



Sulfuric Acid

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Sulfuric acid is clear colorless oily liquid. It is odorless and very toxic. Fatal if inhaled. It can form very hazardous decomposition products. Reacts violently with water and corrosive [CCOHS].

Usage and exposure:

Sulfuric acid is used in many industries. It's used to produce other chemicals, explosives and glue; to refine petroleum; to cure metal; and in lead-based car batteries [CDC].

Sulfuric acid is used to make storage batteries, fertilizers, paper products, textiles, explosives, pharmaceuticals, steel and iron production [NJ gov]

Workers at risk of being exposed to sulfuric acid include:

- Outdoor workers who work in areas where coal, oil, or gas are burned,
- Mechanics who handle dirty batteries,
- Plumbers and contractors who come in contact with toilet bowl cleaners mixed with water,
- Workers in publishing, printing or photography shops,
- Fire fighters and steelworkers who are exposed to acid mists [CDC].

Minor uses of sulfuric acid include applications in petroleum refining, mining, metallurgy, and ore processing, in the synthesis of inorganic and organic chemicals, synthetic rubber and plastics, in the processing of pulp and paper, the manufacture of soap and detergents, cellulose fibers and films, inorganic pigments and paints, and in water treatment [IARC].

Sulfuric acid is used with other strong inorganic acids in many manufacturing processes, during which strong inorganic acid mists may be generated [IARC].

Industries and occupational activities with exposure to strong inorganic acid mists, containing sulfuric acid:

- Manufacture of industrial chemicals;
- Manufacture of fabricated metal products, except machinery and equipment;
- Construction;
- Wholesale and retail trade and restaurants and hotels;
- Medical, dental, other health and veterinary services;
- Iron and steel basic industries;
- Manufacture of other chemical products;
- Manufacture of electrical machinery, apparatus, appliances and supplies;
- Manufacture of machinery except electrical;
- Food manufacturing [IARC].

Routs of exposure:

Inhalation, skin contact, eye contact.

Target organs:

Sulfuric acid (H_2SO_4) is a corrosive substance, destructive to the skin, eyes, teeth, and lungs. Severe exposure can result in death.

Health hazards:

Inhalation: Not expected to be an inhalation hazard unless heated or misted. Very toxic, can cause death. Sulfuric acid can cause severe irritation of the nose and throat, can cause life-threatening accumulation of fluid in the lungs (pulmonary edema). Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest. Long-term damage may result from a severe short-term exposure

Skin contact: CORROSIVE. Contact can cause pain, redness, burns, and blistering. Permanent scarring can result. A severe exposure can cause death.

Eye contact: CORROSIVE. Contact causes severe burns with redness, swelling, pain and blurred vision. Permanent damage including blindness can result.

Can burn the lips, tongue, throat and stomach. Symptoms may include nausea, vomiting, stomach cramps and diarrhea. Permanent damage can result.

There is sufficient evidence in humans for the carcinogenicity of mists from strong inorganic acids, containing sulfuric acid. Mists from strong inorganic acids cause cancer of the larynx. A positive association has been observed between exposure to mists from strong inorganic acids and cancer of the lung [IARC].

Mists from strong inorganic acids are carcinogenic to humans (Group 1) [IARC].

References:

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