OMEGA
An OMEGA Technologies Company

MATERIAL SAFETY DATA SHEET

MSDS-0162
SR Series
REV. DATE: 6/21/93

SECTION I - IDENTIFICATION

PRODUCT (TRADE) NAME: Slip Ring Assemblies (Mercury Wet Contacts)
CHEMICAL FAMILY: Elemental Mercury

SUPPLIER: OMEGA ENGINEERING INC.
PO BOX 4047
STAMFORD, CT 06907

DATE PREPARED: 6/15/92
SUPERSEDES: None

TELEPHONE: (203) 359-1660

SHIPPING NAME (UN NUMBER PER TRANSPORTATION AUTHORITY):
DOT: Not Regulated for Ground Transportation
IATA: UN 2809 (Mercury Contained in Manufactured Articles)

SECTION II - HAZARDOUS INGREDIENTS

TLV: 0.05 mg/m³ **PEL:** 0.05 mg/m³ **IDLH:** 28 mg/m³

CAS NUMBER: 7439-97-6 **RTECS NUMBER:** OV4550000

SECTION III - PHYSICAL DATA

BOILING POINT: 674 °F (356.7 °C)
MELTING POINT: (-38.87 °C)
VAPOR PRESSURE: 0.0018 mmHg
PERCENT VOLATILE BY EVAPORATION: 100%

SOLUBILITY IN WATER: @ 20°C, 0.002g/ 100 g water
COLOR AND APPEARANCE: Silver-white, heavy, mobile liquid metal

ATOMIC WEIGHT: 200.59
VAPOR DENSITY (AIR = 1): 1.015
EVAPORATION RATE: (Bulyl Acetate = 1) = 1.0
SOLUBILITY: Soluble in Nitric Acid

ODOR: None
HAZARDS: Fire, S.R.O.P.
SPECIFIC GRAVITY (H_20 = 1): 13.534

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT: N/A
FLAMMABILITY LIMITS: N/A
EXTINGUISHING MEDIA: Use any means suitable for extinguishing surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Use Self Contained Breathing Apparatus (SCBA) when fighting fires where mercury may be present.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Mercury vapors are toxic in low concentrations.

SECTION V - HEALTH HAZARDS

SYMPTOMS OF OVEREXPOSURE:

Acute: Tightness and pain in the chest, difficulty breathing, coughing, inflammation of skin and mucous membranes, gastrointestinal disturbance, and irritation of the eyes and skin. May result in interstitial pneumonitis, bronchitis and bronchiolitis.

Chronic: Bronchitis, pneumonia, insomnia, headaches, fatigue, weakness, anorexia, weight loss, tremors, indigestion, diarrhea, metallic taste in the mouth, increased salivation, inflammation of the gums, loosening of the teeth, loss of memory, and other motor and sensory disorders. Extensive exposure can result in extreme irritability, excitability, anxiety, delirium with hallucinations, melancholia, or manic depressive psychosis.

ROUTES OF ENTRY: Inhalation of vapors, absorption through the skin and mucous membranes. Accidental or intentional ingestion.

FIRST AID AND EMERGENCY PROCEDURES: If the chemical gets into the eyes, irrigate immediately for 15 minutes. Upon contact with the skin, wash the exposed area with soap and water immediately. If inhaled, move the exposed persons to fresh air and perform artificial respiration if needed. If swallowed, contact a physician or poison control center immediately. Give large quantities of water and induce vomiting. *Do not induce vomiting to an unconscious person.*

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Respiratory difficulty of any kind. Mercury may also sensitize some people at short exposure. Sensitized personnel, when exposed, may develop significant medical symptoms. Either acute or chronic exposure may result in permanent changes to the affected organ systems.

SECTION VI - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

PRECAUTIONS: Danger: May be fatal if swallowed. Harmful if inhaled. Flammable. May cause blindness. Causes irritation. Keep away from heat, sparks and flame. Avoid breathing vapor. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

HANDLING AND STORAGE: Keep in a tightly closed container. Handle in areas with a solid, smooth floor covering. Store in a cool, dry ventilated area away from sources of heat or ignition. Protect container from physical damage. Wear special protective equipment for maintenance break-in or where exposures may exceed established levels. Wash hands, face, forearms and neck when exiting restricted areas. Shower, dispose of outer clothing and change to clean garments at the end of the day to avoid cross-contamination of street clothes. Wash hands before eating and do not eat, drink or smoke in the workplace. Use in a well-ventilated area.

