1,2,4-Trichlorobenzene

This document provides a brief description of 1,2,4-Trichlorobenzene, 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:	Trichlorobenzene A Pure
Chemical Name:	1,2,4-Trichlorobenzene
Synonym(s):	1,2,4-Trichlorobenzol TCB
CAS Number:	120-82-1

Description

Overview: 1,2,4-Trichlorobenzene is a clear, colorless liquid at ambient temperatures. The chemical compound has a slight, characteristic odor.

Uses: LANXESS's I,2,4-Trichlorobenzene is almost exclusively used as an intermediate in the production of an herbicide (weed killer).

Properties:

Boiling Point:	Approx. 415.4°F (213°C)
Flash Point:	230°F (110°C)
Solubility in Water:	Slight
Melting Point:	> 62.6°F (17°C)

Potential Human Health Effects

Occupational Exposure

Occupational exposure to 1,2,4-Trichlorobenzene may occur through inhalation or skin contact during manufacture, and at transloading, storage and staging areas. 1,2,4-Trichlorobenzene evaporates slowly at ambient temperatures, but harmful vapor concentrations may develop without proper ventilation. There is minimal potential for exposure within the facility using this chemical since it is used in a closed manufacturing process by trained personnel.

Employee Training

Workers handling 1,2,4-Trichlorobenzene are trained to implement proper handling procedures and to understand the potential health and physical hazards of this product. A NIOSH approved air-purifying respirator is recommended for transloading, unloading and other operations not contained within a closed system. In addition, LANXESS recommends that goggles, permeation resistant clothing, gloves and foot protection be worn when handling 1,2,4-Trichlorobenzene.

Consumer Exposure

LANXESS does not sell 1,2,4-Trichlorobenzene to the general public and no residuals are present in herbicides manufactured with the product. The general population may be exposed to small amounts of 1,2,4-Trichlorobenzene through consumption of contaminated drinking water or food (e.g. fish).

Short-Term Health Effects

Short-term contact with 1,2,4-Trichlorobenzene may cause skin irritation, with symptoms of redness, dryness and itching. Eye contact may be painful with symptoms of redness, tearing and stinging. Inhalation of 1,2,4-Trichlorobenzene vapors may cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose. Ingestion may result in sore throat, abdominal pain, nausea, vomiting or diarrhea. Inhalation or ingestion of 1,2,4-Trichlorobenzene in sufficient quantities may result in temporary central nervous system effects including headache, numbness, confusion, dizziness or lack of coordination.

Long-Term Health Effects

Long-term or repeated inhalation, ingestion or skin contact may result in kidney damage, liver damage or blood disorders. Prolonged eye contact with 1,2,4-Trichlorobenzene may cause conjunctivitis (redness and inflammation of the eyes).

The U.S. Environmental Protection Agency (EPA) classifies one trace component of 1,2,4-Trichlorobenzene (p-Dichlorobenzene) as a possible carcinogen, and the International Agency for Research on Cancer (IARC) classifies p-Dichlorobenzene as Group 2B (possible carcinogen). These classifications indicate sufficient evidence of carcinogenicity in animals after long-term exposure, but inadequate evidence in humans.

Physical Hazards

1,2,4-Trichlorobenzene is stable at room temperature, but may react violently if in contact with strong oxidants. Heating, burning or contact with incompatible materials may give off irritating or toxic fumes. Care must be taken to avoid exposure to light, heat, open flames and other potential sources of ignition.

Potential Environmental Impact

1,2,4-Trichlorobenzene degrades over time in the presence of air and sunlight, but the chemical may persist in heavy soils or water where evaporation is prohibited. Accumulation in fatty tissues may also occur. As a result, an accidental release in liquid form (e.g. spills) may pose a danger to fish (high toxicity), invertebrates (moderate toxicity) and aquatic plants (moderate toxicity) prior to degradation. Facilities handling 1,2,4-Trichlorobenzene must have a system in place for dealing with such emergencies.

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, 1,2,4-Trichlorobenzene is not expected to pose a significant risk to human health or the environment.

References

Concise International Chemical Assessment Document (CICAD) 60, International Programme on Chemical Safety (IPCS)

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

Safety Data Sheet (SDS), Trichlorobenzene, LANXESS Corporation

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

Technology Transfer Network Air Toxics Web Site, Environmental Protection Agency (EPA)

ToxNet Hazardous Substances 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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