

Dicyclopentadiene (DCPD) Product Stewardship Summary

(CAS number 77-73-6)

Chemical Formula for Dicyclopentadiene

C₁₀H₁₂

What is Dicyclopentadiene?

Dicyclopentadiene (DCPD) is produced as part of the separation process of crude C₅ streams which is a by-product of ethylene manufacture. It is a colourless, waxy, flammable solid or liquid, with a camphor-like odour.

How is Dicyclopentadiene Used?

Chemicals derived from Dicyclopentadiene are used in many products, ranging from high quality optical lenses through to flame retardants for plastics and hot melt adhesives. As a chemical intermediate, it is used for making insecticides, hardener and dryer in linseed and soybean oil, and in the production of EPDM (ethylene propylene diene monomer) elastomers, metallocenes, resins, varnishes, and paints. DCPD-containing products are also used in the production of hydrocarbon resins and unsaturated polyester resins.

Health, Safety and Environmental Considerations

DCPD is highly flammable. It has a flashpoint of 90°F/32°C and a boiling point of 338°F/170°C.

DCPD is harmful if swallowed and toxic by inhalation. Its camphor-like odour may induce headaches and symptoms of nausea. In liquid or vapour form, DCPD can be irritating to the eyes, skin, nose, throat or respiratory system.

DCPD is not listed as a carcinogen by international or national organisations.

The American Conference of Governmental Industrial Hygienists (ACGIH) has assigned an eight-hour occupational exposure limit of 5 parts per million (ppm) for DCPD. European exposure limits are 0.5 ppm. The most likely form of exposure to DCPD is inhalation of vapours. Breathing in high vapour concentrations could cause central nervous system depression.

DCPD is not readily biodegradable. It is toxic to aquatic organisms and has the potential to bioaccumulate. However, in view of its high tendency to evaporate from water, it is not expected to pose a hazard to aquatic organisms.

Storing and Transporting Dicyclopentadiene

DCPD should be stored in mild steel or stainless-steel tanks. DCPD should be stored in controlled conditions to keep it stable and avoid quality deterioration. It is transported by road, rail, barge and ship. DCPD is highly flammable and can accumulate static electricity during transfer; therefore precautionary measures to prevent static discharge must be taken.

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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