

# Product Safety Summary



## DICYCLOPENTADIENE

This Product Safety Summary document is a high-level summary intended to provide the general public with an overview of product safety information on this chemical substance. It is not intended to provide emergency response, medical or treatment information, or to provide a discussion of all safety and health information. This document is not intended to replace the Material Safety Data Sheet. Warnings and handling precautions provided below are not intended to replace or supersede manufacturers' instructions and warning for their consumer products which may contain this chemical substance.

### 1. Chemical Identity

Dicyclopentadiene (DCPD) is a dimer of cyclopentadiene (CPD) - in other words, two CPD molecules join together to form DCPD. It can be manufactured as a by-product of ethylene production via distillation of pyrolysis gasoline in a chemical plant.

**CAS No.** 77-73-6

**Chemical Name:**  
Dicyclopentadiene

**Other Names:**  
DCPD  
4,7-Methano-1H-indene, 3a,4,7,7a-tetrahydro-

### 2. Product Uses

DCPD is used as a feedstock to manufacture polymer resins and other chemicals substances.

### 3. Physical / Chemical Properties

At ambient temperature and pressure, DCDP is a pale yellow liquid with a strong odor. It should only be used in industrial facilities where safe conditions regarding ignition sources and ventilation are adequately controlled. The flash point for DCDP is approximately 32°C which identifies it as a flammable liquid.

### 4. Health Information

DCDP is considered irritating to the eyes, skin, and respiratory system. DCDP is harmful by inhalation and ingestion but is of low acute toxicity by skin contact. At high concentrations, well above recommended exposure levels, it may cause drowsiness and lightheadedness.

### 5. Additional Hazard Information

If accidentally swallowed, small amounts of liquid may be aspirated into the lungs during ingestion or from vomiting which may cause severe lung inflammation and lung edema (an accumulation of fluid in the lungs). This is a medical emergency which must be immediately and properly treated. Do not induce vomiting.

Studies of Dicyclopentadiene produced kidney effects observed in experimental animal studies with the effect believed to be specific to male rats only ("light hydrocarbon alpha 2u-globulin nephropathy") and are not considered relevant to human health.

### 6. Food Contact Regulated Uses

DCPD is not claimed as compliant for food contact uses.

### 7. Environmental Information

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If accidentally released to the aquatic environment in sufficient quantities, DCPD has the potential to demonstrate a high degree of toxicity (e.g., to fish, invertebrates, algae). Although DCPD biodegrades slowly, DCPD entering aquatic or terrestrial habitats will volatilize to the air at a relatively rapid rate where it degrades quickly. Chronic toxicity is not expected from a single release to an aquatic habitat due to its potential for rapid volatile loss. However, if allowed to enter the environment continuously over a prolonged period, long-term adverse effects would be expected. Considerable measures are taken to prevent releases from manufacturing and use activities.

#### 8. Exposure Potential

- **Workplace exposure** – This term refers to the potential for worker exposure in a manufacturing facility or industrial workplace. Generally, exposure of workplace personnel to DCPD in manufacturing facilities is relatively low because the process, storage and handling operations are in closed systems, with little potential for releases to the air. The American Conference of Government Industrial Hygienists recommends limiting occupational exposure to no more than 5 parts per million (ppm) per an 8-hour work day.
- **Consumer use of products containing DCPD** – DCPD is not sold to the general public and is not expected to be present in the resins or other manufactured chemicals. Exposure to consumers would be expected to be low, far below the recommended occupational exposure level described above.
- **Environmental releases** – As a chemical manufacturer, we are committed to operating in an environmentally responsible manner everywhere we do business. Our efforts are guided by in-depth scientific understanding of the environmental impact of our operations, as well as by the social and economic needs of the communities in which we operate. Industrial spills or releases are rare; however a spill or release may pose a significant flammability issue. Our operational improvement targets and plans are based on driving incidents with real environmental impact to zero and delivering superior environmental performance.

#### 9. Manufacture of Product

- **Capacity** – According to publicly available data, 50 to 100 million pounds of DCPD were manufactured in the US in 2005 (the most recent reporting year available).
- **Process** – DCPD is generally manufactured as a by-product of ethylene manufacturing by the joining together of two cyclopentadiene molecules in a chemical plant.

#### 10. Risk Management

- **Workplace Risk Management** – When using this chemical, make sure that there is adequate ventilation. If controls do not maintain air concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Always use chemical resistant gloves to protect your hands and skin and always wear eye protection such as chemical goggles. Do not eat, drink, or smoke where this chemical is handled, processed, or stored. Wash hands and skin following contact. If this chemical gets into your eyes, rinse eyes thoroughly for at least 15 minutes with tap water and seek medical attention. Please refer to the Safety Data Sheet for additional information on handling and exposure considerations.
- **Consumer Risk Management** - DCPD is not sold directly to the public for general consumer uses. As a result of its use in industrial chemical reactions, consumer exposure is highly unlikely. If exposure should occur, it is expected to be infrequent and of short duration. Always follow manufacturers' instructions, warnings and handling precautions when using their products. The best way to prevent exposure to vapors is to work in well-ventilated areas.

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### 11. Regulatory Information

Regulations may exist that govern the manufacture, sale, transportation, use and/or disposal of this chemical and may vary by city, state, country or geographic region. Additional helpful information may be found by consulting the relevant ExxonMobil Safety Data Sheet at:

<http://www.msds.exxonmobil.com/psims/psims.aspx?brand=xomcc>

### 13. Conclusion Statements

- DCPD is an industrial chemical used to make other industrial chemicals. It is not sold to the general public.
- DCPD is harmful by inhalation and ingestion. If accidentally swallowed and aspirated in the lungs, it may lead to pulmonary damage.
- DCPD has the potential to cause a high degree of toxicity to organisms if released to the aquatic environment; it is not expected to cause long-term adverse environmental effects from a single release.
- DCPD is a flammable liquid; use in closed systems avoiding all ignition sources.

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