

BRENNTAG MID-SOUTH, INC.
MATERIAL SAFETY DATA SHEET

Effective Date: February 20, 2008

SULFURIC ACID
 (NOT MORE THAN 51% ACID)

SECTION I - MATERIAL IDENTIFICATION

MANUFACTURER'S NAME & ADDRESS:

BRENNTAG MID-SOUTH, INC.
 1405 Highway 136 West / Geneva Road
 Henderson, Kentucky 42420

EMERGENCY TELEPHONE NUMBER:

(270) 830-1222

CHEMICAL NAME AND SYNONYMS: Sulfuric Acid 1.265 to 1.41; Sulfuric Acid 5 to 50% by weight & by volume, Sulfuric Acid 35% BA.

CHEMICAL FAMILY: Acids

FORMULA: H₂SO₄

SECTION II - HAZARDOUS INGREDIENTS

CAS NUMBER	CHEMICAL NAME(S)	WT %	THRESHOLD LIMIT VALUES (UNITS)		
			OSHA: PEL	OSHA: STEL	ACGIH: TLV
7664-93-9	**Sulfuric Acid	≤ 51%	1 mg/m ³	—	1 mg/m ³ , A2*
7732-18-5	Water	Balance	— NONE ESTABLISHED —		

SECTION III - PHYSICAL DATA

BOILING POINT °F (°C): 230 - 468.3° F (110 -242.4° C) SPECIFIC GRAVITY (H₂O=1): max 1.409 @ 60° F

VAPOR DENSITY (AIR=1): 1.7 Approximately

PERCENT VOLATILE BY VOLUME (%): Water Vapor Only

VAPOR PRESSURE (mmHg): 68° F/20° C < 0.001 mmHg EVAPORATION RATE (Butyl Acetate = 1): < 1

SOLUBILITY IN WATER: Complete.

APPEARANCE AND ODOR: Clear, colorless liquid with no odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): None.

FLAMMABLE LIMITS (% BY VOLUME): Not Flammable

EXTINGUISHING MEDIA: Acid itself is not flammable but can cause ignition by contact with combustible liquids and solids. Use dry chemical, carbon dioxide, water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Hydrogen gas can accumulate in containers and care must be taken not to ignite. Wear protective clothing including self contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Not Applicable.

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SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:

INHALATION: Can cause irritation or corrosive burns to upper respiratory system, including nose, mouth, and throat. Lung irritation and pulmonary edema can also occur. Pulmonary edema (body fluid in the lungs) with cough, wheezing, abnormal lung sounds, possibly progressing to severe shortness of breath and bluish discoloration of the skin; symptoms may be delayed. Repeated or prolonged exposure to mists may cause corrosion of the teeth.

EYE CONTACT: Eye contact can cause irritation, corneal burns, and conjunctivitis. Blindness may result, or severe or permanent injury.

SKIN CONTACT: Contact with liquid may cause: skin corrosion, burns or ulcers. Contact with a 1% solution may cause: Slight irritation with itching, redness or swelling. Repeated and/or prolonged exposure to mists may cause: Irritation with itching, burning, redness, swelling or rash.

INGESTION: Can cause irritation and corrosive burns to mouth, throat, and stomach, with severe pain, bleeding, vomiting, diarrhea and collapse of blood pressure – damage may appear days after exposure.

PRIMARY ROUTES OF ENTRY: Inhalation, eye and Skin Contact

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove victim to fresh air. Give artificial respiration if not breathing.

EYE CONTACT: Immediately flush eyes with plenty of water while holding eyelids open. Get medical attention immediately.

SKIN CONTACT: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Continue washing with water if medical treatment is not available.

INGESTION: Drink large amounts of water or milk to dilute the acid. Do NOT induce vomiting. Get medical help immediately.

SECTION VI - TOXICOLOGICAL INFORMATION

TOXICITY DATA:

Sulfuric acid: LD50/LC50: CAS# 7664-93-9; Inhalation, mouse: LC50 = 320 mg/m³/2H; Inhalation, rat: LC50 = 510 mg/m³/2H; IHL-RAT LC50 0.51 mg/l; UNR-MAN LDLO 135 mg kg⁻¹; ORL-RAT LD50 2140 mg kg⁻¹ (2.5% solution); IHL-MUS LC50 320 mg m⁻³ / 2h IHL-GPG LC50 18 mg m³

Carcinogenicity: Sulfuric acid - ACGIH: A2 - Suspected Human Carcinogen; OSHA: Select carcinogen; IARC: Group 1 carcinogen

Epidemiology: Workers exposed to industrial sulfuric acid mist showed a statistical increase in laryngeal cancer. This data suggests a possible relationship between carcinogenesis and inhalation of sulfuric acid mist.

