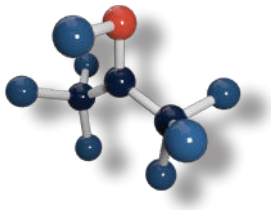
Gas Factsheet

Isopropanol



Formula: C_3H_8O
CAS: 67-63-0
Source: Rubbing Alcohol, Hand Sanitisers, Gas Dryers, Laboratories
Detection Method: Tiger, Tiger^{LT}, Cub, Falco, TVOC 2, GasClam 2 & GasCheck G

Isopropanol, or isopropyl alcohol, is a clear, colourless liquid that emits an odour that resembles acetone. It is a commercially available product mainly is found as a 70% solution in rubbing alcohol and hand sanitisers. Unlike the other toxic alcohols, isopropanol rarely causes death and is associated with ketosis without acidosis. Treatment of isopropanol ingestions are typically supportive therapy and ingestions are rarely lethal.

C_3H_8O - USED MASSIVELY THROUGHOUT THE CLEANING PROCESS IN HOSPITALS

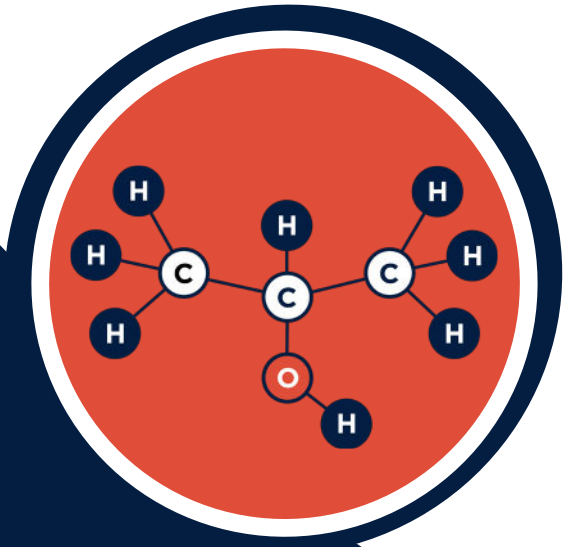
The Creation Of Isopropanol

Ispropanol was first produced by hydrating propene in the 1920s at Standard Oil, a large oil refinery. It was discovered whilst studying by-products of petroleum. Nowadays, it can be produced in three different ways: indirect hydration or propylene, direct hydration of propylene and catalytic hydrogenation of acetone.

A Perfect Cleaning Product

Isopropanol dissolves a wide range of compounds. It evaporates quickly, leaves zero residue compared to ethanol, it can be mixed with most solvents including water, ethanol and chloroform.

When mixed with water it creates rubbing alcohol, also known as surgical spirit. In this form it has a wide range of home-based uses from disinfecting cuts to de-icing vehicle windscreens. Isopropanol is also very effective in laboratories, hospitals and medical facilities for its versatile uses.



Isopropanol Health Risks

Isopropanol can enter the body three ways: **ingestion, inhalation, and absorption**. The first way is most direct, and easiest to avoid. Since ingesting causes rapid intoxication and has an immediate effect on the central nervous system, which controls the involuntary actions of the body, including heartbeat, breathing, and gag reflex. Isopropanol slows these functions and may shut them down altogether. It is so strong that it can induce hypothermia and subsequent cardiac arrest. The blood's thinning also causes blood sugar levels to fall so sharply that seizures may result.

Limiting access to large amounts can deter people from misusing the product in this way. It should never be kept anywhere or in anything that might be mistaken for consumption, for example in a water bottle, or near where food is prepared or consumed.

Isopropanol inhalation occurs anytime you are around an open container, although working with reasonable amounts is generally safe, it can cause headaches. Inhaling large amounts of isopropanol though can cause nausea, vomiting, irritation of the nose and mucous membranes, throat irritations, and even difficulty with breathing as coughing can occur making it difficult for you to catch your breath.

Isopropanol Detection Instruments

Fixed Instruments


Semi-Portable Instruments


Portable Instruments


Personal Instruments