FACT SHEET

1,1-DICHLOROETHYLENE (1,1-DCE)

CAS #: 75-35-4

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 1,1-DCE?

1,1-DCE (1,1-dichloroethylene) is a colorless liquid with a sweet chloroform-like odor. 1,1-DCE is used mainly in the production of packaging materials, flexible films like plastic wrap, and flame-retardant coatings for fiber and carpet backing. 1,1-DCE is a man-made chemical and is not found naturally in the environment. It is also called 1,1-dichloroethene, vinylidene chloride, DCE, and VDC.

How is 1,1-DCE released into ambient air?

1,1-DCE may be released into the air at places where it is produced or used to make plastics and coatings.

How can 1,1-DCE affect my health?

Permitted levels of 1,1-DCE should not cause adverse health and welfare effects. Well conducted human studies involving the short- and long-term adverse health effects of 1,1-DCE were not available; therefore, laboratory animal studies were used to develop health protective values. The short- and long-term laboratory animal studies showed that damage occurred mainly in the liver from exposure to high levels of 1,1-DCE. 1,1-DCE has been classified as a possible human carcinogen by the United States Environmental Protection Agency, because there is little or no human data available and limited evidence in animal studies. The International Agency for Research on Cancer and The National Toxicology Program have not classified 1,1-DCE as causing cancer in humans. The TCEQ believes there is not enough information available at this time to determine if 1,1-DCE causes cancer in humans.

Is 1,1-DCE odorous or harmful to plants?

1,1-DCE has a sweet chloroform-like odor; however, there were no acceptable studies on which to base an odor value. The TS did not find any studies that describe any potential harmful effects in plants.

Why does the TCEQ set Regulatory Guidelines for 1,1-DCE?

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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 1,1-DCE 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.