

**Acetone, chloroacetone,
bromoacetone,
hexafluoroacetone,
methyl ethyl ketone,
methyl n-butyl ketone,
methyl isobutyl ketone,
diacetone alcohol,
mesityl oxide, 2-
methylcyclohexanone**

Definition of causal agent

These aliphatic hydrocarbons are usually very volatile, flammable and infinitely soluble with water.

Main occupational uses and sources of exposure:

They are used as chemical feedstock, a formulating solvent for commercial products, and an industrial process solvent. They are used as a formulating solvent for a variety of paints, inks, resins, varnishes, lacquers, surface coatings, paint removers, and automotive care products. Like other organic solvents they are used in cleaning and degreasing.

Toxic effects

1. Acute effects:

Irritant effects

These substances irritate the eyes, the skin and the respiratory tract. High exposures may lead to chemical pneumonitis.

See section on *Occupationally caused irritation of the skin and mucous membranes* in Annex I entry nr. 202.

Narcotic effects

Inhalation can cause central nervous system depression, nausea and vertigo. Exposure far above OEL may result in unconsciousness.

2. Chronic effects

Sensorimotor polyneuropathy

MBK (Methyl Butyl Ketone) can cause polyneuropathy. The clinical picture and the histopathology is similar with that produced by n-hexane because they share the same toxic metabolite n-hexadione. Neuropathy generally appears within a year of first exposure, reaches its severity in weeks. Removal from exposure leads to recovery, which in most severe cases may not be complete. MEK (Methyl Ethyl Ketone) containing solvent mixtures are associated with polyneuropathy.

Use of MBK is very restricted.

Chronic toxic encephalopathy

Chronic exposure to MEK containing solvent mixtures may increase the risk of toxic encephalopathy.

See Annex I entry nr. 135 on *Encephalopathies due to organic solvents which do not come under other headings*.