LANXESS
Energizing Chemistry

N-Tert-butylbenzothiazole-2-sulphenamide

This document provides a brief description of n-Tert-butylbenzothiazole-2-sulphenamide, 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 Corporation safety data sheet.

Identification

Product Name:	VULKACIT NZ/EG C (BP)
Chemical Name:	n-Tert-butylbenzothiazole-2-sulphenamide
Synonym(s):	Benzothiazolesulfenamide, n-(1,1-dimethylethyl)- Benzothiazolyl-2-tert-butylsulfenamide n-(1,1-Dimethylethyl)-2-benzothiazolesulfenamide n-Tert,-butyl-2-benzothiazolsulfenamide
CAS Number:	95-31-8

Description

Overview:	N-Tert-butylbenzothiazole-2-sulphenamide is a light gray solid at ambient temperatures. The chemical has a slight, characteristic odor.	
Uses:	N-Tert-butylbenzothiazole-2-sulphenamide is sold by LANXESS for use as a vulcanization accelerator in the manufacture of tires, belts and other rubber products.	
Properties:	**Melting Point:**	106°C (222.8°F)
	Boiling Point:	Degrades at 207°C (404.6°F)
	Solubility in Water:	Insoluble

Potential Human Health Effects

Occupational Exposure

Potential for occupational exposure exists during manufacture, at bulk unloading, storage and staging areas and during sampling, cleaning and mixer charging operations in facilities using n-Tert-butylbenzothiazole-2-sulphenamide as a vulcanization accelerator in the manufacture of rubber products. A much lower potential for exposure exists in facilities using n-Tert-butylbenzothiazole-2-sulphenamide in closed manufacturing processes by trained personnel.

Employee Training

Workers handling n-Tert-butylbenzothiazole-2-sulphenamide should be trained to implement proper handling procedures and to understand the potential health and physical hazards of this product. Engineering controls should be used to keep dust concentrations below recommended explosion limits. A NIOSH approved air-purifying particulate respirator with N-95 filters should be used when airborne concentrations exceed recommended exposure limits. In addition, LANXESS recommends protective goggles with side shields or tightly fitting protective goggles and permeation resistant gloves, clothing and foot protection be worn when handling n-Tert-butylbenzothiazole-2-sulphenamide.

Consumer Exposure

LANXESS Corporation does not sell n-Tert-butylbenzothiazole-2-sulphenamide to the general public. Trace amounts of the chemical compound may be present in rubber products manufactured using n-Tert-butylbenzothiazole-2-sulphenamide as a vulcanization accelerator.

Short-Term Health Effects

Short-term skin exposure to n-Tert-butylbenzothiazole-2-sulphenamide may be mildly irritating. Sensitization may occur. Susceptible individuals may experience an allergic skin reaction with symptoms of redness, itching, swelling and rash. Pre-existing skin disorders may be aggravated by over-exposure to this product. N-Tert-butylbenzothiazole-2-sulphenamide dust may cause mechanical (abrasive) irritation of the eyes and respiratory tract.

Long-Term Health Effects

Once sensitized, an allergic skin reaction may occur with symptoms of redness, swelling, and rash when subsequently exposed to very low levels of n-Tert-butylbenzothiazole-2-sulphenamide. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Physical Hazards

N-Tert-butylbenzothiazole-2-sulphenamide is stable under normal conditions of use. N-Tert-butylbenzothiazole-2-sulphenamide dust may form explosive mixtures with air. Heating to decomposition may release carbon monoxide, carbon dioxide, nitrogen oxides and sulfur oxides. Avoid heat, open flames and other potential sources of ignition.

Potential Environmental Impact

N-Tert-butylbenzothiazole-2-sulphenamide is not readily biodegradable. An accidental release to the environment will hydrolyze rapidly into mercaptobenzothiazole, di(benzothiazoyl- 2)disulfide, t-butylamine, and benzothiazole. A release to water may pose a danger to fish (high toxicity), invertebrates (high toxicity) and aquatic plants (high toxicity) prior to degradation. The hydrolysis products of n-Tert-butylbenzothiazole-2-sulphenamide are not expected to adsorb to suspended soils and sediments or accumulate in the tissues of 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, n-Tert-butylbenzothiazole-2-sulphenamide is not expected to pose a significant risk to human health or the environment.

References

IUCLID Dataset, N-Tert-butylbenzothiazole-2-sulphenamide (95-31-8), European Chemicals Bureau, European Commission

Safety Data Sheet (SDS), VULKACIT NZ/EG C (BP), LANXESS Corporation

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

SIDS Initial Assessment Report – N-TERT-BUTYLBENZOTHIAZOLE-2-SULPHENAMIDE, Organization for Economic Cooperation and Development (OECD)

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

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 manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), 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 must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent.