Cinnamic aldehyde

This document provides a brief description of cinnamic aldehyde, 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:	Cinnamic aldehyde
Chemical Name:	2-Propenal, 3-phenyl-
Synonym(s):	Benzylideneactaldehyde
	Cinnamaldehyde
	Phenylacrolein
CAS Number:	104-55-2

Description

Overview: Cinnamic aldehyde is a colorless to light yellow viscous liquid at ambient temperatures. The chemical has a sweet, characteristic odor.

Uses: Cinnamic aldehyde is sold by LANXESS primarily for use as a flavoring agent or fragrance additive. The chemical is also used as an antimicrobial additive in food products, as a low toxicity fungicide for agriculture and as a corrosion inhibitor for steel and other ferrous alloys in corrosive fluids.

Properties:

Boiling Point:	266 – 267°C (510.8 – 512.6°F)
Melting Point:	-7.5°C (18.5°F)
Flash Point:	120°C (248°F) closed cup
Solubility in Water:	Slight

Potential Human Health Effects

Occupational Exposure

Potential for occupational exposure exists during manufacture and at bulk unloading, storage, staging and mixing areas in facilities where the chemical is used as an additive or ingredient in the manufacture of other products. A much lower potential for exposure exists in facilities using cinnamic aldehyde in closed manufacturing processes by trained personnel.

Employee Training

Workers handling cinnamic aldehyde should be trained to implement proper handling procedures and to understand the potential health and physical hazards of this product. A suitable respirator should be used in work environments where vapors are expected and airborne concentrations are unknown. In addition, LANXESS recommends that safety glasses with side shields, permeation resistant gloves, clothing and foot protection be worn when handling cinnamic aldehyde. Persons with a history of skin sensitization susceptibility should not be employed in any process where this product is used.

Consumer Exposure

LANXESS Corporation does not sell cinnamic aldehyde to the general public. The compound occurs naturally in the bark of cinnamon trees and other species of the genus Cinnamomum and is used as an additive in various food products, beverages and fragrances.

Short-Term Health Effects

Cinnamic aldehyde is irritating to skin with symptoms of redness, itching and swelling. An allergic skin reaction may occur with symptoms of redness, swelling and rash. Skin sensitization is possible. Pre-existing skin disorders may be aggravated by over-exposure to this product.

Cinnamic aldehyde may be severely irritating to the eyes, with symptoms of redness, tearing, stinging and swelling. Inhalation may result in respiratory tract irritation with symptoms of coughing, sore throat and runny nose. Ingestion may cause irritation to the mouth, throat and stomach. Ingestion in large quantities and/or high concentrations may be fatal.

Long-Term Health Effects

Prolonged skin contact may result in superficial burns. Once sensitized, a sever allergic skin reaction may occur at low levels of exposure, with symptoms including redness, swelling and rash.

Physical Hazards

Cinnamic aldehyde is stable under normal conditions of use. Avoid contact with combustible materials, strong oxidizing agents, copper, iron and rust. Exposure to elevated temperatures may result in a fire or explosion. Heating to decomposition may release carbon monoxide, carbon dioxide and other potentially toxic fumes or gases. Avoid heat, open flames and other potential sources of ignition.

Potential Environmental Impact

Cinnamic aldehyde is readily biodegradable. An accidental release to water may pose a danger to fish (low toxicity), invertebrates (low toxicity) and aquatic plants (moderate toxicity) prior to degradation. The chemical is not expected to 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, cinnamic aldehyde is not expected to pose a significant risk to human health or the environment.

References

Safety Data Sheet (SDS), Cinnamic aldehyde, LANXESS Corporation

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

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