

Halocarbon Products Corp

Product Stewardship Summary: Trifluoroethanol

This Product Stewardship Summary is intended to provide a general overview of the chemical substance. The information on the Summary is basic information and is not intended to provide emergency response, medical, or treatment information. In-depth safety and health information can be found on the product's Safety Data Sheet (SDS).

Chemical Identity: Trifluoroethanol CAS# 75-89-8

Other Names: TFE, Trifluoroethyl alcohol, F₃Alcohol, 2,2,2-Trifluoroethanol

Product Overview: Trifluoroethanol is an organic compound with the formula CF₃CH₂OH. It is commonly used as an industrial solvent in organic chemistry and as a pharmaceutical intermediate.

Physical and Chemical Properties: TFE exhibits a strong acidic character and has an easily recognizable alcohol smell. It is a clear liquid at standard temperature and pressure that mixes readily with water. It is classified as flammable but its heat of combustion is too low to maintain its own flame. The specific gravity of liquid TFE is 1.38, and its vapor density (air = 1) is 3.45. TFE boils at 74 °C.

Health Information:

Acute: TFE is an irritant to skin and eyes, lungs, and, on the skin, may cause an allergic reaction.

Chronic: TFE may affect the reproductive system, bladder, brain, upper respiratory tract and eyes. Repeated or prolonged exposure to TFE can produce target organ damage.

Environmental Information:

Environmental Fate Information: TFE is readily miscible in water and may combine with any water in the area.

Aquatic and/or Terrestrial Toxicity: TFE has low toxicity to zebra fish.

Exposure Potential:

Workplace: Workers using TFE as a solvent in the workplace should wear personal protective equipment to protect skin, eyes and lungs. While there is no federally established time weighted average (TWA), Halocarbon Products Corp has established its own TWA for TFE at 5 parts per million (ppm).

Consumer: Halocarbon Products Corp does not sell TFE to the general public.

Environmental Releases: TFE spills do not present an acute danger to the general public. The larger danger present is contamination of ground water. For that reason, it is important that spilled TFE be recovered as soon as possible along with any ground water the TFE may have contaminated. Excess TFE should be disposed of as a hazardous waste.

Risk Management:

Workplace: Risk management of TFE in the workplace can be accomplished by storing and using TFE in areas away from personnel and large sources of oxygen as much as possible. TFE is not a general purpose solvent and should only be used by a trained workforce for specific uses following appropriate industrial hygiene practices to keep exposures below 5 ppm.

Environmental: TFE should not be released to water as it is readily miscible in water and will combine with any water in the area. Drinking water contamination should be avoided. Excess TFE should be disposed of as a hazardous waste.

Product Stewardship Programs: Halocarbon Products Corp is proud to have been a pioneer in the field of halogenated hydrocarbons since its inception in 1950. Halocarbon Products Corp established a Customer Survey and Support program several years ago and continues to offer support to its customers.

Conclusion Statement: Trifluoroethanol (TFE) is an important and useful solvent and pharmaceutical intermediate that can be and is routinely used safely under recommended industrial hygiene and spill prevention practices.

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Date: 07/12/2012
Reviewed 02/16/2016