



Aqua Chemical Supply, Inc.

183 Moore Street – Millersburg – PA – 17061
Office 717-692-7369 / 1-866-375-2782 Fax 717-692-3280

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTITY: SULFURIC ACID 77 – 100

Manufacturer/Supplier/Distributor

Univar USA Inc.

17425 NE Union Hill Road

Redmond, WA 98052

Emergency telephone number: For emergency assistance involving chemicals call
CHEMTREC day or night at: 1-800-424-9300

2. HAZARDS IDENTIFICATION

EXPOSURE PREVENTION: AVOID ALL CONTACT!

PREVENT DISPERSION OF MISTS OR DUST!

HAZARD STATEMENTS:

May be corrosive to metals.

Fatal if swallowed.

Causes severe skin burns and eye damage.

PRECAUTIONARY STATEMENTS:

Keep away from any possible contact with water, because of violent reaction & possible flash fire.

Do not get in eyes, on skin, or on clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present & easy to do - Continue rinsing.

If exposed or you feel unwell: Call a POISON CENTER or doctor/physician.

Store locked up. Keep out of reach of children.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Sulfuric Acid* 7664-93-9 231-639-5 77-100

Water 7732-18-5 231-791-2 0-23

TRACE COMPONENTS: Trace ingredients (if any) are present in < 1% concentration, (< 0.1% for potential carcinogens, reproductive toxins, respiratory tract mutagens, and sensitizers). None of the trace ingredients contribute significant additional hazards at the concentrations that may be present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalents, and Canadian Hazardous Materials Identification System Standard (CPR 4).

Composition comments: All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. FIRST AID MEASURES**GENERAL ADVICE:**

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists, refer to Section 8 for specific personal protective equipment.

EYE CONTACT:

If this product enters the eyes, open eyes while under gently running water. Use sufficient force to open eyelids. "Roll" eyes to expose more surface. Minimum flushing is for 15 minutes. Seek immediate medical attention.

SKIN CONTACT:

If the product contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove contaminated clothing, taking care not to contaminate eyes. If skin becomes irritated and irritation persists, medical attention may be necessary. Wash contaminated clothing before reuse, discard contaminated shoes.

INHALATION:

After high vapor exposure, remove to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If breathing is difficult, give oxygen. If breathing has stopped, trained personnel should immediately begin artificial respiration. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If the heart has stopped, trained personnel should immediately begin cardiopulmonary resuscitation (CPR). Seek immediate medical attention. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

SWALLOWING:

If swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, give two glasses of water to drink. DO NOT INDUCE VOMITING. Never induce vomiting or give liquids to someone who is unconscious, having convulsions, or unable to swallow. Seek immediate medical attention.

NOTES TO PHYSICIAN:

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Any material aspirated during vomiting may cause lung injury. Therefore, emesis should not be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause aspiration (such as: Gastric lavage after endotracheal intubation).

Victims of chemical exposure must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take a copy of label and SDS to physician or health professional with victim.

5. FIRE FIGHTING MEASURES

FIRE & EXPLOSION PREVENTIVE MEASURES Not Applicable.

EXTINGUISHING MEDIA

Expect violent reaction with water. For small fires use dry chemical, carbon dioxide or halon. For large fires, flood fire area with water from a distance. Do not get solid stream of water on spilled material.

SPECIAL FIRE FIGHTING PROCEDURES

Water spray may be ineffective on fire but can protect fire-fighters & cool closed containers. Use fog nozzles if water is used. Do not enter confined fire-space without full bunker gear. (Helmet with face shield, bunker coats, gloves & rubber boots). Use NIOSH approved positive-pressure self-contained breathing apparatus

UNUSUAL EXPLOSION AND FIRE PROCEDURES Noncombustible.

Reacts with most metals producing hydrogen which is extremely flammable & may explode. Applying to hot surfaces requires special precautions. Closed containers may explode if exposed to extreme heat.

6. ACCIDENTAL RELEASE MEASURES**SPILL AND LEAK RESPONSE AND ENVIRONMENTAL PRECAUTIONS:**

Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel.

PERSONAL PROTECTIVE EQUIPMENT

The proper personal protective equipment for incidental releases (such as: 1 Liter of the product released in a well-ventilated area), use impermeable gloves (triple-gloves (rubber gloves and nitrile gloves, over latex gloves), goggles, face shield, and appropriate body protection. In the event of a large release, use impermeable gloves, specific for the material handled, chemically resistant suit and boots, and hard hat. Self-Contained Breathing Apparatus or respirator may be required where engineering controls are not adequate or conditions for potential exposure exist. When respirators are required, select NIOSH/MSHA approved based on actual or potential airborne concentrations in accordance with latest OSHA and/or ANSI recommendations.

