FACT SHEET

1-BUTENE

CAS #: 106-98-9

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 1-butene?

1-Butene is a flammable, colorless gas with a "gas-house" odor. 1-Butene is used as an intermediate in the production of a wide variety of chemicals and is found in gasoline. It is also used as a monomer or copolymer in the production of synthetic rubber. Butenes are a component of natural gas and crude oil. 1-Butene is also known as 1-butylene, n-butene or n-butylene, and α-butylene.

How is 1-butene released into ambient air?

1-Butene is released into ambient air from a variety of sources. Trace levels of 1-butene can be identified in urban and suburban air arising from combustion of fossil fuels and losses from gas plants and refineries.

How can 1-butene affect my health?

Permitted levels of 1-butene should not cause adverse health and welfare effects. Laboratory animal studies indicate the main effects 1-butene produces are central nervous system depression, anesthesia, and/or asphyxiation. These effects occur at concentrations above the lower explosive limit. 1-Butene is relatively nontoxic. The TS did not find any long-term 1-butene studies in humans or laboratory animals. There are no human or animal studies indicating 1-butene has potential to be a human carcinogen. As a result, 1-butene 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 1-butene odorous or harmful to plants?

1-Butene has a "gas-house" odor at moderate concentrations. 1-Butene has not been shown to have an adverse effect on plants.

Why does the TCEQ set Regulatory Guidelines for 1-butene?

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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 for 1-butene are set 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.