Environmental Health & Safety
502.852.6670

Safe Science = Good Science

What Action is Needed from University Personnel

1. Review your work area(s) for methylene chloride and commercial products that contain methylene chloride.
2. Complete Methylene Chloride Survey sent out by the UofL DEHS.
3. Consider switching to a safer alternative and submit any unwanted Methylene Chloride for DEHS chemical waste pick up.
4. If methylene chloride substitution is not feasible in a work activity, DEHS will coordinate with the Department to conduct exposure monitoring and develop a Workplace Chemical Protection Plan (WCPP) if needed.

Additional Information:

EPA Final Rule:

Risk Management for Methylene Chloride | US EPA

Alternatives Options for DCM:

Green Chemistry Initiatives

Solvents for a Safer, Sustainable Lab

For questions or concerns please call DEHS at 852-6670 or email dehsih@louisville.edu

New EPA Regulations for Methylene Chloride, also known as Dichloromethane (DCM) Use

Background

The EPA has determined that methylene chloride poses an "unreasonable risk to human health or the environment" following review under Toxic Substance Control Act (TSCA) regulations. The volatility of this solvent makes inhalation a primary route of exposure to cause health effects. The final rule was published in April 2024, prohibits most consumer and commercial uses. An exemption for laboratory use is available, provided that there is a workplace chemical protection program (WCPP) in place.

Methylene chloride, also known as dichloromethane (DCM), chemical abstract service (CAS) number 75-09-2, is a common solvent used in research and academic laboratory activities for extraction, purification, chromatography, tissue clearing, and other processes.

In addition to lab grade methylene chloride, methylene chloride is a chemical ingredient in a variety of cleaning and maintenance products such as strippers, adhesives and sealants, metal degreasers, automotive care products, lubricants, hobby glue, strippers, brush cleaners, etc.

Methylene Chloride Health Effects

Health risks associated with methylene chloride include acute and chronic exposure via dermal contact and inhalation. Methylene chloride is considered a carcinogen and an acute neurotoxin. Chronic exposure can affect liver and lung function. Target organs include the eyes, skin, cardiovascular system, and central nervous system. Acute symptoms include irritation to the eyes and skin, weakness and exhaustion, drowsiness, dizziness, numbness, and nausea. EPA's full risk evaluation detailing the health effects can be accessed here. OSHA also provides additional resources regarding occupational health effects of methylene chloride.

First Steps

All principal investigators, supervisors, directors, or designees must complete the survey for the areas they oversee. DEHS will evaluate these responses and schedule in person assessments for all areas using methylene chloride to determine what subsequent steps will be required on a case-by-case basis. Continued use of methylene chloride will require extensive monitoring and written procedures per the new EPA TSCA ruling. DEHS will work with each group individually to evaluate the best course of action for individual methylene chloride user group.