
Office of Pollution Prevention and Toxics (7401)

EPA Chemicals in the Environment

METHYLENE CHLORIDE
(Dichloromethane)

(CAS NO. 75-09-2)



Chemicals can be released to the environment as a result of their manufacture, processing, and use. The EPA has developed information summaries on selected chemicals to describe how you might be exposed to these chemicals, how exposure to them might affect you and the environment, what happens to them in the environment, who regulates them, and whom to contact for additional information. EPA is committed to reducing environmental releases of chemicals through source reduction and other practices that reduce creation of pollutants.

WHAT IS METHYLENE CHLORIDE, HOW IS IT USED, AND HOW MIGHT I BE EXPOSED?

Methylene chloride (also called dichloromethane) is a colorless, non-flammable liquid. It does not occur naturally but is produced in large amounts (350 million pounds in 1992) by three companies in the United States. Recent US production of methylene chloride has declined (about 10% a year since 1988). US demand for methylene chloride is likely to continue to fall. The largest users of methylene chloride are companies that make paint strippers. Foam makers use methylene chloride as a blowing agent. Other companies use it to clean metal surfaces. Methylene chloride can also be added to aerosol sprays or used to extract unwanted material from foods and beverages, such as coffee.

Exposure to methylene chloride can occur in the workplace or in the

environment following releases to air, water, land, or groundwater. Exposure can also occur when people use certain aerosol paint sprays and paint strippers. Methylene chloride enters the body when breathed in with contaminated air or when consumed with contaminated food or water. It can also be absorbed through skin contact. It is not likely to remain in the body due to its breakdown and removal.

WHAT HAPPENS TO METHYLENE CHLORIDE IN THE ENVIRONMENT?

Methylene chloride evaporates when exposed to air. It dissolves when mixed with water. Most direct releases of methylene chloride to the environment are to air. Methylene chloride also evaporates from water and soil exposed to air. Once in air, methylene chloride breaks down to other chemicals. Because it is a liquid that does not bind well to soil, methylene chloride that makes its way into the ground can move through the ground and enter groundwater. Plants and animals are not likely to store methylene chloride

HOW DOES METHYLENE CHLORIDE AFFECT HUMAN HEALTH AND THE ENVIRONMENT?

Effects of methylene chloride on human health and the environment depend on how much methylene chloride is present and the length and frequency of exposure. Effects also depend on the health of a person or the condition of the environment when exposure occurs.

Breathing large amounts of methylene chloride for short periods of time adversely affects the human nervous system and the heart. Effects range from unsteadiness and numbness in fingers and toes to unconsciousness and death. The heart has to work harder, and the blood carries less oxygen as the body breaks methylene chloride down to carbon monoxide. Direct contact with methylene chloride liquid or vapor irritates the skin and the eyes. These effects are not likely to occur at levels of methylene chloride that are normally found in the environment.

Human health effects associated with breathing or otherwise consuming smaller amounts of methylene chloride over long periods of time are not known. Laboratory studies show that repeat exposure to methylene chloride causes kidney and liver damage and cancer in animals that breathe air or drink water contaminated with the chemical. Repeat exposure to methylene chloride may likewise cause cancer in humans.

Methylene chloride is not likely to cause environmental harm at levels normally found in the environment. Reactions in air, although slow, tend to eliminate methylene chloride before it reaches the upper atmosphere in amounts sufficient to damage the ozone layer.

WHAT EPA PROGRAM OFFICES REGULATE METHYLENE CHLORIDE, AND UNDER WHAT LAWS IS IT REGULATED?

EPA OFFICE	LAW	PHONE NUMBER
Pollution Prevention & Toxics	Toxic Substances Control Act	(202) 554-1404
	Emergency Planning and Community Right-to-Know Act (EPCRA): Regulations (§ 313)	(800) 535-0202
	Toxics Release Inventory data	(202) 260-1531
Air	Clean Air Act	(919) 541-0888
Solid Waste & Emergency Response	Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)	(800) 535-0202
	Resource Conservation and Recovery Act / EPCRA (§ 304/311/312)	
Water	Clean Water Act	(202) 260-7588
	Safe Drinking Water Act (Drinking Water Standard: 0.005 mg/L)	(800) 426-4791

A technical support document is available from the TSCA Assistance Information Service, (202) 554-1404.

WHAT OTHER FEDERAL AGENCIES OR GROUPS CAN I CONTACT FOR INFORMATION ON METHYLENE CHLORIDE?

AGENCY/GROUP	PHONE NUMBER
Agency for Toxic Substances and Disease Registry	(404) 639-6000
American Conference of Governmental Industrial Hygienists	(513) 742-2020
Consumer Product Safety Commission	(301) 504-0994
Food and Drug Administration	(301) 443-3170
National Institute for Environmental Health Sciences (EnviroHealth Clearinghouse)	(800) 643-4794
National Institute for Occupational Safety and Health (NIOSH)	(800) 356-4674
Occupational Safety and Health Administration	(Check your local phone book under U.S. Department of Labor)