

BACHARACH, INC.
MSDS NO: 4099-1480
MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet has been prepared to comply with the EC Directive,
Canadian WHMIS and OSHA Hazard Communication Regulations.

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SECTION 1: IDENTIFICATION

PRODUCT NAME: SULFURIC ACID, CONCENTRATED
MERCURY ANALYZER REAGENT

PRODUCT NUMBER: 4050-0202 MSDS NUMBER: 4099-1480 REVISION NUMBER: 2

MSDS DATE OF PREPARATION/REVISION: 03-12-97

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SECTION 2: COMPOSITION

COMPONENT	CAS#	PERCENTAGE	EXPOSURE LIMITS
Sulfuric Acid	7664-93-9	94-98	1 mg/m3 PEL-TWA 1 mg/m3 TLV-TWA 3 mg/m3 TLV-STEL
Water	7732-18-5	2-6	None Established

Note: The Permissible Exposure Limits (PEL) reported above are the pre-1989 limits that were reinstated by OSHA June 30, 1993 following a decision by the 11th Circuit Court of Appeals. These PELs are those now being enforced by Federal OSHA. Be aware that more restrictive exposure limits may be enforced by some states, agencies or other authorities. The enforced PEL may not be adequate to ensure worker safety, so Bacharach, Inc. recommends that the lowest recommended exposure limit always be observed as reasonable worker protection.

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SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Colorless liquid with no odor. Corrosive! May cause severe burns to the eyes and skin. Oxidizer! May cause fire in contact with flammable or combustible materials.

N/D=Not Determined

1

N/A=Not Applicable

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ACUTE HEALTH HAZARDS:

EYE CONTACT: May cause severe burns with corneal ulceration and possible blindness.

SKIN CONTACT: May cause severe burns with necrosis and scarring.

INHALATION: May cause irritation of the nose, throat and respiratory tract. High concentrations may produce bloody nasal secretions and pulmonary edema.

INGESTION: May cause burns to the gastrointestinal tract, nausea, vomiting, diarrhea and may be fatal.

CHRONIC HEALTH EFFECTS: Repeated exposure to the mist may cause inflammation of the upper respiratory tract, chronic bronchitis and etching of the dental enamel.

CARCINOGEN STATUS: IARC has classified strong inorganic acid mists containing sulfuric acid as carcinogenic to humans (Group 1).

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with pre-existing respiratory disorders may be at increased risk from exposure.

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SEE SECTION 11 - TOXICOLOGICAL INFORMATION FOR ADDITIONAL DATA

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SECTION 4: FIRST AID

EYE CONTACT: Flush thoroughly with copious amounts of running water for 20 minutes, lifting the lids occasionally. Get immediate medical attention.

SKIN CONTACT: Flush thoroughly with water for 20 minutes. Immediately remove contaminated clothing and launder before re-use. Get medical attention.

INHALATION: Remove victim to fresh air and give artificial respiration if needed. Get immediate medical attention.

INGESTION: Never give anything by mouth to an unconscious or convulsing person. Immediately give the victim 1 to 2 glasses of water or milk to drink. Do not induce vomiting. Get immediate medical attention.

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SECTION 5: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A TEST METHOD: N/A
AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: LEL: N/A UEL: N/A

EXTINGUISHING MEDIA: This material is not combustible. Use any media that is appropriate for the surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear NIOSH approved positive

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2

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pressure self contained breathing apparatus and full protective clothing. Use water to keep exposed containers cool.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Oxidizer! Contact with other materials, especially flammables and combustibles may cause fire or explosion. Greatly accelerates the rate of burning in other materials. Reacts with metals to form flammable hydrogen gas.

HAZARDOUS COMBUSTION PRODUCTS: Oxides of sulfur.
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SECTION 6: ACCIDENTAL RELEASE MEASURES

Wear suitable protective equipment. Keep combustibles/flammables away from spill area. Absorb with sand, earth or other non-combustible absorbent. Wash residual traces with water.
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SECTION 7: HANDLING AND STORAGE

WORK PRACTICES: Prevent contact with the eyes, skin & clothing. Wear recommended protective clothing. Wash thoroughly after handling. Do not eat, drink or smoke in the work area. When diluting always add acid to water while stirring. Never add water to acid.

SPECIAL PRECAUTIONS: Oxidizer! Keep away from flammables and other oxidizable materials. Keep container closed when not in use. Empty containers retain residues and may be hazardous-follow all precautions when handling.

STORAGE: Store in a well ventilated area, away from alkalis, flammables and combustibles. Keep container tightly closed. Do not store on wooden floors.
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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: Use general or local exhaust ventilation as needed to maintain concentration below the TLV.

