

Methyl Ethyl Ketone Product Stewardship Summary

(CAS number 78-93-3)

Chemical Formula for Methyl Ethyl Ketone

C₄H₈O

What is Methyl Ethyl Ketone?

Methyl Ethyl Ketone (MEK or 2-butanone) is a colourless, low viscosity liquid with a mild odour similar to that of acetone. It is completely miscible with many organic liquids, but miscible with water to only a limited extent. With natural and synthetic resins, MEK produces solutions with low viscosity and high solids content.

How is Methyl Ethyl Ketone Used?

MEK is used in surface coatings, adhesives, thinners, printing inks and cleaning agents. Other industrial uses are in pharmaceuticals, extraction, dewaxing and as a chemical intermediate.

Health, Safety and Environmental Considerations

MEK is highly flammable in its liquid and solid forms and flammable atmospheres can be created at room temperatures. This means that any environment where MEK is being used needs to be well ventilated. As the vapour is heavier than air, it may spread along the ground, so care needs to be taken that the vapour is not ignited by a distant source.

Short-term, high-level exposure to MEK can result in dizziness, drowsiness and irritation to the eyes and the respiratory system. If the skin repeatedly comes into contact with MEK, it can result in irritation and dryness. Continuous inhalation of very high concentrations of MEK, well in excess of the occupational exposure limits, can result in unconsciousness and death. The effects of swallowing large quantities of MEK, more than half a litre, are similar to the effects of excessive alcohol intake. This can include narcosis (numbness and stupor), coma or death. Exposure to MEK may enhance the toxicity caused by some other materials.

The American Conference of Governmental Industrial Hygienists (ACGIH) has assigned an eight-hour occupational exposure limit of 200 parts per million (ppm) (590 mg/m³) for general, construction and shipyard employment industries.

MEK has low toxicity to aquatic organisms. It is biodegradable and has a low potential to bioaccumulate. If released to soil, MEK will both evaporate and leach into the ground. It is expected to have high mobility in soil, which may contaminate ground water.

Storing and Transporting Methyl Ethyl Ketone

MEK is transported by tank truck, rail car and vessel. Product is stored in bulk containers that meet local and international regulated specifications.

Risk Characterization Summary

Risks associated with exposure to this product have been evaluated for the following “chain-of-commerce” activities: manufacture, storage, product transfer, transportation, and customers/markets. It is manufactured, stored and transported to customers in closed systems. Depending on the customer, end uses may vary from use as an intermediate for the manufacture other chemicals, commercial products, or certain formulated consumer products. Proper equipment design and handling procedures maintain low risk from exposure where used as an intermediate. Exposures may be higher in commercial and consumer applications. To minimize risk, additional controls, such as, special handling procedures and protective packaging are implemented.

This product stewardship summary is intended to give general information about the chemical or categories of chemicals addressed. It is not intended to provide an in-depth discussion of health and safety information. Additional information is available through the chemical’s applicable [Safety Data Sheet](#), which should be consulted before use of the chemical. This product stewardship summary does not supplant or replace required regulatory and/or legal communication documents.



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