ENVIRONMENTAL PRECAUTIONS:

Stop spill at source. Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of the material. Close or cap valves and/or block or plug hole in leaking container and transfer to another container. Keep from entering storm sewers and ditches which lead to waterways, and if necessary, call the local fire or police department for immediate emergency assistance.

CONTAINMENT AND CLEAN-UP MEASURES:

Absorb spilled liquid with polypads or other suitable absorbent materials. If necessary, neutralize using suitable buffering material, (acid with soda ash or base with phosphoric acid), and test area with litmus paper to confirm neutralization. Clean up with non-combustible absorbent (such as: sand, soil, and so on). Shovel up and place all spill residue in suitable containers. Dispose of at an appropriate waste disposal facility according to current applicable laws and regulations and product characteristics at time of disposal (see Section 13 - Disposal Considerations).

7. HANDLING AND STORAGE**HANDLING**

Use only with adequate ventilation. Do not get in eyes, on skin or clothing. Wear OSHA Standard full face shield. Consult Safety Equipment Supplier. Wear gloves, apron & footwear impervious to this material. Wash clothing before reuse. NEVER pour water into this substance. When dissolving or diluting, always add it slowly to the water. To minimize static discharge when transferring, ensure electrical continuity by bonding and grounding all equipment. Use an inlet line diameter of at least 3.5 inches (8.9 centimeters) with a maximum flow rate of 1 meter/second.

STORAGE

Keep separated from strong oxidants, strong bases, combustible & reducing substances, metals, food & feedstuffs, incompatible materials. May be stored in stainless steel containers. See: Section 10, Materials to Avoid. Do not store above 49 C/120 F. Keep container tightly closed & upright when not in use to prevent leakage. Reacts with most metals producing hydrogen which is extremely flammable & may explode. Wear full face shield, gloves & full protective clothing when opening or handling. When empty, drain completely, replace bungs securely.

BULK CONTAINERS:

All tanks and pipelines which contain this material must be labeled. Perform routine maintenance on tanks or pipelines which contain this product. Report all leaks immediately to the proper personnel.

TANK CAR SHIPMENTS:

Tank cars carrying this product should be loaded and unloaded in strict accordance with tank-car manufacturer's recommendation and all established on-site safety procedures. Appropriate personal protective equipment must be used (see Section 8, Engineering Controls and Personal Protective Equipment.). All loading and unloading equipment must be inspected, prior to each use. Loading and unloading operations must be attended, at all times. Tank cars must be level, brakes must be set or wheels must be locked or blocked prior to loading or unloading. Tank car (for loading) or storage tanks (for unloading) must be verified to be correct for receiving this product and be properly prepared, prior to starting the transfer operations. Hoses must be verified to be in the correct positions, before starting transfer operations. A sample (if required) must be taken and verified (if required) prior to starting transfer operations. All lines must be blown-down and purged before disconnecting them from the tank car or vessel.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:

Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged-out safely. Always use this product in areas where adequate ventilation is provided. Collect all rinsates and dispose of according to applicable Federal, State, or local procedures.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

MATERIAL	CAS#	EINECS#	TWA (OSHA)	TLV (ACGIH)
Sulfuric Acid*	7664-93-9	231-639-5	None Known	None Known
Water	7732-18-5	231-791-2	None Known	None Known

This product contains no EPA Hazardous Air Pollutants (HAP) in amounts > 0.1%.

RESPIRATORY EXPOSURE CONTROLS

Maintain airborne contaminant concentrations below exposure limits given above. If respiratory protection is needed, use only protection authorized in 29 CFR 1910.134, European Standard EN 149, or applicable State regulations. If adequate ventilation is not available or there is potential for airborne exposure above the exposure limits, a respirator may be worn up to the respirator exposure limitations, check with respirator equipment manufacturer's recommendations/limitations. For a higher level of protection, use positive pressure supplied air respiration protection or Self Contained Breathing Apparatus or if oxygen levels are below 19.5% or are unknown.

EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATIONS OR IDLH CONDITIONS

Positive pressure, full-face piece Self Contained Breathing Apparatus; or positive pressure, full-face piece Self Contained Breathing Apparatus with an auxiliary positive pressure Self Contained Breathing Apparatus.

