

Occupational Health Hazard Alert

Methylene Chloride in Paint Strippers and Bathtub Refinishing



***Methylene chloride is dangerous...
There are safer alternatives!***

METHYLENE CHLORIDE (DICHLOROMETHANE)

What is the hazard? Methylene chloride (MeCl) is a solvent used in various industries, including paint stripping and bathtub refinishing. Short-term exposure to MeCl can cause headaches, dizziness, eye, nose and throat irritation, chest pain, and trouble breathing. Exposure to very high concentrations (for example, in enclosed spaces) can be fatal. Long-term exposure to MeCl increases the risk of liver damage and cancer.

How might I be exposed? MeCl enters the body through the lungs when an individual inhales the vapors, or can be absorbed through the skin. Exposure to MeCl can happen even when there is no odor present.

Who is at risk?

- Since 2000, thirteen bathtub refinishers have died nationwide from overexposure to MeCl-based strippers while working in closed rooms with inadequate ventilation. They were using products that contained a high percentage of MeCl.
- In 2011, a worker in a paint manufacturing plant died – and another became unconscious – when he used a MeCl-containing paint stripper inside a paint mixing tank (a permit-required confined space).
- Furniture strippers who use these products are also at risk of adverse health effects, including eye, nose and throat irritation, headaches, liver damage, and cancer.



A worker removing paint from a window frame in a dip tank containing a MeCl-based stripper.



Workers using a MeCl-based stripper to remove paint from a bathtub prior to refinishing.



The opening of a paint mixing tank in which a worker died while using a MeCl-containing paint stripper.

How to Protect Yourself from Methylene Chloride:

Do not use MeCl based strippers – use a safer alternative.

Benzyl alcohol based strippers have been shown to work just as well (and cost about the same) as MeCl based strippers. Of note, some alternative formulations contain N-methylpyrrolidone (or NMP). Products that contain NMP are often advertised as “safer.” However they are a potential hazard to pregnant women, as NMP can harm the baby in the womb. **To learn more about safer alternatives to MeCl** see [Methylene Chloride Consumer Product Paint Strippers: Low-VOC, Low Toxicity Alternatives](http://www.irta.us/Methylene%20Chloride%20Consumer%20Product%20Paint%20Strippers%20REPORT%20ONLY.pdf) (<http://www.irta.us/Methylene Chloride Consumer Product Paint Strippers REPORT ONLY.pdf>)

If using MeCl, do the following to avoid being overcome by the vapors:

Ventilation: Local exhaust ventilation and fresh air exchange are essential. If use of MeCl is unavoidable, mechanical ventilation (not just a ceiling fan) must be used to keep MeCl in air to levels below regulatory limits and to the lowest levels achievable.

Respirator: For continuous work, only an air-supplied respirator will protect you. Cartridge respirators saturate quickly, and dust masks do not provide protection. Use of respirators is strictly regulated by Cal/OSHA rules, under the [respiratory protection standard](#) and [methylene chloride standard](#).

Gloves: Latex or nitrile gloves will *not* protect you. Use polyvinyl alcohol (PVA) gloves for chemical resistance, with abrasion-resistant outer gloves as needed.

Products that contain MeCl include: (with % MeCl by weight)

Green’s Premium Semi-paste Paint-Varnish-Lacquer Remover
(69-79%) Green’s Liquid Paint-Varnish-Lacquer Remover (10-30%)
Jasco Semi-paste: Varnish and Stain Remover (25-40%)
Jasco “Brushable Semi-Paste” Paint and Epoxy Remover (60-100%)
Klean-Strip KS-3 Premium Stripper (60-100%)
Savogran Heavy Duty SuperStrip (85-90%)
Zar Paint and Varnish Remover (90%)
Zip-Strip Premium Paint and Finish Remover (75-85%)

To learn more about the health hazards of MeCl:

[Occupational Health Branch Methylene Chloride fact sheet](#)

To learn more about chemical incidents involving MeCl:

[Michigan bath refinisher fatality case report](#)

[California Fatality Alert: Methylene chloride linked to worker death in tank](#)

To learn more about Cal/OSHA regulations regarding MeCl (including air monitoring):

[Cal/OSHA Methylene Chloride Standard](#)

For more information call the Workplace Hazard Helpline at: (866) 282-5516

(CA Relay Service: 800-735-2929 or 711)