

Cumene

Product Stewardship Summary

(CAS number 98-82-8)

Chemical Formula for Cumene

C₉H₁₂

What is Cumene?

Cumene, also known as Isopropylbenzene or 1-Methylbenzene, is a flammable and colourless liquid with a gasoline-like smell. Cumene is produced via alkylation of benzene with propylene and is a natural component of crude oil. It occurs in cigarette smoke and naturally in the environment in plants.

How is Cumene Used?

Cumene is used primarily as an intermediate in the production of phenol and acetone. It can also be used to make styrene, α -methylstyrene and acetophenone. Cumene is used as a thinner for paints, lacquers and enamels.

Health, Safety and Environmental Considerations

Cumene is irritating to the respiratory system and breathing of cumene vapours should be avoided, as inhaling high quantities over prolonged periods can cause dizziness or drowsiness. Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis, which can be fatal. Cumene has low toxicity following brief/acute exposure by ingestion or inhalation. It is irritating to the eyes and may cause mild skin irritation. Cumene is classified as possibly carcinogenic to humans (Group 2b) by the International Agency for Research on Cancer (IARC).

Cumene vapours are heavier than air and may travel across the ground and reach remote ignition sources causing a flashback fire danger. It is stable under normal use conditions but oxidises on contact with air to form unstable peroxides.

Cumene is harmful to aquatic life with long lasting effects. It is readily biodegradable in the environment and does not bioaccumulate significantly.

Storing and Transporting Cumene

Cumene should be stored away from sources of ignition and in a well-ventilated area. Care should be taken during handling and transferring, as electrostatic charges may be generated; electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment prior to handling or transferring this product. Cumene is used as a chemical intermediate and is generally consumed during manufacturing and not transported off-site.

Risk Characterization Summary

Risks associated with exposure to this product have been evaluated for the following “chain-of-commerce” activities: manufacture, storage, product transfer, transportation, and customers/markets. Due to health, safety and environmental considerations, it is only manufactured, stored and transported to customers in closed systems. Likewise, customers are limited to those who only use the product in closed systems as an intermediate for the manufacture of other chemicals. Proper equipment design and handling procedures maintain low risk from exposure to the product where the product is used as a chemical intermediate.

This product stewardship summary is intended to give general information about the chemical or categories of chemicals addressed. It is not intended to provide an in-depth discussion of health and safety information. Additional information is available through the chemical’s applicable Safety Data Sheet, which should be consulted before use of the chemical. This product stewardship summary does not supplant or replace required regulatory and/or legal communication documents.



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