FACT SHEET

Butane, All Isomers

CAS Numbers: n-Butane: 106-97-8;

Isobutane: 75-28-5

This fact sheet provides a summary of the Development Support Document (DSD) created by the TCEQ Toxicology Division (TD) for the development of Regulatory Guidelines (ESLs, AMCVs 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 butane?

General butane (hereafter, butane) is a colorless, flammable gas with a petroleum-like odor. Butane consists of two isomers: n-butane and isobutane. They are derived from natural gas and petroleum and are inert to most chemical reagents. Both isomers of butane generally used as refrigerants, for gas lighter refills, aerosol propellants, instrument calibration fluids, fuel sources, and Generally Recognized as Safe (GRAS) food ingredients.

How is butane released into ambient air?

Butane can be released into the air from its production and use in many products associated with the petroleum and natural gas industries. In addition, the combustion of gasoline is a major mechanism for the release of butane into the atmosphere.

How can butane affect my health?

Permitted levels of butane should not cause adverse health and welfare effects. Butane is a low molecular weight aliphatic hydrocarbon which is an anesthetic and asphyxiant. It is essentially non-toxic at low concentrations and has a low acute respiratory toxicity to experimental animals and humans at moderate concentrations. Inhalation of extremely high concentrations exceeding butane's lower explosive limit (LEL: 1.8-1.9%) may cause effects and depression of the central nervous system with symptoms such as headache, nausea, dizziness, drowsiness, confusion, and unconsciousness. There are no human or animal studies indicating butane has a potential to be a human carcinogen.

Is butane odorous or harmful to plants?

Butane has a natural gas or petroleum-like odor. An odor detection threshold of 1,200 ppm was reported for n-butane. Butane has not been shown to have an adverse effect on plants.

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Why does the TCEQ set Regulatory Guidelines for butane?

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