

MATERIAL SAFETY DATA SHEET

MERCURY-IN-GLASS THERMOMETER
REVISED: 12-20-94

MANUFACTURER: MILLER & WEBER, INC.
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NAME OF PREPARER: DEANNE M. EMORY

IDENTITY

CHEMICAL NAME: MERCURY CAS NO.: 7439-97-6 FORMULA: HG CHEMICAL FAMILY:
ELEMENT
HMIS RATING: HEALTH: 3*, FLAMMABILITY: 0, REACTIVITY: 0, PPG: SEE SPECIAL
PROTECTION INFORMATION SECTION BELOW.

HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENT	PERCENT	OSHA PEL	THRESHOLD LIMIT VALUE (UNITS)
THERMOMETER CONTAINS APPROXIMATELY ONE CC. OF			
MERCURY. HAZARDOUS ONLY IF BROKEN.	100%	0.05 MG/M3	0.05 MG/M3

PHYSICAL & CHEMICAL CHARACTERISTICS (FIRE & EXPLOSION DATA)

BOILING POINT: 357 C SPECIFIC GRAVITY: 13.59 VAPOR PRESSURE: @20C=0.0012
(H2O=1) (MMHG) @100C=0.273
PERCENT VOLATILE: 100 VAPOR DENSITY: 7.0 REACTIVITY IN WATER: N/A
BY VOLUME (%) (AIR=1)
SOLUBILITY IN WATER: 0.002 GRAMS/ EVAPORATION: DEPENDS ON TEMPERATURE AND
100 GRAMS AT 20 C RATE PRESSURE
APPEARANCE AND ODOR: SILVER METALLIC LIQUID, MELTING POINT: -39 C
MOBILE AND ODORLESS.

FLASH POINT: N/A FLAMMABLE LIMITS: N/A EXTINGUISHER MEDIA: APPROPRIATE
IN AIR FOR SURROUNDING FIRE
AUTO-IGNITION TEMPERATURE: N/A
SPECIAL FIRE FIGHTING PROCEDURES: AT HIGH TEMPERATURES MERCURY VAPORIZES
RAPIDLY TO FORM HIGHLY TOXIC, ODORLESS, COLORLESS FUMES. USE AIR LINE OR SELF
CONTAINED BREATHING APPARATUS WITH FULL FACEPIECES OPERATED IN POSITIVE
PRESSURE MODE ONLY.

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UNUSUAL FIRE AND EXPLOSION HAZARD: MERCURY IS NOT COMBUSTIBLE, FLAMMABLE OR
EXPLOSIVE, BUT WILL EVAPORATE WHEN HEATED CREATING TOXIC FUMES WHICH ARE BOTH
ODORLESS AND COLORLESS. WILL COMBINE WITH OTHER COMPOUNDS (I.E. AMMONIA) TO
CREATE UNSTABLE COMPOUNDS.

PHYSICAL HAZARDS

STABILITY: STABLE CONDITIONS: HEAT & HIGH TEMPS. HAZARDOUS: WILL NOT OCCUR
TO AVOID POLYMERIZATION
INCOMPATIBILITY (MATERIALS TO AVOID): HALOGENS, NITRIC ACID, AMMONIA GAS,
ALUMINUM, ACETYLENE AND ACETYLENE PRODUCTS, BORON PHOSPHODIIODIDE, CHLORINE,
CHLORINE DIOXIDE, METHYL AZIDE, SODIUM CARBIDE, OLEUM, SULFURIC ACID. MERCURY
WILL READILY FORM AMALGAMS WITH GOLD AND SILVER.

HAZARDOUS DECOMPOSITION PRODUCTS: MERCURY VAPORS.

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: IF MERCURY SPILLAGE & PEL IS EXCEEDED. RESPIRATORY PROTECTION SHOULD BE NIOSH-MSHA CERTIFIED.

VENTILATION: FOR MERCURY TO KEEP CONCENTRATIONS UNDER PEL.

LOCAL EXHAUST: YES, IMPERVIOUS EYE PROTECTION: YES, GLASSES OR GOGGLES AGAINST SPLASHING

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: TIGHTLY COVER (I.E. TYVEK) WORK CLOTHING FITTING CLOSELY ABOUT NECK, WRISTS, AND ANKLES SHOULD BE WORN. CLOTHING SHOULD BE REMOVED AND WASHED FREQUENTLY. NO FOOD, FOOD STUFFS, OR TOBACCO PRODUCTS SHOULD BE PRESENT IN MERCURY AREAS. NO SMOKING OR EATING IN MERCURY AREAS.

HEALTH HAZARDS

THRESHOLD LIMIT VALUE: 0.05 MG/M3 ROUTES OF ENTRY: INHALATION, EYES, SKIN, INGESTION

MERCURY IS NOT LISTED AS A CARCINOGEN BY THE NTP, IARC OR OSHA. MERCURY IS A CUMULATIVE POISON THAT CONCENTRATES IN THE BRAIN, KIDNEYS AND LIVER. IT IS VERY HAZARDOUS WHEN SPILLED OR HEATED.

