MSDS

Safety Data Sheets For Sulphuric Acid

IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Identification of the Product
Designation
Trade name
Commonly used synonyms Sulphuric acid
CAS Number: 7664-93-9
EINECS Number: 231-639-5
EINECS Name Sulphuric acid
Molecular formula H2SO4

Company Address
Oriental carbon & Chemicals Ltd
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Emergency calls

Company : Oriental carbon & Chemicals Ltd
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COMPOSITION/INFORMATION ON INGREDIENTS

Nature of ingredients and concentration
Aqueous solution containing: x% H2SO4

Cclassification
Corrosive according to EEC classification.

HAZARDS IDENTIFICATION

Human Health
Sulphuric acid is highly corrosive to all parts of the body. Its vapours are corrosive to the respiratory tract and can cause fluid build-up on the lung (pulmonary Å'dema) which could prove fatal.

1) Skin Contact: Liquid splashes may cause severe burns.
2) Eye Contact : May cause severe burns. May cause prolonged and permanent damage.
3) Ingestion : Will immediately cause severe corrosion of and damage to the gastro-intestinal tract.
4) Inhalation : Vapour is severely irritant to the respiratory tract. Fluid build up on the lung (pulmonary Å'dema) may occur up to 48 hours after
exposure and could prove fatal.

5) Long term effects :Occupational exposure to strong inorganic acid mists containing sulphuric acid has been associated with an increased incidence of cancer of the larynx (the voice box) and, to a lesser extent, the lung.

Environment
Sulphuric acid is harmful to aquatic life

Other
Oxidizing agent, may assist combustion. Can react violently if in contact with water. Highly reactive with metals and organic materials.

FIRST-AID MEASURES

Product
Speed is essential. In all cases, obtain medical attention.

Skin Contact
1) Drench with water and remove contaminated clothing and wash or shower the affected skin with plenty of water.
2) Obtain immediate medical attention.

Eye Contact
1) Immediately irrigate the eyes with eyewash solution or clean water for at least 10 minutes.
2) Continue irrigation until medical attention can be obtained.
3) Hold eyelids open during flushing.

Ingestion
1) Do not induce vomiting.
2) If the person is conscious, wash out mouth with water and give 2 or 3 glasses of water or milk to drink.
3) Immediately transport the patient to hospital.

Inhalation
1) Move the injured person to fresh air at once.
2) Keep the patient warm and at rest.
3) Administer oxygen if a competent person is available.
4) Perform artificial respiration, if breathing has stopped or shows sign of failing.
5) Obtain immediate medical attention.

Further medical advice
Following exposure the patient should be kept under medical review for at least 48 hours as delayed pulmonary Å'dema may develop.

FIRE-FIGHTING MEASURES

Non-flammable. Oxidizing agent, may assist combustion.

Suitable extinguishing media
1) Dry powder.
2) Water spray should be used to cool containers.
3) Suitable extinguishing media for the combustible substance: water.

specific hazards if product is involved in a Fire
1) Not combustible, but many reactions may cause Fire and explosion.
2) Release of toxic gases (oxides of sulphur) from decomposition and hydrogen from reaction with metals.
3) A self contained breathing apparatus and full protective clothing should be worn in Fire conditions.

ACCIDENTAL RELEASE MEASURES

Personal precautions
1) Put on protective equipment before entering danger area. (See Section 8.)
2) Ventilate area of the spill or leak.

Environmental precautions
1) Take care to avoid the contamination of watercourses and drains.
2) Inform appropriate authority in case of accidental contamination of watercourses.

Methods for cleaning
1) Swill away small spillage with copious quantities of water.
2) Contain large spillage with sand or earth as necessary.
3) Neutralise cautiously with soda ash or lime (risk of heat generation and splashing acid) and

recover for disposal.

HANDLING AND STORAGE

Handling
1) Wear eye and hand protection when handling small quantities.
2) Provide adequate ventilation.
3) When diluting, always add acid to water, not water to acid.
4) Wear full protective equipment where there is a risk of leaks or splashes.
5) Avoid inhalation of high concentration of mists.

Storage
1) Store in cool, well ventilated area.
2) Keep away from combustible materials, reducing agents, strong bases, metals.
3) The bung or stopper on steel drums must be opened at periodic intervals to release hydrogen.
4) Do not permit smoking or the use of naked lights.

EXPOSURE CONTROL / PERSONAL PROTECTION

Occupational exposure limits
1) ACGIH recommended values (1995-96):
2) TLV/TWA : 1mg/m3
3) TLV-STEL: 3mg/m3.

Precautionary and engineering measures
1) Local exhaust ventilation.
2) Provide safety showers and eye washing facility at any location where skin or eye contact can occur.

Personal Protection
1) Wear suitable breathing apparatus if exposure levels exceed the recommended limits.
2) Wear acid resistant gloves, apron, footwear and protective clothing.
3) Use chemical safety goggles or full face shield.

STABILITY AND REACTIVITY

Stability
The product is stable under normal conditions of storage, handling and use.

Conditions to avoid
High temperatures.

Materials to avoid
1) Combustible substances, reducing agents, strong bases.
2) Above 60% the solution is a strong oxidant, reacts with many organic compounds and attacks clothing.
3) The substance is a strong acid, reacts violently with bases and is corrosive.
4) Attacks base metals (except lead) giving off hydrogen.

Hazardous reactions/decomposition products
Sulphur dioxide, sulphur trioxide and hydrogen gases evolved.

TOXICOLOGICAL INFORMATION

General
Sulphuric acid is highly corrosive to all parts of the body.

Toxicity Data
1) Skin Contact Pain, severe burns.
Prolonged or repeated exposure to diluted solutions may cause dermatitis.

2) Eye Contact Immediate pain, severe burns, permanent corneal damage which may result in blindness.
3) Inhalation Mists and vapours may cause sore throat, coughing, shortness of breath, laboured breathing.
4) Over-exposure may cause lung Å'dema.
5) Prolonged or repeated exposures to mists or vapours of sulphuric acid may cause erosion and discolouration of teeth, chronic irritation of the nose, throat and bronchial tubes.
6) Ingestion Pain and severe burning in the mouth and throat and damage to gastro-intestinal tract.

Other Data
The WHO International Agency for Research on Cancer (IARC) have concluded that occupational exposure to strong inorganic acid mists containing sulphuric acid is carcinogenic to man, causing cancer of the larynx (the voice box) and, to a lesser extent, the lung. Although no direct link has been established between exposure to sulphuric acid, itself, and cancer in man, exposure to any mist or aerosol during the use of this product should be avoided and, in any case, keep exposures below the occupational exposure limit for sulphuric acid.

ECOLOGICAL INFORMATION

Mobility
Soluble in water.

Persistence/Degradability
1) Unlikely to cause harmful effects.
2) Remains indefinitely in the environment as sulphate.

Bio-accumulation
The product has low potential of bio-accumulation.

Ecotoxicity
Sulphuric acid is harmful to aquatic life even in low concentration.

DISPOSAL CONSIDERATIONS

General
Sulphuric acid should be disposed of in accordance with local and national legislation.

TRANSPORT INFORMATION

UN classification
Class 8, Corrosive Substances, UN No 1830.

Details
ADR/RID: Class 8, Item 1Âi(b), Label: 8, Packaging Group II.
IMDG: Class 8, Label: 8, Packaging Group II.