

INTRODUCTION

Chlorobenzene was one of the earliest heavy organic chemicals that is, those chemicals which were produced industrially in large amounts. The former United Alkali Company first produced chlorobenzene industrially at Widnes, England, in 1909. Chlorobenzene first acquired importance during the World War I, when it was required in high tonnage for making phenol in picric acid manufacture.

Chlorobenzene is a colorless, mobile liquid with an almond like odor. At ordinary temperature and pressure chlorobenzene is unaffected by the presence of air, moisture, or light, and upon prolonged boiling, shows no tendency to split off chlorine. The chlorine atom in chlorobenzene is unreactive at ordinary temperatures and pressures. At moderate temperatures, chlorobenzene is unaffected by steam, alkalis, hydrochloric acid, and dilute sulphuric acid. Even boiling for several hours with alcoholic KOH has no effect on chlorobenzene. It is soluble in all proportions in ether, chloroform, benzene, alcohol and carbon disulphide. It is insoluble in water. Hydrolysis, with the formation of Phenol takes place at 450°C to 500°C in the presence of a catalyst or with alcoholic alkalis or with water under pressure at high temperatures. Aniline may be prepared by reaction with concentrated ammonium hydroxide under pressure in the presence of copper catalyst. Of technical importance is the preparation of DDT by condensation of chlorobenzene with chloral in the presence of fuming Sulphuric Acid. Chlorination of chlorobenzene in the presence of a variety of catalysts produces prominently o and p-Dichlorobenzenes isomers. Chlorobenzene forms both binary and ternary azeotropic mixtures with water and a number of organic liquids.

Chlorobenzenes are less toxic than benzene. Liquid chlorobenzenes produce mild to moderate irritation upon skin contact. Contact with eye tissue at normal temperature cause s pain, mild to moderate irritation, and possibly some

transient corneal injury. Prompt washing with large quantities of water is extremely helpful. Continued contact may cause roughness or a mild burn. Absorption through the skin is slow and with short-term exposure over a limited period of time, no significant amounts will enter the body. Since the monochlorobenzene vapor forms explosive mixtures with air, open flames and smoking should not be allowed where chlorobenzene is stored or used.