

Common Name: **SULFURYL CHLORIDE**

Synonyms: Chlorosulfuric Acid; Sulfuric Dichloride; Sulfur Oxychloride

CAS No: 7791-25-5

Molecular Formula: SO_2Cl_2

RTK Substance No: 1768

Description: Colorless liquid with a strong, irritating odor

HAZARD DATA

| Hazard Rating | Firefighting | Reactivity |
|--|---|---|
| 3 - Health 0 - Fire 2W - Reactivity DOT#: UN 1834 ERG Guide #: 137 Hazard Class: 8 (Corrosive) | CORROSIVE AND WATER REACTIVE Extinguish fire using an agent suitable for type of surrounding fire. Sulfuryl Chloride itself does not burn. DO NOT USE WATER. POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Chlorine</i> , <i>Hydrogen Chloride</i> , and <i>Sulfur Oxides</i> . Sulfuryl Chloride may ignite combustibles (wood, paper and oil). | Sulfuryl Chloride reacts with WATER or MOIST AIR to form toxic and corrosive gases such as <i>Hydrogen Chloride</i> and <i>Sulfuric Acid</i> . Sulfuryl Chloride can react explosively with LEAD DIOXIDE and ETHERS (when in the presence of METAL SALTS). Sulfuryl Chloride is not compatible with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE); ALCOHOLS; and AMINES. Sulfuryl Chloride attacks many METALS in the presence of WATER. |

SPILL/LEAKS

Isolation Distance:

Small Spill: 30 meters (100 feet)

Large Spill: 100 meters (300 feet)

Fire: 800 meters (1/2 mile)

Absorb liquids in vermiculite, dry sand, earth, or a similar material and place into sealed containers for disposal.

DO NOT USE WATER OR WET METHOD.

DO NOT wash into sewer.

Sulfuryl Chloride may be hazardous to the environment, especially water systems.

PHYSICAL PROPERTIES

Odor Threshold: Strong, irritating odor

Flash Point: Nonflammable

Vapor Density: 4.6 (air = 1)

Vapor Pressure: 105 mm Hg at 68°F (20°C)

Specific Gravity: 1.67 (water = 1)

Water Solubility: Decomposes/Reacts

Boiling Point: 156°F (69°C)

Freezing Point: -65°F (-54°C)

Molecular Weight: 134.96

EXPOSURE LIMITS

No occupational exposure limits have been established for **Sulfuryl Chloride**.

The Protective Action Criteria values are:

PAC-1 = 0.3 ppm PAC-2 = 3.7 ppm PAC-3 = 11ppm

PROTECTIVE EQUIPMENT

Gloves: Barrier® (>8-hr breakthrough for *Inorganic Halides*)

Coveralls: Tychem® BR, Responder®, and TK (>8-hr breakthrough)

Respirator: SCBA

HEALTH EFFECTS

Eyes: Severe irritation, burns and possible eye damage

Skin: Severe irritation and burns

Inhalation: Nose, throat and lung irritation with coughing, and severe shortness of breath (pulmonary edema)

FIRST AID AND DECONTAMINATION

Remove the person from exposure.

Flush eyes with large amounts of water for at least 30 minutes. Remove contact lenses if worn. Seek medical attention immediately.

Quickly remove contaminated clothing and wash contaminated skin with large amounts of soap and water. Seek medical attention immediately.

Begin artificial respiration if breathing has stopped and CPR if necessary.

Transfer promptly to a medical facility.

Medical observation is recommended as symptoms may be delayed.