TARGET ORGANS: SKIN, EYE, RESPIRATORY SYSTEM, CENTRAL NERVOUS SYSTEM, KIDNEYS, LIVER.

SIGNS AND SYMPTOMS OF EXPOSURE:

1. ACUTE OVEREXPOSURE: INHALATION OF HIGH LEVELS OF MERCURY VAPOR CAN LEAD TO SEVERE RESPIRATORY IRRITATION, CHEST PAINS, COUGHING, AND BREATHING DIFFICULTIES WHICH MAY BE FATAL IF RESPIRATORY IRRITATION IS SEVERE. DAMAGE TO THE TARGET ORGANS CAN OCCUR. THESE SYMPTOMS MAY ALSO BE ACCOMPANIED BY SOME OR ALL SYMPTOMS OF CHRONIC POISONING.

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2. CHRONIC OVEREXPOSURE: EXPOSURE TO LOW LEVELS OF MERCURY VAPOR MAY RESULT IN GUM AND MOUTH INFLAMMATION (ACCOMPANIED BY EXCESS SALIVATION & METALLIC TASTE), GINGIVITIS, IRRITABILITY, TREMORS, DEPRESSION, PERSONALITY CHANGES & NERVOUSNESS, STOMATITIS. CHRONIC EFFECTS OF OVEREXPOSURE CAN RESULT IN DAMAGE TO THE TARGET ORGANS.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: PERSONS WITH CHRONIC DISEASES SUCH AS TUBERCULOSIS, KIDNEY DISEASE, LIVER DISEASE AND ALCOHOLISM OR ARE IN POOR PHYSICAL CONDITION SHOULD BE EXCLUDED FROM CONTINUOUS ASSIGNMENT WHERE MERCURY IS PRESENT. THE KIDNEY ACCUMULATES MERCURY AND DAMAGE IS USUALLY CAUSED BY ACUTE POISONING.

EMERGENCY AND FIRST AID PROCEDURES: CONTACT A QUALIFIED PHYSICIAN

1. INHALATION: REMOVE PERSON FROM SOURCE OF EXPOSURE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CHRONIC INHALATION OF VAPORS OR DUST OVER LONG PERIODS OF TIME MAY RESULT IN MERCURY POISONING.
2. EYES: OCCASIONAL ACCIDENTAL CONTACT WITH EYES IS USUALLY HARMLESS IF OUT IMMEDIATELY. HOLD UPPER AND LOWER EYELIDS OPEN, WASH EYE THOROUGHLY WITH PLENTY OF WATER FOR 15 MINUTES. EYE AND MUCOUS MEMBRANE IRRITANT. CONSULT A PHYSICIAN.
3. SKIN: WASH EXPOSED AREA THOROUGHLY WITH SOAP AND WATER. CAN PENETRATE UNDAMAGED SKIN WITH SUBSEQUENT ABSORPTION BY CIRCULATORY SYSTEM. CAN CAUSE DERMATITIS AND ALLERGIES.
4. INGESTION: ACCIDENTAL SWALLOWING OR INGESTION OF MERCURY IS USUALLY HARMLESS. DO NOT INDUCE VOMITING. CONSULT A PHYSICIAN.

SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: HANDLE AND STORE THERMOMETER WITH PROPER CARE.

OTHER PRECAUTIONS: N/A

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: USE APPROPRIATE RESPIRATORY PROTECTION IF PEL IS EXCEEDED AND PROPER PROTECTIVE CLOTHING. CLEAN UP SPILLS IMMEDIATELY WITH VACUUM EQUIPMENT THAT HAS A FILTERED EXHAUST. DO NOT DRY SWEEP. DECONTAMINATE WITH A MERCURY DECONTAMINANT. KEEP COLLECTED MERCURY IN SEALED CONTAINER FOR DISPOSAL. AVOID SKIN CONTACT WITH MERCURY, WASH CONTACTED AREA WITH SOAP AND WATER.

REPORTABLE QUANTITY (RQ): 1 POUND. THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). THIS SUBSTANCE IS ALSO REPORTABLE UNDER CERCLA SECTION 103. RCRA HAZARDOUS WASTE NO. U151.

TRANSPORTATION DATA (HM-181): SHIPPING NAME: MERCURY (CONTAINED IN MANUFACTURED ARTICLES) HAZARD CLASS: CLASS B U.N. ID NO.: UN2809
PACKING GROUP: I HAZARDOUS MATERIALS LABELED: CORROSIVE

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WASTE DISPOSAL METHODS: REMOVE MERCURY AND MATERIALS THAT HAVE COME IN CONTACT WITH MERCURY TO PROPER DISPOSAL AREA. MERCURY IS RECYCLABLE. DO NOT PUT IN GARBAGE, FLUSH IN SEWER, OR INCINERATE. DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS. DO NOT DISPOSE IN LANDFILL.

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