FACT SHEET

METHACROLEIN

CAS #: 78-85-3

This fact sheet provides a summary of the Development Support Document (DSD) created by the Toxicology Division (TD) 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 TD by phone (1-877-992-8370) or e-mail (tox@tceq.texas.gov).

What is methacrolein?

Methacrolein (MET) is a colorless flammable liquid with an acrid smell that resembles the smell of ozone when dilute. MET is an intermediate in the production of copolymers, resins, methacrylonitrile, and methacrylicic acid. Use of MET other than as an intermediate was discontinued when better catalysts became available. MET may be present in automobile exhaust, liquid floor wax, and steel protective paints.

How is methacrolein released into ambient air?

MET is released into ambient air from a variety of sources. Trace levels of MET can be identified in urban and suburban air arising from the reaction of atmospheric isoprene and ozone. In indoor air, MET can be formed from oxidation of isoprene by ozone, hydroxide, and nitrate. It is also released into the air by certain plants, such as sagebrush, which use MET as a chemical defense signal.

How can methacrolein affect my health?

Permitted levels of MET should not cause adverse health and welfare effects. Both human and laboratory animal studies indicate that sensory irritation to the eyes and nose is the most sensitive effect of exposure to high levels of MET followed by upper respiratory tract effects after both short-term and long-term inhalation exposure.

There are no human or animal studies indicating MET has potential to be a human carcinogen. As a result, MET has not been evaluated for its potential to be 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 methacrolein odorous or harmful to plants?

MET has a distinct, acrid odor at low concentrations. Met has not been shown to have adverse effects on plants.

Why does the TCEQ set Regulatory Guidelines for methacrolein?

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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 MET 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 pre-existing 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.