

MATERIAL SAFETY DATA SHEET

BATTERY GRADE SULFURIC ACID

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: Distributed by Tarr, Incorporated
P. O. Box 12570
Portland, OR 97212

INFORMATION PHONE: 503-288-5294

EMERGENCY PHONE: **CHEMTREC 800-424-9300 (US) Day or night**
International Call Collect CHEMTREC 202-483-7616

PRODUCT NAME: **BATTERY GRADE SULFURIC ACID**

PRODUCT NUMBER: BGSA

UPC NUMBER:

PREPARED BY: Patricia Rodabaugh

DATE PREPARED: 4/22/2003

LAST REVISION: 11/22/2002

SYNONYMS:

Tarr

Portland, Oregon
Phoenix, Arizona
Auburn, Washington
Vancouver, Washington

Print Date: 10/14/2004

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Weight %	OSHA PEL	ACGIH TLV	NOTE
Sulfuric Acid	7664-93-9	>51	1 mg/m3	1 mg/m3	

3. HAZARDOUS IDENTIFICATION

EMERGENCY OVERVIEW: POISON! DANGER! CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED OR CONTACTED WITH SKIN. HARMFUL IF INHALED. AFFECTS TEETH. WATER REACTIVE. CANCER HAZARD. STRONG INORGANIC ACID MISTS CONTAINING SULFURIC ACID CAN CAUSE CANCER. Risk of cancer depends on duration and level of exposure.

POTENTIAL HEALTH EFFECTS

EYE CONTACT: Exposure to mists may cause severe irritation and/or burns, with symptoms of tearing, redness, swelling and mucous discharge. Direct contact with the liquid will be corrosive to the eye. Corneal damage with impairment of vision may result from direct contact with liquid.

INHALATION: Exposure to mists can cause severe irritation to the nose, mouth, throat and lungs. Inhalation of mists can cause burns to the respiratory tract resulting in lung edema which can result in shortness of breath, wheezing, choking, chest pain and impairment of lung function. Inhalation of high concentrations may result in permanent lung damage.

INGESTION: Can cause severe irritation and/or burns to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding and/or tissue ulceration.

SKIN CONTACT: Exposure to mists may rapidly cause severe irritation and/or burns characterized by redness, swelling and scab formation. Prolonged skin exposure may cause destruction of the dermis with impairment of the skin at the site of contact to regenerate.

SIGNS AND SYMPTOMS OF EXPOSURE:

Irritation to the nose, mouth, throat and lungs. Redness or burning of skin, blurred vision.

4. FIRST AID MEASURES

- EYE CONTACT:** Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician immediately.
- INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Get medical attention immediately.
- INGESTION:** DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician immediately.
- SKIN CONTACT:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Excess acid on skin can be neutralized with a 2% solution of bicarbonate of soda. Call a physician immediately.

AGGRAVATED MEDICAL CONDITIONS:

Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance. Repeated inhalation exposure may cause bronchitis, impairment of lung function, permanent lung damage and erosion of tooth enamel. Otherwise, the chronic effects of exposure would be the same as for acute exposure.

SUPPLEMENTAL HEALTH INFORMATION:

Cancer Status: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: N/A

FLASH POINT METHOD USED: N/A

AUTOIGNITION:

LEL:

UEL:

EXTINGUISHING MEDIA:

Use foam, dry chemical, or CO₂. Do not use water on material. However, water spray may be used to keep fire exposed containers cool.

SPECIAL FIRE FIGHTING PROCEDURES:

Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece in positive pressure mode.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Contact with most metals causes formation of flammable and explosive hydrogen gas.

COMBUSTION PRODUCTS:

Concentrated material is a strong dehydrating agent. Reacts with organic materials and may cause ignition of finely divided materials on contact.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED OR RELEASED:

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in fire fighting section. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Neutralize with alkaline material (soda ash, lime), then absorb with an inert material (e.g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Protect from physical damage. Keep out of direct sunlight and away from heat, water, and incompatible materials. Do not wash out container and use it for other purposes. When diluting, always add the acid to the water; never add the water to the acid. When opening metal containers, use non-sparking tools because of the possibility of hydrogen gas being present. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

OTHER PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN! Empty containers retain product residue and can be dangerous. Do not pressurize, cut weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks static electricity, or other sources of ignition.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION:

For exposure above the OSHA-PEL or ACGIH-TLV, wear a NIOSH-approved full facepiece or half mask air-purifying cartridge respirator equipped with an acid gas cartridge or supplied air.

