FACT SHEET

Diethanolamine (DEA) CAS #: 111-42-2

Triethanolamine (TEA) CAS #: 102-71-6

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 are Diethanolamine (DEA) and Triethanolamine (TEA)?

DEA and TEA are alkanolamines that have a mild, ammonia-like odor. They are often used in mixtures of other alkanolamines that have a wide range of applications, including metal working fluids (MWFs), corrosion inhibitors, plasticizers, antifoaming agents, softening agents, chelating agents, solvents, rubber accelerators, pharmaceutical alkalizing agents, soaps, cosmetics, and hair shampoos/conditioners.

How are DEA and TEA released into ambient air?

DEA and TEA may be released into the air primarily from industrial activity associated with MWFs and corrosion inhibitors.

How can DEA and TEA affect my health?

Permitted levels of DEA and TEA should not cause adverse health or welfare effects. Upper respiratory tract effects (e.g., laryngeal inflammation) have occurred in laboratory animals inhaling exceedingly high concentrations of DEA and TEA over short- and long-term exposure periods. The liver has also been shown to be a sensitive target organ for adverse effects in laboratory animals exposed to sufficiently high concentrations over a sufficiently long duration.

Is DEA or TEA odorous or harmful to plants?

Both DEA and TEA have an ammonia-like odor at moderate levels. Airborne concentrations have not been shown to have adverse effects on plants.

Why does the TCEQ set Regulatory Guidelines for DEA and TEA?

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 DEA and TEA 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.

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