

# METHYLENE CHLORIDE FACT SHEET

North Carolina Division of Public Health • Occupational and Environmental Epidemiology Branch

## Chemical Information

- Methylene chloride is a colorless liquid at room temperature
- Has a chloroform-like odor
- Combustible
- Used as an industrial solvent and as a paint stripper
- Can be found in some aerosol and pesticide products and is used in manufacturing photographic film

## Regulatory Standards

- The Environmental Protection Agency (EPA) Acute Exposure Guideline Level 1 (AEGL - 1) for methylene chloride is 200 ppm for a 1 hour period
  - There is insufficient data for exposures greater than 1 hour at the AEGL 1 level
- The Occupational Safety & Health Administration (OSHA) set the PEL for methylene chloride exposures in the workplace at 25 ppm calculated as an 8-hour time-weighted average.<sup>1</sup>
- The National Institute for Occupational Safety and Health (NIOSH) set the REL for methylene chloride as the lowest feasible concentration.

## Hazards Identification

### Inhalation

- Exposures to high concentrations of methylene chloride may result in decreased reflexes, dexterity, and balance
- Long periods of exposure may cause dizziness, nausea, numbness in fingers and toes, and feelings of drunkenness
- Can cause increase in carboxyhemoglobin levels

### Dermal

- Direct dermal contact will cause intense burning and mild redness of the skin
- Eye contact can result in burns and damage to the cornea
- The International Agency for Research on Cancer (IARC) has classified methylene chloride as a Group 2, B possible carcinogen

## Stability & Reactivity

- Reacts with chemically-active metals such as aluminum, magnesium, potassium, and sodium to form explosive mixtures
- Reacts with strong oxidizers and strong nitric acid

## Handling & Storage

- Containers should be galvanized or lined with a phenolic coating

## **Glossary**

The Environmental Protection Agency (EPA) defines Acute Exposure Guideline Levels (AEGLs) as threshold exposure limits for the general public that are applicable to emergency exposure periods ranging from 10 minutes to eight hours. The three AEGLs are defined as follows:

AEGL-1 – airborne concentration of a substance at which the general population could experience notable discomfort, irritation or certain asymptomatic non-sensory effects.

AEGL-2 – airborne concentration of a substance at which the general population could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.

AEGL-3 – airborne concentration of a substance at which the general population could experience life threatening health effects or death.

PEL - The Occupational Health and Safety Administration defines Permissible Exposure Levels (PELs) as threshold levels for the workplace that are applicable to exposure periods of 8 hours.

REL - The National Institute for Occupational Safety and Health defines Recommended Exposure Limit (RELs) as threshold levels for the workplace that are applicable to exposure periods of up to 10 hours in a 40 hour workweek.

Time weighted average (TWA) - The maximum average exposure to a hazardous contaminant to which workers may be exposed without experiencing significant adverse health effects over said period.

