LANXESS
Energizing Chemistry

Tetraethyl-thioperoxydicarbonic diamide

This document provides a brief description of tetraethyl-thioperoxydicarbonic diamide, 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:	Tetraethyl-thioperoxydicarbonic diamide
Chemical Name:	Thioperoxydicarbonic diamide, tetraethyl-
Synonym(s):	1,1'-Dithiobis(N,N-diethylthioformamide)
	Disulfiram
	Disulfide, bis(diethylthiocarbamoyl)
	TETD
CAS Number:	97-77-8

Description

Overview:	Tetraethyl-thioperoxydicarbonic diamide is a colorless to pale yellow or light gray solid at ambient temperatures. The chemical compound has a faint odor and is sold in powder form.	
Uses:	Tetraethyl-thioperoxydicarbonic diamide is used primarily as a synthetic elastomer or vulcanization accelerator component in chloroprene rubber products manufactured by LANXESS. The chemical is also used as a disinfectant and fungicide in agriculture.	
Properties:	**Melting Point:**	159.8°F (71°C)
	Solubility in Water:	Slight

Potential Human Health Effects

Occupational Exposure

Potential for exposure to tetraethyl-thioperoxydicarbonic diamide exists during manufacture, at storage or staging areas, and during sampling and mixing operations when used in the manufacture of rubber goods. A much lower potential for exposure exists in facilities using the chemical in closed manufacturing processes by trained personnel.

Employee Training

Workers handling tetraethyl-thioperoxydicarbonic diamide should be trained to implement proper handling procedures and to understand the potential health and physical hazards of this product. A NIOSH approved particulate respirator is recommended for operations not contained within a closed system. Adequate ventilation should be provided to avoid concentrations of dust. In addition, LANXESS recommends that goggles, chemical resistant clothing and gloves be worn when handling tetraethyl-thioperoxydicarbonic diamide.

Consumer Exposure

LANXESS does not sell tetraethyl-thioperoxydicarbonic diamide to the general public. Rubber products manufactured using tetraethyl-thioperoxydicarbonic diamide as an additive may retain the substance in encapsulated form. As a result, susceptible individuals may experience contact dermatitis from direct contact due to an allergic skin reaction. Skin irritation is usually temporary. Consumers may be exposed to the chemical through ingestion for medicinal purposes.

Short-Term Health Effects

Short-term contact may cause eye, skin or respiratory tract irritation. Susceptible individuals may experience an allergic skin reaction with symptoms of redness, itching and swelling. Sensitization is possible. Ingestion, inhalation or absorption through the skin in sufficient quantities (particularly immediately before or after consuming alcohol) may cause cardiovascular and/or nervous system effects with symptoms of confusion, headache, nausea, vomiting, palpitation, hypotension and hyperventilation. Effects may be delayed.

Long-Term Health Effects

Repeated or prolonged exposure to tetraethyl-thioperoxydicarbonic diamide may have effects on the endocrine system, liver, nervous system and thyroid. Laboratory tests indicate potential toxicity to human reproduction or development.

Physical Hazards

Tetraethyl-thioperoxydicarbonic diamide is stable under normal conditions of use. Large concentrations of dust may form explosive mixtures in air. Avoid contact with strong oxidizers. Heating to decomposition may release carbon monoxide, carbon dioxide, sulfur oxides or other potentially toxic gases. Avoid heat, open flames and other potential sources of ignition.

Potential Environmental Impact

Tetraethyl-thioperoxydicarbonic diamide released to the atmosphere in vapor form will degrade rapidly. An accidental release to water will absorb to suspended soils and sediment and may pose a danger to fish (high toxicity), invertebrates (high toxicity) and other aquatic organisms (high toxicity) prior to degradation. Tetraethyl-thioperoxydicarbonic diamide has a high potential for bioaccumulation in aquatic organisms.

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, tetraethyl-thioperoxydicarbonic diamide is not expected to pose a significant risk to human health or the environment.

References

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

Safety Data Sheet (SDS), DISULFIRAM, ChemAdvisor, Inc.

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

NIOSH Pocket Guide to Chemical Hazards, Disulfiram, National Institute for Occupational Safety and Health (NIOSH)

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

Contact Information

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Notices

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