FACT SHEET

2-BUTENE (CIS AND TRANS) CAS #: 107-01-7
CIS-2-BUTENE CAS #: 590-18-1
TRANS-2-BUTENE CAS #: 624-64-6

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 are cis-2-butene and trans-2-butene?

Cis-2- and trans-2-butene are chemical isomers that are flammable, colorless gases with a "gas-house" odor. They frequently occur together as a mixture and are referred to as 2-butene. Cis-2- and trans-2-butene are used as solvents and cross-linking agents. They are used in the synthesis of or as a chemical intermediate of other chemicals. They are a component of liquefied petroleum gas. Cis-2-butene is also known as cis-2-butylene, cis-β-butylene, and cis-1,2-dimethylethylene. Trans-2-butene is also known as trans-2-butylene, trans-β-butylene, and trans-1,2-dimethylethylene.

How is 2-butene released into ambient air?

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

How can 2-butene affect my health?

Permitted levels of 2-butene should not cause adverse health and welfare effects. Laboratory animal studies indicate the main effects 2-butene produces are loss in body weight and anesthesia at higher concentrations. 2-Butene is relatively nontoxic. The TS did not find any long-term 2-butene studies in humans or laboratory animals. There are no human or animal studies indicating 2-butene has potential to be a human carcinogen. As a result, 2-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 2-butene odorous or harmful to plants?

2-Butene has a "gas-house" odor at moderate concentrations. 2-Butene has not been shown to have an adverse effect on plants.

Why does the TCEQ set Regulatory Guidelines for 2-butene?

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 2-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.