

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
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PRODUCT NAME: Solution 103

PRODUCT CLASSIFICATION: Chemical Aid

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.)

<u>INGREDIENTS</u>	<u>CAS NUMBER</u>	<u>Exposure Limit (mg/m³)</u>		<u>Percent Ingredients (by weight)</u>
		<u>OSHA PEL</u>	<u>ACGIH-TLV</u>	
Titanium Dioxide	13463-67-7	15	10	10 – 30
Water	7732-18-5	Not Listed	Not Listed	15 – 40
Calcium Carbonate	1317-65-3	5	10	15 – 40
Silicon Dioxide	14808-60-7	**	0.05	3 – 7
Talc	14807-96-6	20 mppcf	2	3 – 7
Ethylene Glycol #	107-21-1	Not Listed	100 (ceiling)	1 – 5

** 10 mg/m³ / (% SiO₂ + 2)

mppcf = millions of particles per cubic foot of air

SECTION III (PHYSICAL DATA/USE)

Chemical Aid - a compound that can be brushed on and used as a stop-off during brazing and/or soldering or as a barrier when thermal spraying.

SECTION IV (FIRE AND EXPLOSION HAZARD DATA)

Non-Flammable: Brazing and thermal spraying 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. Flash Point: not applicable
Rating under National Fire Protection 704: Health, 2; Flammability, 0; Reactivity, 0.

SECTION V (REACTIVITY DATA)

Welding / spraying fumes cannot be classified simply. The composition and quantity of both are dependent upon the metal being worked on, the process, procedure, and the products 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 worked on (such as paint, plating, or galvanizing), the number of workers 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 used as intended, as the alloy or powder is consumed, 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 product, 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). See the Material Safety Data Sheet for the product that is being used in conjunction with the Solution 103.

When brazing or flame spraying, the gaseous reaction products may include carbon monoxide and carbon dioxide. 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 in the worker's breathing zone (see ANSI/AWS F1.1, F1.2, F1.3, F1.4, and F1.5, available from the "American Welding Society," 550 N.W. LeJeune Road, Miami, FL 33126).

SECTION VI (HEALTH HAZARD DATA)

Threshold Limit Value: 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 - Thermal spraying, soldering, and brazing 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 / brazing / spraying fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat, or eyes. Symptoms to overexposure to ethylene glycol include irritation to eyes, skin, nose, throat, nausea vomiting, abdominal pain, lassitude (weakness, exhaustion), dizziness, stupor, convulsions, central nervous system, depression, and skin sensitization. Renal failure and brain injury may result. **PRIMARY ROUTES OF ENTRY** are the respiratory system. Other possible routes are eyes, ingestion, and/or skin contact.

LONG TERM (CHRONIC) OVEREXPOSURE to ethylene glycol may effect the central nervous system and eyes. **PRIMARY ROUTES OF ENTRY** are the respiratory system. Other possible routes are eyes, ingestion, and/or skin contact.

See Section VII for precautions.

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 Cardiopulmonary Resuscitation. (CPR). Call for medical aid.

SKIN: Wash affected area with soap and water. If rash develops, see a physician.

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

INGESTION: Seek medical attention.

CARCINOGENICITY

SILICON DIOXIDE - is listed as being carcinogenic to humans on IARC and NTP lists, and is listed by NIOSH as being a potential occupational carcinogen (with no further categorization).

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).

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

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," 550 N.W. LeJeune Road, Miami, FL 33126 and OSHA Publication 2206 (29CFR 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 for more detail on the following:

Ventilation: Use enough ventilation, local exhaust at the work area, or both, to keep the fumes and gases below the TLV's in the workers breathing zone and the general area. Train the worker to keep his head out of the fumes. Monitor fume levels and do not exceed permissible exposure limits or values.

Respiratory Protection: Use respirable fume respirator or air supplied respirator when welding in a confined space or where local exhaust or ventilation does not keep exposure below the TLV's.

Eye Protection: Wear appropriate eye protection for process being done. Wear appropriate chemical safety goggles and face shield when handling fluxes and chemical aids.

Protective Clothing: Wear appropriate head, hand, and body protection for process being done. Wear protective gloves when handling Solution 103.

Waste: Dispose of waste residues in accordance with EPA or local regulations. Plastic containers and cardboard packaging can be recycled.

Storage: Keep material sealed before use. After use, keep container closed and sealed. Store at ambient temperature. Keep from freezing and keep this product away from children.

SUPPLEMENTAL INFORMATION

IARC: International Agency for the Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

NIOSH: National Institute for Occupational Safety and Health

NTP: National Toxicology Program

PEL: Permissible Exposure Limit

OSHA: U.S. Occupational Safety and Health Administration

TLV: Threshold Limit Value

CAS: Chemical Abstracts Service Registry Number

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

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