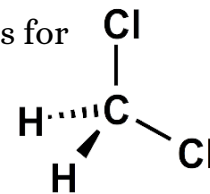


Methylene chloride (DCM, Dichloromethane) is a volatile solvent used in research labs for synthesis, extraction, and purification. Due to its toxicity, strict safety measures are required for safe handling.



Dichloromethane
Chemical Structure

Toxic Effects

Exposure occurs through inhalation, skin contact, or ingestion. Acute exposure may lead to skin and eye irritation, respiratory problems, and central nervous system effects. Chronic exposure is associated with serious conditions such as carcinogenicity and cardiovascular effects.

Regulatory Changes



EPA Logo

The U.S. Environmental Protection Agency (EPA) has enacted a final rule under the Toxic Substances Control Act (TSCA) aimed at mitigating its health hazards. This rule applies to all products and mixtures containing $\geq 0.1\%$ methylene chloride (reference the SDS to determine % composition). The regulatory requirements as per EPA Final Rule – TSCA state that use in labs is allowed only if a Workplace Chemical Protection Program (WCPP) is in place, which must include:

- *Exposure limits: 2 ppm (8-hour Time Weighted Average (TWA)), 16 ppm (15-minute limit)*
- *Controls: Labs must seek safer alternatives where possible, and ensure to utilize engineering controls (e.g., fume hoods) and the appropriate PPE at all times.*
- *Exposure monitoring: Baseline and periodic air monitoring by EH&S are required (In progress)*
- *Documentation & Training: All safety measures must be documented, and all personnel must be trained.*

What You Should Do

- ✓ Dispose of unneeded methylene chloride – Submit a chemical pickup request.
- ✓ Use safer alternatives whenever possible (see the ACS substitution Guide below). *If substitution isn't feasible, contact occusafety@columbia.edu for guidance.*
- ✓ Report new use or protocol changes to EH&S to ensure compliance with safety standards.
- ✓ Coordinate with EH&S to schedule monitoring

For questions or assistance, contact EH&S at occusafety@columbia.edu.

Fun FAQ!



GHS Pictograms, as seen above, caution users of chemical hazards they may be exposed to. The pictogram on the left denotes a health hazard whilst the one on the right signifies an irritant.

Have more questions? Reach out to EH&S at Labsafety@columbia.edu or give us a call

CUIMC: (212) 305 - 6780

Manhattanville/Morningside: (212) 854 - 8749



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<<< Alternative Solvents to
Methylene Chloride



Risk Management for Methylene
Chloride. >>>