OTHER: Mercury may attack copper and copper compounds.

SECTION VII - REACTIVITY DATA

INCOMPATIBILITY:	Yes - Acetylene, Ammonia, Boron, Chlorine Dioxide, Methyl Azide
INSTABILITY:	No
HAZARDOUS DECOMPOSITION PRODUCTS:	None
HAZARDOUS POLYMERIZATION:	None
CONDITIONS TO AVOID:	Elevated temperatures

SECTION VIII - RELEASE OR SPILL PROCEDURES

PROCEDURES:	Do not flush to the sewer. Isolate or enclose the area of the leak or spill. Provide forced ventilation to dissipate fumes. Clean-up personnel should wear personal protective equipment, including respiratory equipment suitable for toxic metal fumes. Transfer to a suitable closed container, preferably glass or plastic, for intermediate storage before reclamation or disposal. Mercury should be reclaimed insofar as possible. Package unreclaimable material for disposal in an RCRA-approved waste facility. Use a suction bottle with capillary tube for small amounts. For large amounts, use a mercury vapor absorbant and vacuum or other large suction equipment. Cover the area of the spill with powdered sulfur and floor sweeping compound before sweeping up. Monitor the area for mercury vapor concentration.
REPORTABLE QUANTITY (RQ) (CWA/CERLA):	1 lb. Ensure compliance with local, state, and federal regulations.
PERSONAL PROTECTIVE EQUIPMENT REQUIRED:	Dependent upon vapor concentration and conditions at the spill site. See "SPECIAL PROTECTION SECTION" below.
WASTE DISPOSAL METHODS:	Package in accordance with DOT or state guidelines and send to recycler for purification.

EMERGENCY RESPONSE TELEPHONE NUMBERS: (800) 255-3924 (813) 979-0626

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SECTION IX - SPECIAL PROTECTION

RESPIRATORY PROTECTION: Dependent upon concentration:

Concentration	Type of Mask
= TLV	Disposable Mercury Vapor Mask
<1 mg/m³	Mercury Vapor Cartridge (indicating, Full Face)
>28 mg/m³	Supplied Air Respirator (Positive Pressure)
<5 mg/m³	Self Contained Breathing Apparatus

VENTILATION: Provide local ventilation at worksite with a capture velocity of 150 fpm. A system of local and/or general exhaust is recommended to keep employee exposures below the airborne exposure limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing its dispersion into the general work area. Refer to the ACGIH document, "Industrial Ventilation, a Manual of Recommended Practices," most recent edition, for details.

PROTECTIVE GLOVES: Rubber, latex or other impervious material.

EYE PROTECTION: Use chemical safety goggles and/or a full face shield where splashing is possible. Do not wear contact lenses when working with this material.

OTHER PROTECTIVE EQUIPMENT: Impermeable clothing, including boots, gloves, lab coat, apron or coveralls to prevent skin contact.

SECTION X - REFERENCES

1. Siting, Marshall, *Handbook of Toxic and Hazardous Chemicals and Carcinogens*, Noyes Publications, Parkridge, New Jersey, 1985, Page 569
2. Sax, N.I., Ed., *Dangerous Properties of Industrial Materials*, Sixth Edition, Van Norstrand Reinhold Co., 1984, Pages 1749-1750
3. NISOH Publication No. 77-181, *Occupational Diseases, a Guide to Their Recognition*, Pages 370-372
4. Joseph, Eileen A., *Chemical Safety Data Guide*, The Bureau of National Affairs, Inc., Washington, D.C. 1985, Pages 531-532
5. Parmeggiani, Luigi, *Encyclopedia of Occupational Health and Safety*, Third Edition, International Labour Office, Geneva, Switzerland, Pages 1332-1335