATION: **Thermal Spray Powder**

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 only be interpreted as a term required and defined in OSHA Hazard Communication Standard (29 CFR Part 1910.1200), but also as defined by other regulatory agencies. 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 #.

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	Exposure Limit (mg/m³)		Percent Ingredients by Weight
	NUMBER	OSHA PEL	ACGIH-TLV	
Aluminum Oxide #	1344-28-1	10	10	60 – 100
Titanium Oxide	13463-67-1	15	10	10 – 30

SECTION III (PHYSICAL DATA) - POWDER - NO ODOR.**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. These products as shipped are non-hazardous, nonflammable, non-explosive, and non-reactive.
Rating under National Fire Protection 704: Health, 1; Flammability, 0; Reactivity, 0

SECTION V (REACTIVITY DATA)

Welding and spray powder fumes cannot be classified simply. The composition and quantity of both are dependent upon the metal being sprayed, the process, procedure, and the powder 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 coated (such as paint, plating, or galvanizing), the number of workers spraying and the volume of the work area, the quality and the amount of ventilation, position of the worker'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 powder 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 powder, 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). Reasonably expected fume constituents of the fume could include: complex oxides of titanium and aluminum.

Gaseous reaction products may include carbon monoxide and carbon dioxide. Monitor fume levels. The fume limit for general welding fumes is 5 mg/m³. Monitor fume levels. One recommended way to determine the composition and quantity of fumes and gas 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 (TLV): The ACGIH recommended general limit for welding fume NOS (not otherwise specified) is 5 mg/m³. The ACGIH 1999 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 that may modify the TLV.

EFFECTS OF OVEREXPOSURE - 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. Other possible routes are eyes, ingestion, and/or skin contact.

PREEXISTING respiratory or allergic conditions may be aggravated in some individuals (i.e. asthma, emphysema).

SHORT TERM (ACUTE) OVEREXPOSURE to welding fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat, or eyes. **PRIMARY ROUTE OF ENTRY** is the respiratory system.

LONG TERM (CHRONIC) OVEREXPOSURE is believed by some investigators to affect pulmonary functions. **PRIMARY ROUTE OF ENTRY** is the respiratory system. **TITANIUM DIOXIDE:** Long term exposure to dust may result to mild fibrosis (scarring of the lungs).

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

INHALATION: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, begin artificial respiration. If no detectable pulse, begin external heart massage.

SKIN: Wash affected area with soap and water.

EYES: Flush with a large amount of fresh water for at least 15 minutes.

INGESTION: Seek medical help.

CARCINOGENICITY

WELDING FUMES (not otherwise specified) are considered to be carcinogenic defined with no further categorization by NIOSH and IARC.

TITANIUM DIOXIDE is listed as being unclassifiable as to Carcinogenicity in humans by IARC and is listed by NIOSH as being a potential occupational carcinogen (with no further categorization).

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: A respirator approved by NIOSH with filter cartridges approved for dust/fumes/mists should be worn at all times during any thermal spray process to protect operators from exposure to dust and fumes where ventilation is not adequate. Respirators may also be worn when product handling generates dust.

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: Utilize NIOSH approved eye protection devices.

Protective Clothing: Wear head, hand, and body protection to help prevent injury from skin contact and possible dermatitis. See ANSI Z49.1. At a minimum, this includes gloves and a protective face shield.

Storage/Handling: Product should be stored in a well ventilated, clean, cool and dry area. Store in a manner to minimize punctures and breakage of containers.

Waste: Dispose of any grinding dust and waste residues in accordance with EPA or local regulations. Product may be recycled.

Exposure limits are subject to change. Contact ACGIH, OSHA, NIOSH, and IARC for current values.

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