

power sprayers it is advisable to use an approved respirator if considerable spray kicks back into the operator's breathing zone

See Industrial Data Sheet 303 and *Hygienic Guide*

Decaborane—see **Boron hydrides**

Derris is a powdered plant root, which contains rotenone as its main active ingredient. See **Rotenone**.

Diacetone alcohol is a flammable solvent. Exposure of laboratory animals to the saturated vapor, 2100 ppm, resulted in irritation of the eyes, running of the nose, excitement, and then sleepiness in about 20 minutes. There are no cases of human poisoning on record.

This solvent is liable to be a fire hazard because the commercial material often contains acetone as an impurity in concentration great enough to substantially lower the flash point.

Diatomaceous earth is a form of silica in the amorphous state. Although it apparently is not as active in producing silicosis as its high content of free silica would lead one to expect, there have been a number of reports of silicosis from handling the material where the dust concentrations were high (see Chapter 41, "Industrial Hygiene").

If the temperature is raised to about 1,000 F (538 C) in a calcining operation, the material readily changes to cristobalite, which is a vigorous producer of silicosis. It should be handled with the same precautions against dust used with other forms of free silica.

See Industrial Data Sheet 531.

Diborane—see **Boron hydrides**. Also see *Hygienic Guide*.

1,2-Dibromoethane (ethylene dibromide) is used mainly as a constituent of fumigation mixtures and of "leaded" gasoline. To a limited extent, it has also been used as a fire extinguishing agent and solvent. As an industrial hazard, it is toxic by ingestion, by skin contact, and by inhalation.

On experimental animals it produces local irritation of the eyes and skin if applied directly, but produces severe burns and is absorbed through the skin if it is confined in contact. On ingestion and inhalation, it injures the lungs, liver, and kidneys and de-

presses the central nervous system.

Dichlorobenzene occurs as the three isomers ortho, meta, and para. All are flammable liquids with low vapor pressures, but they are sufficiently volatile to produce toxic symptoms if handled in the open in a confined area. They are used primarily as insecticides, as intermediates in the dye industry, and to some extent as solvents.

Development of cataract and of liver symptoms from chronic exposure to these compounds in industry has been reported.

See *Hygienic Guide*.

Dichlorodifluoromethane (Refrigerant 12) is about as physiologically inert a substance as one could find. It has no real toxic effects until the concentration becomes high enough to reduce the oxygen content of the atmosphere. Since it is a refrigerant gas normally under fairly high pressure, it will freeze tissue upon which it is directed. It may also decompose if brought into contact with an open flame or a red-hot surface and produce irritating and toxic decomposition products.

1,1-Dichloroethane (ethylidene chloride) was formerly used as an inhalation anesthetic but has been completely displaced by safer materials. It is still used to some extent as a solvent in industry. Its acute effect is that of an anesthetic and narcotic, and chronically it characteristically produces symptoms and signs of digestive and central nervous system irritations.

1,2-Dichloroethane (ethylene dichloride) is a commonly used, low-boiling solvent. Qualitatively, its effects are very similar to those of 1,1-dichloroethane.

See *Hygienic Guide*.

1,2-Dichloroethylene (acetylene dichloride) is a widely used solvent of low fire hazard and relatively low toxicity. It is a rather sweet-smelling narcotic somewhat like chloroform both in odor and in effects, so that there is no adequate warning in the odor. It can be detected by odor at 250 to 300 ppm. For short exposures, it has no effect on men at 800 ppm and is not thought to have any special chronic effects.

Dichloroethyl ether is used mainly as a dewaxing solvent. It has a pungent, very irritating odor and is mainly an injurant of