INTRODUCTION
Environmental toxicology is the study of the effects of toxic substances occurring in both natural and manmade environments. The chloro-insecticides, DDT and endosulfan are extensively used for crop protection and health management, resulting in their increased concentration in the biosphere. These insecticides are fat soluble and produce maximum toxicity to the system due to their chemical diversity and long persistence in the nature (Masuda et al. 1974, Gupta and Gupta 1979, Yarbrough et al. 1982, Kulkarni and Hodgson 1984). Since lung is a prominent target organ in the body which comes first in contact with insecticides present in the atmosphere, therefore the most common way of entry of insecticides inside the body is through inhalation.

The alveoli of the lung is filled with a highly surface active lipoprotein complex, the surfactant, which prevents the lung for atelectasis and stabilizes alveoli by reducing surface tension at the air-liquid interface (Hollingsworth and Gilfillan 1984). The phospholipid composition of the surfactant is distinct from that of whole lung or other tissues, especially with regard to the relatively high concentrations of dipalmitoylphosphatidylcholine (DPPC) and phosphatidylglycerol (Gilfillan et al. 1983). The large
proportions of DPPC allow the lipoprotein complex of surfactant to achieve very low surface tension (King, 1984). The phosphatidylglycerol (PG), along with Ca\(^{2+}\) and cholesterol induces perturbations in the bilayer structure of the intact liposomes and helps in the aggregation and fusion of lipid bilayers (King and MacBeth 1981, Benson et al. 1984). Whether the insecticides given through the intratracheal route impair the surfactant lipid metabolism is not known.

The phospholipids of surfactant system are synthesized largely by CDPcholine pathway in alveolar type II cells, where it is stored in lamellar bodies and then secreted into alveolar space (Akino and Ohno 1981, Engle 1982). Various physical and chemical factors have been reported to alter the rate of surfactant secretion in the intact lung and lung slices and isolated type II cells (Mettler et al. 1981, Hollingsworth and Gilfillan 1984, Mustafa 1985). Colchicine, which interrupts the structural integrity of microtubules inhibits the pilocarpine effect, suggesting its participation in the secretory process of surfactant lipids (Delahunty and Johnston 1976, Sato and Akino 1982). The effect of intratracheally administered DDT and endosulfan on surfactant secretion is still obscure.
A characteristic of all living organisms is the ability to metabolize molecules that are entirely foreign to their internal metabolic machinery. The liver is believed by many workers to be the organ most active in the metabolism of foreign compounds (Kulkarni and Hodgson 1984), however, lung also possesses mixed-function oxidase activity capable of hydroxylating foreign compounds (Law 1982, Wolf et al. 1982, Ueng and Alvares 1982, Sagami and Watanable 1983). Lung also contains defence mechanisms against reactive electrophiles and nucleophiles generated during metabolism of chemicals (Dunber et al. 1981, Boyd et al. 1982). There are several studies which show that DDT and endosulfan enhance the activities of hepatic drug metabolizing enzymes in animals when given orally (Dorough et al. 1978, Down and Chasseaud 1981, Yarbrough et al. 1982, Tyagi et al. 1984, 1985). However, very little information is available on the effect of insecticides when given through pulmonary route, on drug-metabolizing enzymes in rats.