

INTRODUCTION

Naphthalene, $C_{10}H_8$, is an aromatic hydrocarbon with two, ortho-condensed, benzene rings. It is first member of the series of condensed-ring aromatic compound. It forms easily sublimable colorless leaflets or monoclinic crystals. It has a characteristic odor in grades of technical quality due in large measure to contain impurities; very pure, sulfur free material has a milder and more pleasant odor. It burns in air with the formation of much soot.

Garden first recorded finding it as a solid in distillate from coal tar in 1820. Kidd who isolated the material in purer form from pyrolyzed coal tar gave it the name "Naphthalene" in 1821. E. Erlenmeyer in 1866 showed it to be a hydrocarbon with two benzene nuclei condensed in the ortho position and C. Graebe in 1869 established the accepted structural formula by its oxidation to o-phthalic acid.

Naphthalene and its lower alkyl derivatives occur in commercial concentration in, and are commercially recovered from, high-temperature coal tar and from aromatized petroleum oil fraction. Naphthalene also occurs naturally in some essential oils.

In India naphthalene is obtained from coal tar. In developed countries like U. S. with newer technologies naphthalene is obtained from petroleum also.

This report presents a detailed design of naphthalene distillation column with its overhead condenser. Process design requires thermo physical property data, most of which are generated using contribution methods. VLE data are generated by bubble point and dew point computer programs written in 'C' language. .