

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 1: PRODUCT AND COMPANY IDENTIFICATION

NAME OF PRODUCT: SOLUTION 103
SYNONYMS: Eutectic 103 Solution
PRODUCT CODES: X103-567G

**MANUFACTURER/
SUPPLIER:** EUTECTIC CORPORATION
N94 W14355 GARWIN MACE DRIVE
MENOMONEE FALLS, WI 53051 USA

TELEPHONE NUMBER (262) 532-4677
FAX NUMBER: (262) 255-5542
EUTECTIC WEBSITE: www.eutectic.com

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night:

Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

PRODUCT 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 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Chemically stable and inert. Does not pose a fire hazard as shipped. **Non-Flammable:** Flames used for brazing and 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. In case of fire, use NIOSH/MSHA self contained breathing apparatus.

ROUTES OF ENTRY: Primary route of entry is the respiratory system. Other possible routes are eyes, ingestion, and/or skin contact.

POTENTIAL HEALTH EFFECTS:

EYES: Inert foreign body hazard only.
SKIN: Rashes/irritations due to contact may occur. Spatter and flames from brazing and welding may cause burns.
INGESTION: Danger of damage to health if swallowed.
INHALATION: Danger of damage to health by prolonged exposure through inhalation.

ACUTE HEALTH HAZARDS: see Section 11

CHRONIC HEALTH HAZARDS: see Section 11

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.).

WARNING: avoid breathing welding fumes and gases; they may dangerous to your health. Always use adequate ventilation and use appropriate personal protection equipment.

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**.

Package Labeling:

Although this product does not require a hazard warning label in all countries, we recommend that the safety advice should be observed:

Pictogram: GHS-07



Harmful if swallowed

Hazard Statements:

H317 May cause an allergic skin reaction

Precautionary Statements

P285 In case of inadequate ventilation wear respiratory protection.

P314 Get medical advice/attention if you feel unwell.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P501 Dispose of contents/container to waste treatment facility in accordance with local and national regulations.

SECTION 2 NOTES: Before using this product, contact your doctor to determine if exposure to product or use of this product will aggravate your medical conditions. Spatter and flames from brazing and welding may cause burns and start fires.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

IMPORTANT: This section covers the materials from which these products are manufactured. Any of 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 #.

Exposure Limit (mg/m³)

INGREDIENTS	CAS NUMBER	OSHA PEL	ACGIH-TLV	Percent Ingredients (by weight)
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

CAS / EINECS NUMBER / HAZARD CLASSIFICATION FOR ABOVE INGREDIENTS

INGREDIENTS	CAS NUMBER	EINECS NUMBER	Hazard Classification per ECD 67/548/EEC
Titanium Dioxide	13463-67-7	236-675-5	No
Water	7732-18-5	231-791-2	No
Calcium Carbonate	1317-65-3	215-279-6	No
Silicon Dioxide	14808-60-7	238-878-4	No
Talc	14807-96-6	238-877-9	No
Ethylene Glycol #	107-21-1	203-473-3	Xn; R22

SECTION 3 NOTES: Exposure limits are subject to change. Contact ACGIH and OSHA for current values. See Section 16 for European Council Directive 67/548/EEC R-phrases and S-phrases

SECTION 4: FIRST AID MEASURES

EMERGENCY & FIRST AID PROCEDURES: Call for medical aid and inform them of the ingredients from Section 3. Employ first aid techniques recommended by The American Red Cross.

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

SKIN: Wash affected area with soap and water to remove solution. If rash develops, see a physician. Get medical attention for irritations that persist.

INGESTION: Seek medical attention immediately.

INHALATION: Remove to fresh air. If breathing is difficult administer oxygen. If breathing has stopped, begin artificial respiration and obtain medical assistance immediately.

GENERAL: Move to fresh air and call for medical aid.

SECTION 4 NOTES: None.

SECTION 5: FIRE FIGHTING MEASURES

Non-Flammable These products as shipped are non-hazardous, nonflammable, non-explosive, and non-reactive. In case of fire, Use NIOSH/MSHA self contained breathing apparatus.

