

Methyl isobutyl ketone

This document provides a brief description of methyl isobutyl ketone, its uses, and the potential hazards associated with short and long term exposure. Environmental impact information for accidental releases is included. This information is general in nature and is not intended as a replacement for the safety data sheet (SDS), product label and other safe handling literature. For additional information consult the LANXESS safety data sheet.

Identification

Product Name:	Methyl isobutyl ketone
Chemical Name:	Methyl isobutyl ketone
Synonym(s):	2-Methylpropyl methyl ketone 2-Methyl-4-pentanone 4-Methyl-2-pentanone Isopropyl acetone MIBK
CAS Number:	108-10-1

Description

Overview:	Methyl isobutyl ketone is a clear, low viscosity liquid at ambient temperatures. The chemical has a pleasant odor.
Uses:	Methyl isobutyl ketone is used by LANXESS in the production of antidegradants used in the manufacture of rubber products. The chemical is also used as a solvent in the manufacture of paints, coatings, adhesives, pesticides and other products; and as a surfactant in textile coating and leather processing applications.
Properties:	Boiling Point: 241.7°F (116.5°C) Flash Point: 73.4°F (23°C) Auto-ignition: > 838°F (448°C)

Product Safety Assessment: Methyl isobutyl ketone

Solubility in Water: Low

Potential Human Health Effects

Occupational Exposure

Potential for occupational exposure exists during manufacture, at storage and staging areas and during transfer hose connection/disconnection and sampling operations in facilities where methyl isobutyl ketone is used in the manufacture of other products. A much lower potential for exposure exists in facilities using the chemical in closed manufacturing processes by trained personnel.

Employee Training

Workers handling methyl isobutyl ketone should be trained to implement proper handling procedures and to understand the potential health and physical hazards of the chemical. Suitable respiratory protection may be required in applications where airborne concentrations of methyl isobutyl ketone are expected to exceed exposure guidelines. In addition, LANXESS recommends that splash resistant safety goggles, butyl rubber gloves and chemical resistant clothing be worn when handling methyl isobutyl ketone.

Consumer Exposure

LANXESS Corporation does not sell methyl isobutyl ketone to the general public. Consumers may be exposed to the chemical through the consumption of certain fruits and meats (methyl isobutyl ketone chemical is naturally present in these foods) and other food/beverage products where the chemical has been approved for use in flavoring additives or as a denaturant. Consumers may also be exposed to the chemical through use of paints, coatings, adhesives and other products manufactured using methyl isobutyl ketone as an additive.

Short-Term Health Effects

Skin contact with methyl isobutyl ketone is expected to be irritating. Symptoms may include redness, dryness or flaking of the skin. Eye contact with vapors may be irritating with symptoms of redness, tearing and swelling. Direct eye contact with liquid methyl isobutyl ketone may be painful. Inhalation or ingestion may cause respiratory or digestive tract irritation. Inhaling or ingesting methyl isobutyl ketone in sufficient quantities may result in chest pain, coughing, nausea, loss of appetite, vomiting, diarrhea, headache, drowsiness and lack of coordination. Aspiration of liquid methyl isobutyl ketone in sufficient quantities may cause chemical pneumonitis, unconsciousness, lung damage, coma or death. Consumption of alcohol may increase toxic effects.

Long-Term Health Effects

Repeated or prolonged exposure to sufficient quantities of methyl isobutyl ketone may result in throat irritation, weakness, loss of appetite, headache, nausea and vomiting. Repeated or prolonged eye contact may result in conjunctivitis.

Physical Hazards

Methyl isobutyl ketone is highly flammable in liquid form. Vapor/air mixtures may be explosive. Avoid exposure to heat, open flames and other potential sources of ignition. Heating methyl isobutyl ketone to decomposition may release carbon oxides and other potentially toxic fumes. Avoid contact with strong oxidizing agents, acids and reducing agents.

Potential Environmental Impact

Methyl isobutyl ketone is readily biodegradable. Vapors released to the atmosphere will degrade rapidly with exposure to light and oxygen. An accidental release to water should evaporate quickly, but may pose a danger to fish (moderate toxicity), invertebrates (moderate toxicity) and aquatic plants (low toxicity) prior to degradation. The chemical has a low risk of bioaccumulation.

Conclusion

Under normal conditions of anticipated use as described in this Product Safety Assessment, and if the recommended safe use and handling procedures are followed, methyl isobutyl ketone is not expected to pose a significant risk to human health or the environment.

References

International Chemical Safety Card, International Programme on Chemical Safety (IPCS)

Toxicological Review of Methyl Isobutyl Ketone, United States Environmental Protection Agency (EPA)

Safety Data Sheet (SDS), METHYL ISOBUTYL KETONE, ChemAdvisor Inc.

MedlinePlus Medical Encyclopedia, U.S. National Library of Medicine and the National Institutes of Health

NIOSH Pocket Guide to Chemical Hazards, Hexone, U.S. National Library of Medicine and the National Institutes of Health

ToxNet Hazardous Substances Data Bank, U.S. National Library of Medicine, National Institutes of Health and the U.S. Department of Health and Human Services

Contact Information

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Notices

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