

Vulkanox 3100

This document provides a brief description of Vulkanox 3100, 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:	Vulkanox 3100
Chemical Name:	Mixture of N,N'-Diaryl-p-Phenylene Diamines
Synonym(s):	1,4-Benzenediamine, N,N'-mixed phenyl and tolyl derivatives DTPD
CAS Number:	68953-84-4

Description

Overview:	Vulkanox 3100 is a chemical mixture sold by LANXESS in flake form. The product is brown in color with an amine (fishy) odor.	
Uses:	Vulkanox 3100 is manufactured by LANXESS for use as an antioxidant or antiozonant in the production of tires and other rubber products. The chemical mixture can also be used as an antidegradant in fuel additives and in monomer distillation operations.	
Properties:	Melting Point:	194 - 221°F (90 - 105°C)
	Flash Point:	> 392°F (200°C)
	Solubility in Water:	Low

Potential Human Health Effects

Occupational Exposure

Potential for exposure exists during manufacture, at transloading facilities, during transfers to storage or staging areas and—in its application as a rubber antidegradant—during the charging of mixers at operations using the product in the manufacture of rubber goods.

Employee Training

Workers handling Vulkanox 3100 are trained to implement proper handling procedures and to understand the potential health and physical hazards of this product. Dust respirators are recommended for product handlers. In addition, LANXESS recommends that workers wear goggles, long-sleeved shirts, long pants and gloves when handling Vulkanox 3100 to minimize skin and eye contact. Organic vapor respirators and engineering or process controls may be necessary in operations where the product is heated to thermal decomposition.

Consumer Exposure

LANXESS Corporation does not sell this product to the general public. Rubber goods using Vulkanox 3100 as an antidegradant retain the substance in encapsulated form in the final product. Persons susceptible to allergic skin reactions may experience “tennis shoe” dermatitis as a result of direct skin contact with shoes, elastic waistbands and other products containing Vulkanox 3100. Skin irritation is typically temporary.

Short-Term Health Effects

Short-term skin contact is not expected to be irritating, although susceptible individuals may experience an allergic skin reaction. Symptoms include redness, itching, swelling and rash. Vulkanox 3100 dust may be irritating to the eyes, with symptoms of redness, tearing and stinging. Inhalation of Vulkanox 3100 dust may cause respiratory tract irritation, with symptoms of coughing, sore throat and runny nose. Vulkanox 3100 is not expected to be harmful if swallowed in small quantities.

Long-Term Health Effects

Long-term or repeated exposure to Vulkanox 3100 may cause skin sensitization. Repeated ingestion or inhalation of the chemical mixture in large quantities over time may cause methemoglobinemia, a temporary condition that reduces the ability of blood to carry oxygen. Symptoms include a bluish coloring of the skin and mucous membranes, headache, fatigue, shortness of breath or lack of energy. Liver and kidney damage is possible. Genetic toxicity tests have been inconclusive. Reproductive effects have been observed in animal studies.

Physical Hazards

Vulkanox 3100 is a stable, non-volatile solid at room temperature. Avoid contact with strong oxidizers. Large concentrations of dust may be explosive. Exposure to heat, open flames and other potential sources of ignition must be avoided.

Potential Environmental Impact

Vulkanox 3100 is not biodegradable, but will degrade rapidly with exposure to sunlight or water. As a result, accumulation of Vulkanox 3100 in body tissues or the environment is not expected. Vulkanox 3100 may pose a potential danger to fish (high toxicity), invertebrates (high toxicity) and aquatic plants (high toxicity) prior to degrading.

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, Vulkanox 3100 is not expected to pose a significant risk to human health or the environment.

References

Safety Data Sheet (SDS), VULKANOX 3100, LANXESS Corporation *MedlinePlus Medical Encyclopedia*, U.S. National Library of Medicine and the National Institutes of Health

Contact Information

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Notices

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