VENTILATION

LOCAL EXHAUST: Necessary MECHANICAL (GENERAL): Necessary

SPECIAL: None OTHER: None

Please refer to ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

EYE PROTECTION:

Splash goggles or safety glasses. Face-shields are recommended when the operation can generate splashes, sprays or mists.

HAND PROTECTION:

Wear appropriate impervious gloves for routine industrial use. Use impervious gloves for spill response, as stated in Section 6 of this SDS (Accidental Release Measures). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

BODY PROTECTION:

Use body protection appropriate for task. Cover-all, rubber aprons, or chemical protective clothing made from impervious materials are generally acceptable, depending on the task.

WORK & HYGIENIC PRACTICES:

Provide readily accessible eye wash stations & safety showers. Wash after each work shift & before eating, smoking or using the toilet. Promptly remove contaminated clothing. Destroy contaminated leather articles. Launder or discard contaminated clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Oily Liquid, Water-White
ODOR:	None
ODOR THRESHOLD:	Not Available
pH (Neutrality):	0.0
MELTING POINT/FREEZING POINT:	-11 to -29 C / +12 to -20 F
BOILING RANGE (IBP,50%,Dry Point):	193 to 276 C / 380 to 529 F
FLASH POINT (TEST METHOD):	Not Applicable
EVAPORATION RATE (n-BUTYL ACETATE=1):	Not Applicable
FLAMMABILITY CLASSIFICATION:	Non-Combustible
LOWER FLAMMABLE LIMIT IN AIR (% by vol):	Not Applicable
UPPER FLAMMABLE LIMIT IN AIR (% by vol):	Not Available
VAPOR PRESSURE (mm of Hg)@20 C	17.5
VAPOR DENSITY (air=1):	Not Applicable
GRAVITY @ 68/68F / 20/20C:	
SPECIFIC GRAVITY (Water=1):	1.70 to 1.84
POUNDS/GALLON:	14.2 to 15.3
WATER SOLUBILITY:	Complete
PARTITION COEFFICIENT (n-Octane/Water):	Not Available
AUTO IGNITION TEMPERATURE:	Not Applicable
DECOMPOSITION TEMPERATURE:	Not Available

10. STABILITY AND REACTIVITY**STABILITY**

Stable but Reacts with most metals producing hydrogen which is extremely flammable & may explode.

CONDITIONS TO AVOID

Avoid alkalis. When diluting, always add acid to diluent. DON'T add diluent to acid.

MATERIALS TO AVOID

The substance is a strong acid, reacts violently with bases and is corrosive. Upon heating, irritating and toxic fumes are formed including sulfur oxides, The substance is a strong oxidant & reacts violently with combustible & reducing materials. Corrosive to most common metals forming flammable/explosive gas (hydrogen). Sulfuric acid reacts violently with water & organic materials with much heat. Isolate from organics, chlorates, carbides, fulminates, picrates, metals. Fire risk on contact with organic materials and chemicals such as nitrates, carbides, and chlorates.

HAZARDOUS DECOMPOSITION PRODUCTS Sulfur Oxides.

HAZARDOUS POLYMERIZATION Will not occur.

11. TOXICOLOGICAL INFORMATION**ACUTE HAZARDS****EYE & SKIN CONTACT:**

Severe burns to skin, defatting, dermatitis.

Severe burns to eyes, redness, tearing, and/or blurred vision.

Liquid can cause severe skin & eye burns. Wash thoroughly after handling.

INHALATION:

Severe respiratory tract irritation may occur. Vapor harmful.

SWALLOWING:

Harmful or fatal if swallowed.

SUBCHRONIC HAZARDS/CONDITIONS AGGRAVATED**CONDITIONS AGGREGATED:**

Persons with skin conditions should avoid use.

CHRONIC HAZARDS**CANCER, REPRODUCTIVE & OTHER CHRONIC HAZARDS:**

Sulfuric Acid in the form of strong inorganic acid mists is known to cause cancer.

IRRITANCY OF PRODUCT: This product is irritating to contaminated tissue.

SENSITIZATION TO THE PRODUCT: No component of this product is known to be a sensitizer.

MUTAGENICITY: This product is not reported to produce mutagenic effects in humans.

EMBRYOTOXICITY: This product is not reported to produce embryotoxic effects in humans.

TERATOGENICITY: This product is not reported to produce teratogenic effects in humans.

