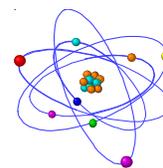


LABORATORY SAFETY FACT SHEET #15



Chlorinated Solvents

Examples: methylene chloride, chloroform, trichloroethylene, dichloroethylene

Hazards

- Most of these compounds have an **anesthetic or narcotic effect**, causing people to feel intoxicated if overexposed. This can be particularly dangerous when working around machinery, as judgment and coordination can be impaired.
- Some of the chlorinated solvents are strong **systemic poisons** which damage the liver, kidneys, nervous system, and other organ system. These symptoms most often appear gradually, with nausea, loss of appetite, vomiting, headaches, weakness, and mental confusion most common.
- All chlorinated solvents can cause **dermatitis** (chapping, drying, rashes) on repeated contact with the skin, since they remove the protective fats and oils. Gloves appropriate for a particular chlorinated solvent should be determined by consulting a **glove reference chart** – see EH&S website under Programs/Lab Safety/Personal Protective Equipment.
- Many of the compounds are highly **irritating** to the membranes around the eyes, and in the nose, throat, and lungs. Examples of chlorinated solvents which have irritating properties are ethylene dichloride and chloroform.
- In studies on laboratory animals, many chlorinated hydrocarbons have been linked to the development of **cancer** in animals; examples of these compounds are: ethylene dichloride, perchloroethylene, chloroform and methylene chloride.
- When excessively heated, chlorinated solvents can **decompose**, forming highly toxic fumes such as phosgene, hydrochloric acid, and chlorine.
- With few exceptions, most of the chlorinated hydrocarbons are **non-flammable**.

Work Practices: as with all volatile hazardous materials, chlorinated solvents must always be used in a fume hood or with other local exhaust ventilation such as an approved snorkel. Inhalation of the vapors is not an acceptable work practice.

For further information, contact the EH&S Specialist at x-4899