

COMPONENTS

Sulfuric Acid CAS# 7664-93-9	Water CAS# 7732-18-5	Specific Gravity @ 60°F
60%	40%	1.500
68.74%	31.26%	1.600
70%	30%	1.616
77.67%	22.33%	1.705
93%	7%	1.835
98%	2%	1.843

FIRE AND EXPLOSION DATA

Flash Point: Will not burn, non-flammable

Autoignition Temperature: Not combustible

Flammability Limits in air (%) UEL: Not applicable

LEL: Not applicable

Hazards: Reacts with most metals, especially when dilute, to give flammable, potentially explosive hydrogen gas. Follow appropriate National Fire Protection Assoc. (NFPA) codes.

Extinguishing Media: Use media appropriate for surrounding material. Use water spray to cool containers exposed to fire; do not get water inside containers.

Special Instructions: Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Generates heat upon addition of water, with possible spattering. Wear full protective clothing. Runoff from fire control may cause pollution. Neutralize runoff with lime, soda ash, etc. Wear self-contained breathing apparatus if fumes or mists are present.

HAZARDOUS REACTIVITY

Instability: Stable, but reacts violently with water and organic materials with evolution of heat.

Decomposition: Releases sulfur dioxide at extremely high temperatures.

Polymerization: Polymerization will not occur.

Materials to Avoid: Vigorous reactions with water; alkaline solutions; metals, metal powder; carbides; chlorates; fuminates; nitrates; picrates; strong oxidizing, reducing, or combustible organic materials. Hazardous gases are evolved on contact with chemicals such as cyanides, sulfides, and carbides.

HEALTH HAZARD DATA

Causes severe burns to eyes, skin, and all body tissue. Eye damage may be permanent. Destruction of tissue may result from direct chemical reaction with tissue, from thermal burns, and from dehydration (removal of water) of the tissue.

Animal Data:

Inhalation 1 hour LC50:	347 ppm in rats
Oral LD50	2140 mg/kg in rats

The concentrated compound is corrosive to the skin and eyes of animals causing corrosion of mucosal surfaces. Toxic effects described in animals from single exposures by inhalation include respiratory irritation.

Exposure to the liquid by skin or eye contact may cause eye corrosion with corneal or conjunctival ulceration; or skin burns or ulceration. Ingestion of the liquid may cause severe burns to the mucous membranes of the mouth and esophagus. Repeated or prolonged contact with mists may cause eye irritation with tearing or blurring of vision; or skin irritation with discomfort or rash. Prolonged or repeated exposure may result in impaired lung function and possible discoloration and erosion of teeth. Individuals with preexisting diseases of the lungs may have increased susceptibility to the toxicity of excessive exposures.

CARCINOGENICITY

None of the components in this material is listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

FIRST AID

Inhalation:

Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give CPR if there is no breathing AND no pulse. Obtain medical attention IMMEDIATELY.

Ingestion:

If swallowed, do not induce vomiting. Give large quantities of water. Call a physician. Do not neutralize the acid. Never give anything by mouth to an unconscious person.

Skin or Eye Contact:

In case of contact, immediately (within seconds) flush eyes or skin with plenty of cold water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. While the patient is being transported to a medical facility apply compresses of iced water. If medical treatment must be delayed, immerse the affected area in iced water or apply compresses of iced water to affected areas. Do not freeze tissue.

Notes to Physician:

Continued washing of the affected area with cold or iced water will be helpful in removing the last traces of sulfuric acid. Creams or ointments should not be applied before or during the washing phase of treatment.

PRECAUTIONS FOR SAFE HANDLING

Good general ventilation should be provided to keep vapor and mist concentrations below the exposure limits. Have available and wear as appropriate for exposure conditions when handling containers or operating equipment containing sulfuric acid: Chemical splash goggles; full-length face shield/chemical splash goggle combination; acid-proof gauntlet gloves, apron, and boots; long sleeve wool, acrylic or polyester clothing; acid proof suit and hood; and appropriate NIOSH/MSHA respiratory protection. In case of emergency or where there is a strong possibility of considerable exposure, wear a complete acid suit with hood, boots and gloves. If acid vapor or mist are present and exposure limits may be exceeded, wear appropriate NIOSH/MSHA respiratory protection.

Always add acid to water - not water to acid.

SPILLS:

EPA and Superfund reportable discharge is 1000 lbs. Stop flow if possible. Use appropriate protective equipment during clean up. Soak up small spills with dry sand, clay or diatomaceous earth. Dike large spills, and cautiously dilute and neutralize with lime or soda ash, and transfer to waste water treatment system. Prevent liquid from entering sewers, waterways or low areas. Comply with Federal, State and local regulations.

WASTE:

Cleaned up material may be a RCRA Hazardous Waste on disposal. Do not flush to surface water or sanitary sewer system. Comply with Federal, State and local regulations. If approved, neutralize and transfer to waste treatment system.

STORAGE:

Keep out of sun and away from heat, sparks, and flame. Keep container tightly closed to prevent leakage. Loosen closure carefully; relieve internal pressure when received and at least weekly thereafter. Do not use pressure to empty. Do not wash out container or use it for other purposes. Replace closure after each use.

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