CARBON DISULPHIDE

Overview

Carbon Disulphide (CS_2) is a colorless liquid with a pleasant odor similar to Chloroform although it is usually an impure yellowish with an unpleasant odor like that of rotting radishes due to traces of other sulphurous species, such as carbonyl sulfide (COS).

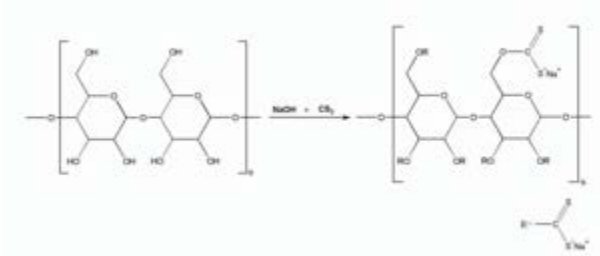
It is found naturally in numerous places, including volcanoes, marshes, tar,and petroleum. It is also composed synthetically.

It has many uses. Often it is used widely as an industrial solvent and also as an insecticide for numerous plants and as a fumigant.

Just the facts

Physical Information
Name: Carbon Disulphide
Use: insecticide, solvent, fumigant
Source: naturally occurring and synthetic chemistry
Recommended daily intake: none
Absorption: dermal, ingestion, inhalation
Sensitive individuals: workers
Toxicity/symptoms: highly toxic
Regulatory facts:

Chemical Structure



Structure Received from Wikibooks

Chemical Description

Pure carbon disulphide is a colorless liquid at room temperature with an "ethereal" odor (#INCHEM). It was formally manufactured by direct reaction of sulphur vapor and coke in iron or steel retorts at 750 - 1000°C but, since the early 1950's, the preferred method of synthesis has been the catalyzed reaction between sulphur and methane (#INCHEM). It is heavier than water and will sink.

It is also found naturally in coal tar, crude petroleum, animal waste, volcanoes, and other sources (#INCHEM).

Pharmacology and Metabolism

From #INCHEM:
"Around 70 - 90% of the retained carbon disulphide is metabolized and excreted in the urine. Carbon disulphide undergoes microsomal hepatic metabolism, with subsequent conjugation. Some of the metabolites detected in the urine are thiourea (the most important) and mercaptothiazoline and 2-mercapto-thiazoline-4-carbonic acid, but there appears to be a poor correlation between the amount of metabolites and the degree of exposure."

Uses

Carbon disulphide is used industrial for numerous purposes. It is integral in the construction of viscose rayon, cellophane film, carbon tetrachloride and xanthogenates

and electronic vacuum tube (#INCHEM). It is also used as an insecticide on grains, fruits, on nursery stocks, and other vegetations and also as a fumigant in airtight storage spaces (#INCHEM).

Health Effects

Poisoning from carbon disulphide is rare but extremely serious. Acute toxic effects include central nervous system depression as it is a Cholinesterase Inhibitor, peripheral neuropathy and cardiovascular collapse. If the victim was exposed to copious amounts of carbon disulphide, then within hours, the patient would become comatose and die due to convulsions and respiratory failure (#INCHEM).

Chronic occupational exposure is more common and, after a prolonged exposure period (10-15 years), numerous problems can arrive. Atherosclerosis, heart disease, motor and neural damage, impaired vision, fatigue, sleep disturbances and may more problems may result from exposure to carbon disulphide (#INCHEM).

Data on its carcinogenic and teratogenic properties are inconclusive.

Source : http://www.toxipedia.org/display/toxipedia/Carbon+Disulphide