
2H-Benzimidazole-2-thione, 1,3-dihydro-4(or 5)-methyl-, zinc salt

This document provides a brief description of 2H-Benzimidazole-2-thione, 1,3-dihydro-4(or 5)-methyl-, zinc salt, 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

Chemical Name:	2H-Benzimidazole-2-thione, 1,3-dihydro-4(or 5)-methyl-, zinc salt
Synonym(s):	1,3-dihydro-4(or 5)-methyl-2H-benzimidazole-2-thione, zinc salt Methyl-2-mercaptobenzimidazole, zinc salt Zinc 2-mercaptotoluimidazole ZMB2
CAS Number:	61617-00-3
Applicable LANXESS Materials:	Vulkanox ZMB2/C-5 Rhenogran ZMMBI-50

Description

Overview:	Methyl-2-mercaptobenzimidazole, zinc salt is a off-white odorless powder at room temperature.						
Uses:	This material may be used as an antioxidant in the production of natural or synthetic rubber.						
Properties:	<table><tr><td>Solubility in Water:</td><td>slightly soluble</td></tr><tr><td>Density:</td><td>0.238 kg/L (20°C)</td></tr><tr><td>Decomposition:</td><td>>255 °C (491°F)</td></tr></table>	Solubility in Water:	slightly soluble	Density:	0.238 kg/L (20°C)	Decomposition:	>255 °C (491°F)
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Decomposition:	>255 °C (491°F)						

Potential Human Health Effects

Occupational Exposure

Potential for occupational exposure exists during manufacture, and in unloading, storage, staging and transfer operations at facilities using the LANXESS material in the production of other products. A much lower potential for exposure exists in facilities using this substance in closed manufacturing processes by trained personnel.

Employee Training

Workers handling the LANXESS manufactured material should be trained to implement proper handling procedures and to understand the potential health and physical hazards of this product. Process enclosures, local exhaust ventilation, or other engineering controls should be used to protect workers from potential airborne concentrations. Where ventilation is insufficient, it is recommended that workers wear a NIOSH approved, air purifying particulate respirator with N-95 filters. In addition, it is recommended to use permeation resistant gloves, and work clothing and foot protection when handling the solid.

Consumer Exposure

LANXESS Corporation does not sell ZMB2, nor materials containing the substance, to the general public.

Short-Term Health Effects

Methyl-2-mercaptobenzimidazole, zinc salt is harmful if ingested and/or inhaled. Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea. If inhaled, this material may cause shortness of breath, tightness of the chest, sore throat, or cough. ZMB2 may cause sensitization by skin contact. Once sensitized, an allergic skin reaction may occur with reddening, swelling, and rash when subsequently exposed to very low levels.

Long-Term Health Effects

Repeated and prolonged contact may cause damage to the reproductive system, liver, kidney, and thyroid.

Physical Hazards

This material is stable under normal conditions of use. Prevent contact with oxidizing agents. Heating to decomposition may release carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides, metal oxides, and halogenated compounds.

Potential Environmental Impact

This substance is not readily biodegradable. An accidental release to the environment may pose a danger to fish (low toxicity), invertebrates (low toxicity) and other aquatic organisms (low toxicity) prior to degradation.

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, this material is not expected to pose a significant risk to human health or the environment.

References

ToxPlanet, Zinc 2-mercaptotoluimidazole, 2018

European Chemicals Agency, 1,3-dihydro-4(or 5)-methyl-2H-benzimidazole-2-thione, zinc salt, January 2019

Safety Data Sheet (SDS), Vulkanox ZMB2/C-5, LANXESS Corporation, January 2019

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.