RESPIRATORY PROTECTION: If the concentration exceeds the exposure limits use an approved dust/mist/acid gas respirator. At concentrations above 10 times the TLV an approved supplied air or self-contained respirator may be required.

GLOVES: Impervious such as rubber or neoprene.

EYE PROTECTION: Chemical safety goggles and face shield recommended. Do not wear contact lenses.

OTHER PROTECTIVE EQUIPMENT: Protective apron or coveralls. Safety shower and eye wash in the work area.
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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Colorless liquid, odorless. N/A

pH: <1 SPECIFIC GRAVITY: 1.84
BOILING POINT: 290 C VAPOR PRESSURE: <0.001 mmHG @ 20 C
MELTING POINT: 10 C VAPOR DENSITY: 3.4
SOLUBILITY IN WATER: Complete PERCENT VOLATILE: 2-6%
COEFFICIENT WATER/OIL: N/A

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Avoid excessive heat.

INCOMPATIBILITY: Alkalis, oxidizable materials, flammable and combustible materials and metals, Sulfuric acid reacts with numerous other chemicals, avoid all materials whose compatibility has not been established.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may release toxic oxides of sulfur.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: N/A

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA: The LD50 is reported to be 2140 mg/kg oral rat. The LC50 is reported to be 320 mg/m³/2 hrs-mouse.

IRRITANCY DATA: This material is corrosive to all tissues.

SENSITIZATION: This material has not been reported to cause sensitization in animals or humans.

REPRODUCTIVE TOXICITY: This material has not been reported to cause reproductive toxicity in laboratory animals or humans.

TERATOGENICITY: This material not been reported to cause teratogenic effects in laboratory animals or humans.

MUTAGENICITY: This product has not been found to be mutagenic.

SYNERGISTIC EFFECTS: There are no chemicals known to cause any additive adverse health effects.

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SECTION 12: ECOLOGICAL INFORMATION

The ecological effects of this product have not been evaluated.

SECTION 13: DISPOSAL

Dispose in accordance with all local, state and federal regulations.

RCRA HAZARDOUS WASTE CODES: D002

SECTION 14: TRANSPORTATION DATA

US DOT SHIPPING NAME: SULFURIC ACID, 8, UN 1830, PG II
DOT LABELS REQUIRED: CORROSIVE
EMERGENCY RESPONSE GUIDE NUMBER: 137

IATA SHIPPING NAME: SULPHURIC ACID, 8, UN 1830, PG II
IATA LABELS REQUIRED: CORROSIVE (CARGO AIRCRAFT 1-30 LITERS)

SECTION 15: OTHER REGULATORY INFORMATION

SARA 311/312: Hazard Categories for SARA Section 311/312 Reporting:
Acute health, chronic health, fire hazard.

SARA 313: This product contains the following chemicals subject to Annual Release
Reporting Requirements under SARA Section 313 (40 CFR 372):
Sulfuric acid 94-98%

CERCLA SECTION 103 REPORTABLE QUANTITY: 1000 lbs.

CALIFORNIA PROPOSITION 65: This product contains the following substances known to
the State of California to cause Cancer and/or Reproductive Harm: None

US TOXIC SUBSTANCES CONTROL ACT: All of the components of this product are listed on
the EPA TSCA Inventory.

EUROPEAN INVENTORY OF COMMERCIAL CHEMICAL SUBSTANCES: All of the components of this
product are listed on the EINECS Inventory.

JAPAN MITI: All of the components of this product are existing chemical substances as
defined in the Chemical Substance Control Law.

CANADIAN ENVIRONMENTAL PROTECTION ACT: All of the components of this product are
listed on the Canadian Domestic Substances List.

CANADIAN WHMIS CLASSIFICATION: Class C - Oxidizing Material; Class E - Corrosive
Material.

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EUROPEAN COMMUNITY LABELING CLASSIFICATION: Oxidizing, Corrosive

EUROPEAN COMMUNITY RISK AND SAFETY PHRASES: R35, R8, S17, S26, S36/37/39, S45
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SECTION 16: OTHER INFORMATION

NFPA HAZARD RATING: HEALTH: 3 FIRE: 1 REACTIVITY: 1

DATE OF LATEST MSDS REVISION: 03-12-97

REVISION SUMMARY: Revise Section 3, Carcinogen Data, Transportation (ERG#), Section 14 and Section 15, R&S Phrases.
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The preceding information is believed to be correct and current as of the date of preparation of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Bacharach, Inc., it is the users obligation to assure safe use of this product.