

Sulfur Monochloride

This document provides a brief description of Sulfur Monochloride, its uses, and the potential hazards associated with short and long term exposure. Environmental impact information for accidental releases is included. This information is general in nature and is not intended as a replacement for the safety data sheet (SDS), product label and other safe handling literature. For additional information consult the LANXESS safety data sheet.

Identification

Product Name:	Sulfur Monochloride
Chemical Name:	Sulfur Chloride
Synonym(s):	Disulfur Dichloride
CAS Number:	10025-67-9

Description

Overview:	Sulfur Monochloride is sold by LANXESS in liquid form. It is brownish yellow in color with a pungent, irritating odor.								
Uses:	LANXESS's Sulfur Monochloride is used primarily in the manufacture of lubricant additives and vulcanizing agents for rubber.								
Properties:	<table><tr><td>Boiling Point:</td><td>Approx. 280.4°F (138°C)</td></tr><tr><td>Flash Point:</td><td>Approx. 280°F (138°C)</td></tr><tr><td>Solubility in Water:</td><td>Hydrolyzes</td></tr><tr><td>Melting Point:</td><td>-107°F (-77°C)</td></tr></table>	Boiling Point:	Approx. 280.4°F (138°C)	Flash Point:	Approx. 280°F (138°C)	Solubility in Water:	Hydrolyzes	Melting Point:	-107°F (-77°C)
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Potential Human Health Effects

Occupational Exposure

Potential for occupational exposure to Sulfur Monochloride exists while performing maintenance or repair work in manufacturing operations, at transloading facilities and during transfers to storage and staging areas. A much lower potential for exposure exists within facilities using the chemical in the manufacture of other products, since the majority of Sulfur Monochloride sold by LANXESS is used in closed manufacturing processes by trained personnel.

Employee Training

Workers handling Sulfur Monochloride are trained to implement proper handling procedures and to understand the potential health and physical hazards of this product. A NIOSH approved full face positive pressure, supplied- air respirator is recommended for transloading, unloading and other operations not contained within a closed system. In addition, LANXESS recommends that goggles, permeation resistant clothing, gloves and foot protection be worn when handling Sulfur Monochloride.

Consumer Exposure

LANXESS does not sell this product to the general public and no residuals are expected in consumer products manufactured using this chemical as an intermediate.

Short-Term Health Effects

Sulfur Monochloride is highly toxic if inhaled in sufficient quantities. Symptoms of inhalation exposure range from coughing, burning, ulceration and pain to pulmonary edema (accumulation of fluid in the lungs). Inhaling large quantities or high concentrations may cause severe breathing difficulty, with symptoms of chemical pneumonia.

Short-term skin contact may result in redness, itching, swelling, ulceration or burns. Permanent tissue damage is possible. Vapors may cause eye irritation with symptoms of burning and tearing. Sulfur Monochloride splashed directly in the eyes may produce severe pain, permanent tissue damage or blindness.

Sulfur Monochloride is corrosive to the digestive tract. Symptoms of ingestion may include nausea, thirst, abdominal pain, vomiting, diarrhea, chills, fever, uneasiness, burning or ulceration.

Long-Term Health Effects

Long-term or repeated inhalation of Sulfur Monochloride may cause ulceration of nasal and oral passages, changes in pulmonary function, bronchitis or permanent lung damage. Prolonged exposure to vapors may also cause conjunctivitis (redness and inflammation of the eyes). These symptoms may be delayed.

The International Agency for Research on Cancer (IARC) classifies Sulfur Monochloride as Group 1, concluding that "occupational exposure to strong inorganic acid mists is carcinogenic to humans."

Physical Hazards

Sulfur Monochloride is stable at ambient temperatures but it reacts violently with water, forming hydrochloric acid and releasing hydrogen chloride gas. The chemical will decompose rapidly in a moist environment or if heated beyond its' boiling point. Avoid contact with water, peroxides, oxides of phosphorus, organic matter and metals. Exposure to heat, open flames and other potential sources of ignition must be avoided.

Potential Environmental Impact

Sulfur Monochloride decomposes rapidly in the presence of water. The byproducts of decomposition, in turn, degrade rapidly into common elements. As a result, Sulfur Monochloride is not readily adsorbed into soil and does not accumulate in the tissues of fish or other aquatic organisms. Contact with acids formed during decomposition may pose a danger to fish (high toxicity), invertebrates (high toxicity) and plants (high toxicity) prior to biodegradation.

Conclusion

Under normal conditions of anticipated use as described in this Product Safety Assessment and if the recommended safe use and handling procedures are followed, Sulfur Monochloride is not expected to pose a significant risk to human health or the environment.

References

Concise International Chemical Assessment Document (CICAD) 60, International Programme on Chemical Safety (IPCS)

International Chemical Safety Card, International Programme on Chemical Safety (IPCS)

Safety Data Sheet (SDS), Sulfur Monochloride, LANXESS Corporation

MedlinePlus Medical Encyclopedia, U.S. National Library of Medicine and the National Institutes of Health

Occupational Health Guidelines for Sulfur Monochloride, U.S. Department of Health and Human Services and the U.S. Department of Labor

ToxNet Hazardous Substances Data Bank, U.S. National Library of Medicine, National Institutes of Health and the U.S. Department of Health and Human Services

Contact Information

LANXESS Corporation, Product Safety & Regulatory Affairs, 111 RIDC Park West Drive, Pittsburgh, PA 15275-1112, USA, Phone 1-800-526-9377 [1-800-LANXESS]

Notices

Use and Application Information

The conditions of your use and application of our products, technical assistance and information (whether verbal, written or by way of production evaluation(s)), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis at least must include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by LANXESS. All information is given without warranty or guarantee. It is expressly understood and agreed that customer assumes and hereby expressly releases LANXESS from all liability, in tort, contract or otherwise, incurred in connection with the use of our products and information. Any statement or recommendation not contained herein is unauthorized and shall not bind LANXESS Corporation. Nothing herein shall be construed as a recommendation to use any product in violation of any patent covering any material or its use. No permission or license to use any patent is implied or in fact granted by this publication.