FACT SHEET

METHYL N-AMYL KETONE (MAK)

CAS #: 110-43-0

This fact sheet provides a summary of the Development Support Document (DSD) created by the Toxicology Section (TS) of the Texas Commission on Environmental Quality (TCEQ) for the development of Regulatory Guidelines (ESL and ReVs) for ambient exposure to this chemical. For more detailed information, please see the DSD or contact the TS by phone (1-877-992-8370) or e-mail (tox@tceq.texas.gov).

What is MAK?

MAK is a colorless to white liquid that evaporates easily, and is the compound responsible for the pepper-like odor of Roquefort cheese. Methyl n-amyl ketone (MAK) occurs naturally in clove and cinnamon bark oil and is also produced commercially. MAK is used as a solvent in metal roll coatings and in synthetic resin finishes and lacquers, as a flavoring agent, and in perfumes. It is also called 2-heptanone, butyl acetone, heptan-2-one, ketone C-7, methyl (n-amyl) ketone (2-heptanone), methyl pentyl keton, methyl amyl ketone, n-amyl methyl ketone, amyl methyl ketone, and amylmethylketone [2-heptanone].

How is MAK released into ambient air?

MAK may be released into the air at places where it is produced or used as a solvent. It may also be released into the air by naturally occurring processes.

How can MAK affect my health?

Permitted levels of MAK should not cause adverse health or welfare effects. Well conducted human studies involving the short-term adverse health effects of MAK were available; therefore, human studies were used to develop the short-term health protective values. The human studies showed that exposure to high concentrations caused irritation of the mucous membranes in the upper respiratory tract and eyes. The main short-term health effect of concern is eye irritation in humans.

Well conducted human studies were not available involving the long-term adverse health effects of MAK; therefore, laboratory animal studies were used to develop the long-term health protective values. Exposure to high concentrations over a long period of time did not show any adverse health effects in animals. The health protective values were developed using the highest dose known not to cause an adverse health effect. MAK has not been classified as a human carcinogen by the TCEQ, the United States Environmental Protection Agency, the National Toxicology Program, and the International Agency for Research on Cancer.

Is MAK odorous or harmful to plants?

MAK has a fruity odor. No information was found regarding the potential effects of MAK on plants.

Why does the TCEQ set Regulatory Guidelines for MAK?

The TCEQ has set various air quality guideline levels (ESLs and ReVs) to protect human health and welfare. Please see Definitions of ESLs, ReVs, and AMCVs located on the TCEQ DSD webpage for more information. The ESLs and ReVs for MAK have been designed to protect the general public from short-term and long-term adverse health and welfare effects. The general public includes children, the elderly, pregnant women and people with preexisting health conditions. If you would like to know more about the specific ESLs and ReVs developed, what the values are and what they are used for, please see the DSD.