NFPA HAZARD CLASSIFICATION:

Health: 1 Flammability: 0 Reactivity: 0

Other: In case of fire, Use NIOSH/MSHA self contained breathing apparatus.

HMIS HAZARD CLASSIFICATION:

Health: 1 Flammability: 0 Reactivity: 0

In case of fire, Use NIOSH/MSHA self contained breathing apparatus.

EXTINGUISHING MEDIA: Not applicable

SPECIAL FIRE FIGHTING PROCEDURES: In case of fire, Use NIOSH/MSHA self contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

HAZARDOUS DECOMPOSITION PRODUCTS: Overheating may generate a non-toxic nuisance dust.

SECTION 5 NOTES: None

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Absorb with inert material and place in a suitable container for proper disposal.

PERSONAL PRECAUTIONS: Chemical goggles and chemical resistant gloves.

ENVIRONMENTAL PRECAUTIONS: Do not flush residue into waterways.

SECTION 6 NOTES: None

SECTION 7: HANDLING AND STORAGE

HANDLING: Avoid exposure to dust, do not ingest and avoid contact with eyes. Some individuals can develop an allergic reaction to certain materials. Do not breathe fumes. Do not eat, drink, or smoke when using this product. Wash thoroughly after using this product.

STORAGE: Keep material sealed and in the original container before use. After using, keep remaining product sealed and in original (labeled) packaging.

SECTION 7 NOTES: none

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Read and understand the manufacturer's instructions and precautionary label on this product.

ENGINEERING CONTROLS: Proper ventilation **must** be maintained.

VENTILATION: Use enough ventilation, local exhaust at the spray area, or both, to keep the fumes and gases below the TLV's in the workers breathing 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: Do NOT breathe fumes. Use respirable fume respirator or air supplied respirator when brazing / welding / spraying in a confined space or where local exhaust or ventilation does not keep exposure below the TLV's.

EYE PROTECTION: Wear chemical safety goggles to protect against accidental contact.

PROTECTIVE CLOTHING: Wear chemical resistant gloves when using or prolonged contact with skin or repeated contact with skin is likely. Wear hand and body protection to prevent injury. See ANSI Z49.1.

SKIN PROTECTION: Individuals having sensitive skin may find it beneficial to use a barrier cream or moisturizer when excessive or prolonged contact with skin is likely.

WORK HYGIENIC PRACTICES: Professionally wash contaminated clothing before re-use. Food and drink should not be consumed or tobacco products used, nor cosmetics applied in area where exposures are possible.

EXPOSURE GUIDELINES: Use industrial hygiene monitoring equipment to ensure that exposure does not exceed applicable national exposure limits.

EFFECTS OF OVEREXPOSURE - brazing / thermal spraying may create one or more of the following health hazards:

FUMES AND GASES can be dangerous to your health.

PRIMARY ROUTES OF ENTRY is 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).

Welding fumes and fumes from thermal spraying 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 3. 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 3, 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 Safety Data Sheet for the product that is being used in conjunction with the Solution 103.

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.

SECTION 8 NOTES: Exposure limits are subject to change. Contact ACGIH, OSHA, NIOSH, and IARC for current values.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Yellow liquid. Pine smell

pH-Value: n.a.

Changes in the physical state: dries to form a barrier shell

Boiling point: 212 °F (100 °C)

Flash point: n.a.

SECTION 9 NOTES: None

SECTION 10: STABILITY AND REACTIVITY

GENERAL: This item is only intended for ancillary support for general activities involving brazing, soldering, welding and thermal spraying applications.

STABILITY: Product is chemically stable and non-reactive.

CONDITIONS TO AVOID: Keep product away from heat and moisture.

MATERIALS TO AVOID: Non-reactive.

HAZARDOUS POLYMERIZATION: Will not occur.

REACTIVITY: None.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Fumes can be dangerous to your health. See Section 11

SECTION 10 NOTES: In other countries the exposure limits listed in Section 3 may be different and the appropriate country standards should be used.

SECTION 11: TOXICOLOGICAL INFORMATION

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 8 for specific fume constituents that may modify the TLV.

ACUTE TOXICITY: 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 is skin contact. Other possible routes are eyes, ingestion, and/or respiratory system.