REPRODUCTIVE TOXICITY: This product is not reported to cause reproductive effects in humans.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical which causes damage

to a developing embryo (such as: within the eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

MAMMALIAN TOXICITY INFORMATION

Oral LD50 (Rats): 2140 mg/kg
 Dermal LD50 (Rabbit): Not Available
 LC50 (Inhalation, Rats): 510 mg/m³ (4 hour exposure)
 Skin effects (Rabbit): Severe irritation
 Eye effects (Rabbit): Severe irritation

LD (adult human): between 5 ml and 15 ml (concentrated sulfuric acid)

12. ECOLOGICAL INFORMATION

AQUATIC ANIMAL INFORMATION:

No aquatic environmental information is available on this product.
 The substance is harmful to aquatic organisms.

MOBILITY IN SOIL

Mobility of this material has not been determined.

DEGRADABILITY

This product is completely biodegradable.

ACCUMULATION

Bioaccumulation of this product has not been determined

13. DISPOSAL CONSIDERATION

Processing, use or contamination may change the waste disposal requirements. Do not dispose of on land, in surface waters, or in storm drains. Waste should be recycled or disposed of in accordance with regulations. Large amounts should be collected for reuse or consigned to licensed hazardous waste haulers for disposal. **ALL DISPOSAL MUST BE IN ACCORDANCE WITH ALL FEDERAL, STATE, PROVINCIAL, AND LOCAL REGULATIONS. IF IN DOUBT, CONTACT PROPER AGENCIES. EPA CHARACTERISTIC: D002.**

14. TRANSPORT INFORMATION

> 1099 LB / 499 KG OF THIS PRODUCT IN 1 CONTAINER EXCEEDS THE "RQ" OF SULFURIC ACID. DOT SHIPPING NAME: UN1830, Sulfuric acid, 8, PG-II
 DRUM LABEL: (CORROSIVE)
 IATA / ICAO: UN1830, Sulfuric acid, 8, PG-II
 IMO / IMDG: UN1830, Sulfuric acid, 8, PG-II
 EMERGENCY RESPONSE GUIDEBOOK NUMBER: 137

15. REGULATORY INFORMATION

EPA REGULATION:

SARA SECTION 311/312 HAZARDS: Acute Health

All components of this product are on the TSCA list. SARA Title III Section 313 Supplier Notification
This product contains the indicated <*> toxic chemicals subject to the reporting requirements of
Section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 & of 40 CFR 372.
This information must be included in all SDSs that are copied and distributed for this material.

SARA TITLE III INGREDIENTS CAS# EINECS# WT% (REG.SECTION) RQ(LBS)
Sulfuric Acid 7664-93-9 231-639-5 77-100 (302,311,312,313) 1000

Any release equal to or exceeding the RQ must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR 302.6 and 40 CFR 355.40 respectively. Failure to report may result in substantial civil and criminal penalties. State & local regulations may be more restrictive than federal regulations.

SECTION 15. REGULATORY INFORMATION (CONTINUED)

SARA Title III Section 302 (Extremely Hazardous Substance List): Sulfuric Acid. CLEAN WATER ACT:

Sulfuric Acid is listed as a Hazardous Substance under the Clean Water Act.

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65: WARNING: This product contains Sulfuric Acid, listed as "Strong inorganic acid mists contain", a chemical known to the state of California to cause cancer.

INTERNATIONAL REGULATIONS

The components of this product are listed on the chemical inventories of the following countries:

Australia (AICS), Canada (DSL, NDSL), China (IECSC), Europe (EINECS, ELINCS), Japan (METI/CSCL, MHLW/ISHL), South Korea (KECI), New Zealand (NZIoC), Philippines (PICCS), Switzerland (SWISS), Taiwan (NECSI), USA (TSCA).

CANADA: WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

D1A: Material causing immediate and serious toxic effects (VERY TOXIC), (Sulfuric Acid)

D2B: Irritating to skin / eyes.

E: Corrosive Material.

16. OTHER INFORMATION**HAZARD RATINGS:****SECTION 16. OTHER INFORMATION**

HEALTH (NFPA): 3, HEALTH (HMIS): 3, FLAMMABILITY: 0, REACTIVITY: 2
(Personal Protection Rating to be supplied by user based on use conditions.)

This information is intended solely for the use of individuals trained in the NFPA & HMIS hazard rating systems.

Notice

Aqua Chemical Supply, Inc. expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this SDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from your local Aqua Chemical Supply, Inc. sales office.

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