Teratogenicity; Reproductive Effects; Neurotoxicity; Mutagenicity; Other Studies: No data available.

STRONG ACID MISTS CONTAINING SULFURIC ACID:

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: NTP/1 IARC/1 OSHA/

The International Agency for Research on Cancer (IARC) classified «strong inorganic acid mists containing sulfuric acid» as a Category 1 carcinogen, a substance that is «carcinogenic to humans». This classification is for strong inorganic acid mists only and does not apply to sulfuric acid or sulfuric acid solutions. The basis for the IARC classification rests on several epidemiology studies, which have several deficiencies. These studies did not account for exposure to other substances, some known to be animal or potential human carcinogens, social influences (smoking, etc.) and included small numbers of subjects. Based on the overall weight of evidence from all human and chronic animal studies, no definitive causal relationship between sulfuric acid mist exposure and respiratory tract tumors has been shown.

Strong inorganic acid mists containing sulfuric acid are also listed by The National Toxicology Program (NTP) as known human carcinogens. This limits the classification to sulfuric acid aerosols and does not extend to the liquid product, unless the acid is used under conditions that result in the formation of mists or aerosols. Fuming acid is covered by the classification.

ACGIH APPENDIX A: CARCINOGENICITY A2 – Suspected Human Carcinogen: Human data are accepted as adequate in quality but are conflicting or insufficient to classify the agent as a confirmed human carcinogen; OR, the agent is carcinogenic in experimental animals at dose (s), by route (s) of exposure, at site (s), of histologic types (s), of by mechanism (s) considered relevant to worker exposure. The A2 is used primarily when there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals with relevance to humans.

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SECTION VII – ECOLOGICAL INFORMATION

ECOTOXICITY:

Sulfuric acid is harmful to aquatic life in very low concentrations. It may be dangerous if it enters water intakes. The aquatic toxicity for bluegill in fresh water was 24.5 ppm/24 hr, which was lethal.

Environmental Fate: Not available.

Physical/Chemical: Not available.

Other: Not available.

SECTION VIII - REACTIVITY DATA

STABILITY: Stable.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Temperature of 300° C or higher: yields sulfur trioxide gas, which is toxic, corrosive, and an oxidizer.

INCOMPATIBILITY (MATERIALS TO AVOID): Nitro compounds, carbides, dienes, alcohols (when heated), oxidizing agents, allyl compounds, and aldehydes. Reacts with most metals, especially when dilute, to give flammable, potentially explosive hydrogen gas. Follow appropriate National Fire Protection Association (NFPA) codes.

HAZARDOUS DECOMPOSITION PRODUCTS: Sulfur trioxide, also this is a fire risk if in contact with organic materials.

SECTION IX - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Personnel with proper protective equipment should contain spill. Recover material if possible. Dilute small spills or leaks cautiously with plenty of water. Neutralize residue with alkali such as soda ash or lime. Good ventilation is required for soda ash due to release of carbon dioxide gas.

WASTE DISPOSAL METHOD: Waste disposal is to be in accordance with all Federal, State, and Local regulations and by an approved hazardous waste management facility.

SECTION X - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NIOSH-approved respirator for sulfuric acid or mist, as applicable.

VENTILATION: Local exhaust sufficient to reduce vapor and acid mist to permissible levels.

PROTECTIVE GLOVES: Gauntlet gloves.

EYE PROTECTION: Chemical splash goggles, full-face plastic shield.

OTHER PROTECTIVE EQUIPMENT: Acid resistant chemical suit. Eye wash fountain and safety shower.

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SECTION XI - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep sources of ignition away. Store in a cool, well-ventilated area away from combustibles and reactive chemicals.

OTHER PRECAUTIONS: Wear proper safety equipment when handling. Wash thoroughly after handling. Do not get in eyes, on skin or clothing. Do not breathe mist or fumes.

HAZARD RATING: Health 3 Fire 0 Reactivity 2

SECTION XII - D.O.T. SHIPPING INFORMATION

PROPER SHIPPING NAME: Sulfuric Acid (not more than 51% acid)

HAZARD CLASS: 8 (Corrosive) **UN/NA:** UN2796 **PACKING GROUP:** PG II

D.O.T. LABEL REQUIRED: Corrosive Material **REPORTABLE QUANTITY OF PRODUCT:** 1000 lbs

SECTION XIII - REGULATORY INFORMATION

TSCA (Toxic Substance Control Act): All components of this product are listed on the TSCA inventory.

SARA TITLE III: HAZARD CLASSIFICATIONS: Acute: yes Chronic: yes Fire: no Pressure: no Reactivity: no

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(R) TQ
Sulfuric Acid	7664-93-9	1000	1000	1000	313*	---	---

*Aerosol form only.

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