CHRONIC TOXICITY: 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. **FUMES AND GASES** can be dangerous to your health. Primary route of entry is inhalation of fumes. Preexisting respiratory or allergic conditions may be aggravated in some individuals.

SECTION 11 NOTES: Avoid direct inhalation of fumes during use and monitor fume levels.

SECTION 12: ECOLOGICAL INFORMATION

CONTAMINATED PACKAGING: Empty containers should be taken for local recycling, recovery, or waste disposal.

SPILLS: Clean up with inert material and dispose of in accordance to local regulations.

SECTION 12 NOTES: Do not flush into surface water or sanitary sewer system.

SECTION 13: DISPOSAL CONSIDERATION

WASTE DISPOSAL METHOD: Dispose of any rod and waste residues in accordance with EPA or local regulations.

SECTION 13 NOTES: Review U.S. Federal Hazardous Waste Regulations §40 CFR261 to determine if this is hazardous in USA. Please be advised that state and local requirements, or other country requirements, for waste disposal may be more restrictive or otherwise different than U.S. Federal regulations. It is not possible to give this product a waste code number according to the European waste catalogue because only the intended use of the user consents the assignment of a specific code number.

SECTION 14: TRANSPORTATION INFORMATION

DOMESTIC TRANSPORT REGULATIONS (USA): DOT - not regulated.

DOMESTIC TRANSPORT REGULATIONS (CANADA): TDG - not regulated.

DOMESTIC TRANSPORT REGULATIONS (MEXICO): MEX - not regulated.

INTERNATIONAL TRANSPORT REGULATIONS:

ICAO – not regulated

IATA – not regulated

IMDG / IMO – not regulated

OTHER AGENCIES: No international regulations or restrictions are applicable.

SECTION 14 NOTES: Handle with care to avoid damaging the product. Do not remove product identification label or warning label. Keep material from freezing and away from heat.

SECTION 15: REGULATORY INFORMATION

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 information. Before using this product, understand and your employer's safety practices.

U.S. EPA TSCA (TOXIC SUBSTANCE CONTROL ACT): All constituents of these products are on the TSCA inventory list or are excluded from listing.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center and to our Local Emergency Planning Committee.

EPCRA/SARA TITLE III 313 TOXIC CHEMICALS:

The following metallic components are listed as SARA 313 "TOXIC CHEMICALS" and are potentially subject to annual SARA 313 reporting. See Section 3 if the ingredient is present and for percent.

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>DISCLOSURE THRESHOLD</u>
Chromium & chromium compounds	7440-47-3	1.0 % de minimis concentration
Chromium VI	Not listed	0.1 % de minimis concentration
Barium compounds	Not listed	1.0 % de minimis concentration
Cobalt	7440-48-4	0.1 % de minimis concentration
Copper	7440-50-8	1.0 % de minimis concentration
Manganese	7439-96-5	1.0 % de minimis concentration
Nickel	7440-02-0	0.1 % de minimis concentration
Aluminum (fume or dust)	7429-90-5	1.0 % de minimis concentration
Silver	7440-22-4	1.0 % de minimis concentration

Package Labeling:

Additional advice on labeling:

As a finished article the product does not need to be labeled in accordance with EC-directives or respective national laws.

SECTION 15 NOTES: International rules may vary and the appropriate regulations should be followed as defined by the country where the product is used.

SECTION 16: OTHER INFORMATION

This Safety Data Sheet has been revised due to modifications to several paragraphs and/or new format.

Prepared by Eutectic Corporation. USA.

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 safe use of product.

R-phrase

Ethylene Glycol #

R22 : Harmful if swallowed.

S-phrase

Ethylene Glycol #

S2 : Keep out of the reach of children.

SUPPLEMENTAL INFORMATION – DEFINITIONS:

IARC: International Agency for the Research on Cancer

NIOSH: National Institute for Occupational Safety and Health

OSHA: U.S. Occupational Safety and Health Administration

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service Registry Number

EINECS: European Inventory of Existing Chemical Substances

PEL: Permissible Exposure Limit

NTP: National Toxicology Program

TLV: Threshold Limit Value

ECD: European Council Directive

GHS: Globally Harmonized System

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