VENTILATION:

Use local mechanical exhaust ventilation capable of maintaining emissions in the work area below the OSHA-PEL or ACGIH-TLV.

PROTECTIVE GLOVES:

Neoprene or PVC gloves.

EYE PROTECTION:

Wear chemical goggles (recommended by ANSI Z87.1), unless a full face piece respirator is worn.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

Wear a neoprene or PVC apron or full protective clothing when handling product and neoprene boots. A eye wash station and safety shower should be available in the work area.

WORK / HYGENIC PRACTICES:

Use good personal hygiene when handling this product. Wash hands after use, before eating, drinking, smoking, or using the toilet.

ENGINEERING CONTROLS:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EXPOSURE GUIDELINES:

May be harmful or fatal if swallowed. May irritate body tissues. Use with adequate ventilation. Avoid breathing vapor. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

SOLUBILITY IN WATER: Miscible with water, liberates much heat.

APPEARANCE AND ODOR: Colorless, clear liquid. Odorless.

BOILING POINT:	212 - 310 F	PERCENT VOLATILE:	100
VAPOR PRESSURE:	0.0016	PH:	less than 1
EVAPORATION RATE:	Less than 1 (n-Butyl Acetate = 1)	MOLECULAR WEIGHT:	98.08
POUNDS PER GALLON:	11.1 - 12.9	VAPOR DENSITY:	Heavier Than Air
SPECIFIC GRAVITY:	1.330 - 1.842	OTHER PROPERTIES:	
MELTING POINT:			
FREEZING POINT:	-36 F		

10. STABILITY AND REACTIVITY

STABILITY: Unstable

CONDITIONS TO AVOID: Concentrated solutions react violently with water, spattering and liberating heat.

INCOMPATIBILITY:

Water, potassium chlorate, potassium perchlorate, potassium permanganate, sodium, lithium, bases, organic material, halogens, metal acetylides, oxides and hydrides, metals (yields hydrogen gas), strong oxidizing and reducing agents and many other reactive substances.

HAZARDOUS DECOMPOSITION OR BY PRODUCTS:

Toxic fumes of oxides of sulfur when heated to decomposition. Will react with water or steam to produce toxic and corrosive fumes. Reacts with carbonates to generate carbon dioxide gas, and with cyanides and sulfides to form poisonous hydrogen cyanide and hydrogen sulfide respectively.

HAZARDOUS POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID: Avoid heat, moistures, incompatibles.

11. TOXICOLOGY INFORMATION

Oral rat LD50: 2140 mg/kg; inhalation rat LC50: 510 mg/m³/2H; standard Draize, eye rabbit, 250 ug (severe); investigated as a tumorigen, mutagen reproductive effector. Cancer Status: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions.

12. ECOLOGICAL INFORMATION

When released into the soil, this material may leach into groundwater. This material may be toxic to aquatic life. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition. When released into the air, this material may be removed from the atmosphere to a moderate extent by dry deposition.

13. DISPOSAL CONSIDERATIONS

The preferred options for disposal are to send to licensed reclaimers, or to permitted incinerators. Any disposal practice must be in compliance with federal, state, and local regulations. Do not dump into sewers, ground, or any body of water.

14. TRANSPORTATION INFORMATION

DOT Proper Shipping Name: Sulfuric Acid

PACKING GROUP: II

GUIDE NUMBER: 137

HAZARD CLASS: 8

DOT CLASS: Corrosive

UN NUMBER: 1830

15. REGULATORY INFORMATION

TSCA: Sulfuric Acid (7664-93-9), SARA RQ and CERCLA RQ = 1,000 lbs.

16. OTHER INFORMATION

HMIS INFORMATION: **HEALTH:** 3 **FLAMMABILITY:** 0 **REACTIVITY:** 2 **PROTECTIVE:** X

SARA Title III Information:

SARA 302: To the best of our knowledge, this product is not listed as an extremely hazardous substance.

SARA 311/312: This product should be reported as an immediate (acute) health hazard and a reactive hazard.

SARA 313: Sulfuric acid (7664-93-9)

NFPA Fire: 0, Toxicity: 3, Reactivity: 2, Special: W

N/A = Not Applicable

NDA = No Data Available

Disclaimer

The information contained herein is based on the data available to us and is believed to be accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. We assume no responsibility for injuries from the use of the product described herein.