LANXESS
Energizing Chemistry

Benzoyl Chloride

This document provides a brief description of Benzoyl Chloride, 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:	Benzoyl Chloride (O) Pure
Chemical Name:	Benzoyl Chloride
Synonym(s):	Alpha-Chlorobenzaldehyde Benzenecarbonyl Chloride Benzoic Acid Chloride
CAS Number:	98-88-4

Description

Overview: Benzoyl Chloride is a colorless to yellow liquid at ambient temperatures with a pungent, fuming odor.

Uses: LANXESS Benzoyl Chloride is used primarily as a reactant in the production of benzoyl peroxide. Benzoyl Chloride is also used as an intermediate in the production of dyes, surfactants, perfumes, pharmaceuticals, resins and pesticides.

Properties:

Melting Point:	30.2°F (-1°C)
Boiling Point:	Approx. 386.6°F (197°C)
Flash Point:	161.6°F (72°C)
Solubility in Water:	Decomposes in contact with water

Potential Human Health Effects

Occupational Exposure

Potential for exposure exists during manufacture, at transloading facilities and during transfers to storage or staging areas. Since Benzoyl Chloride evaporates rapidly at ambient temperatures, there is an increased risk of inhalation exposure during the charging of reaction vessels and bulk loading/unloading operations. A lesser potential for exposure exists at LANXESS' customer facilities, since the majority of Benzoyl Chloride sold by LANXESS is used in closed manufacturing processes by trained personnel.

Employee Training

Workers handling Benzoyl Chloride 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 with organic vapor cartridges and particulate prefilter 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 Benzoyl Chloride.

Consumer Exposure

LANXESS Corporation does not sell this product to the general public. Since Benzoyl Chloride is highly reactive, residuals in consumer products manufactured using Benzoyl Chloride as an intermediate are not expected to reach dangerous levels.

Short-Term Health Effects

Benzoyl Chloride is corrosive to the eyes and skin and may cause permanent tissue damage. Benzoyl Chloride may be absorbed through the skin in harmful amounts. Symptoms of inhalation overexposure include respiratory tract irritation with coughing, sore throat, and death. Possible central nervous system effects include headache, dizziness and lack of coordination. Skin contact may cause an allergic skin reaction with symptoms of redness, itching, swelling, and rash.

Long-Term Health Effects

Long-term or repeated exposure to Benzoyl Chloride may result in kidney or liver damage, coughing, tightness of the chest, shortness of breath or conjunctivitis.

The U.S. Environmental Protection Agency (EPA) classifies Benzoyl Chloride as Group B2. This classification indicates sufficient evidence of carcinogenicity in animals after long-term exposure, but inadequate evidence in humans. The International Agency for Research on Cancer (IARC) classifies Benzoyl Chloride as 2A, a probable carcinogen.

Physical Hazards

Benzoyl Chloride is a corrosive, combustible liquid. Care must be taken to avoid contact with water, alcohols, amines, bases, many common metals and strong oxidizing agents. Vapors or mist may be corrosive and may present a fire or explosion hazard if exposed to high temperatures or an ignition source. Exposure to heat, open flames and other potential sources of ignition must be avoided. Do no pressurize.

Potential Environmental Impact

Benzoyl Chloride degrades rapidly in the presence of water and does not accumulate in the environment. Accidental release through spills may pose a danger to fish (moderate toxicity), invertebrates (moderate toxicity) and aquatic plants (moderate toxicity) prior to degrading.

Low potential for exposure exists within facilities using Benzoyl Chloride as an intermediate in the manufacture of other products, since the majority of Benzoyl Chloride sold by LANXESS is used in closed manufacturing processes.

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

References

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

Safety Data Sheet (SDS), BENZOYL CHLORIDE, PURE, 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

Use and Application Information

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