LANXESS
Energizing Chemistry

Dicyclohexylamine

This document provides a brief description of dicyclohexylamine, 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:	Dicyclohexylamine
Chemical Name:	Dicyclohexylamine
Synonym(s):	Aminocyclohexane
	Cyclohexanamine, N-cyclohexyl
	DCHA
	N,N-dicyclohexylamine
CAS Number:	101-83-7

Description

Overview:	Dicyclohexylamine is a clear liquid at ambient temperatures. The chemical has a strong, amine odor.	
Uses:	Dicyclohexylamine is used by LANXESS in the production of accelerators used in the manufacture of rubber products. The chemical is also used in industry as a corrosion inhibitor; as an ingredient in lubricating oils, fuels and insecticides; as a detergent for dry cleaning and as a catalyst for paints, varnishes, inks and dyes.	
Properties:	Boiling Point:	492.44°F (255.8°C)
	Melting Point:	31.82°F (-0.1°C)
	Solubility in Water:	Slight
	Flash Point:	105°F (221°C)

Potential Human Health Effects

Occupational Exposure

Potential for occupational exposure exists during manufacture, at storage and staging areas and during transfer hose connection/disconnection and sampling operations in facilities where the chemical is used in the manufacture of other products. A much lower potential for exposure exists in facilities using dicyclohexylamine in closed manufacturing processes by trained personnel.

Employee Training

Workers handling dicyclohexylamine should be trained to implement proper handling procedures and to understand the potential health and physical hazards of the chemical. A NIOSH approved respirator with organic vapor cartridges and particulate prefilter is recommended for operations not contained within a closed system. Explosion-proof local and general exhaust ventilation equipment should be used to control levels of exposure. In addition, LANXESS recommends that splash resistant safety goggles or a face shield, Viton, polyvinyl chloride (PVC) or polychloroprene gloves and permeation resistant clothing and foot protection be worn when handling dicyclohexylamine.

Consumer Exposure

LANXESS Corporation does not sell dicyclohexylamine to the general public.

Short-Term Health Effects

Dicyclohexylamine is highly toxic and corrosive.

Direct skin contact is expected to be irritating with symptoms of redness, itching, swelling and burning. Eye contact with vapors or liquid form dicyclohexylamine may be severely irritating with symptoms of redness, tearing, swelling, and burning. Permanent skin or eye damage is possible. Inhalation of dicyclohexylamine is expected to be irritating to the respiratory tract with symptoms of sore throat, coughing, burning sensation and shortness of breath. Inhaling the chemical in sufficient concentrations may cause nausea, vomiting, light-headedness, apprehension, anxiety, drowsiness, slurred speech and dilation of the pupils. Ingestion of the chemical may cause abdominal pain, nausea, vomiting, diarrhea and possible corrosive damage to the digestive tract. Ingesting dicyclohexylamine in sufficient quantities may result in respiratory failure or death.

Dicyclohexylamine is readily adsorbed into the body through contact or inhalation. Symptoms of exposure may be delayed.

Long-Term Health Effects

Skin sensitization may occur in susceptible individuals. Chronic ingestion of dicyclohexylamine may cause kidney and/or liver damage.

Physical Hazards

Dicyclohexylamine is combustible and corrosive. Avoid contact with acids, metals and strong oxidizing agents. Concentrated vapors may form explosive mixtures with air. Exposure to heated dicyclohexylamine may cause thermal burns. Heating the chemical to decomposition may release nitrogen oxides and other potentially toxic gases. Avoid exposure to heat, open flames and other potential sources of ignition.

Potential Environmental Impact

Dicyclohexylamine is biodegradable. An accidental release to air will evaporate quickly. An accidental release to surface water will evaporate and/or degrade, but may pose a danger to fish (high toxicity), invertebrates (high toxicity) and aquatic plants (high toxicity) prior to degradation. The chemical may adsorb to suspended soils and sediments.

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

References

Chemical Carcinogenesis Research Information System (CCRIS), Dicyclohexylamine, National Cancer Institute

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

Safety Data Sheet (SDS), DICYCLOHEXYLAMIN REIN, 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

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Notices

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