intense as to discourage excessive exposure.

Calcium arsenate is one of the widely used arsenical insecticides It has the cumulative toxic properties of the other inorganic arsenicals, although relatively few cases of arsenic intoxication have resulted from its use in agriculture More common than intoxications are skin effects because it is quite alkaline and, consequently, very caustic to all tissues

Calcium cyanamide is a solid inorganic amide produced by roasting calcium carbide in an atmosphere of nitrogen It is widely used as a fertilizer ingredient because it hydrolyzes to form calcium carbonate (limestone) and ammonia The same property makes it a very irritating dust to inhale

Since calcium cyanamide is rather gummy so that a fine dust cannot easily be formed from it, it is generally thought that this material does not penetrate deeply enough into the respiratory system to do serious lung damage There has been one report of two cases of chemical pneumonia following exposure to calcium cyanamide

Carbitol—see **Diethylene glycol monoethyl ether.**

Carbolic acid—see **Phenol.**

Carbon dioxide has been reported as the cause of death when encountered in asphyxiating concentrations, probably several hundred thousand parts per million It is weakly narcotic at 30,000 ppm, decreasing acuity of hearing and increasing blood pressure and pulse At 50,000 ppm, a 30-minute exposure may be intoxicating, and, at 70,000-100,000 ppm, it may produce unconsciousness in a few minutes

See Industrial Data Sheet 397 and *Hygienic Guide*

Carbon disulfide is a highly volatile and flammable liquid with an extremely low ignition temperature and wide explosive range Carbon disulfide vapor will ignite on contact with a steam radiator It should be handled in strict accordance with the rules given for the most hazardous flammable liquids

Unless it must be kept dry, carbon disulfide can be unloaded from tank cars by displacement with water and stored under water. Otherwise, it may be transferred by pressure of an inert gas (nitrogen or helium) or carbon dioxide and stored under the same gas

Operations employing carbon disulfide should be completely enclosed because of both its high toxicity and the fire hazard It can produce poisoning by skin contact, ingestion, or inhalation In industry, inhalation is by far the most common means of entry

In mild or subacute poisoning, the only signs may be an appearance of intoxication and some stupefaction If the poisoning is somewhat more intense, there may be marked pallor, fainting, nausea, repeated vomiting and sometimes diarrhea, unsteady or staggering gait, hallucinations and mania. Collapse and death may be very rapid after inhalation of the concentrated vapor

A person acutely intoxicated with carbon disulfide should be promptly removed from the toxic atmosphere, kept warm and as quiet as possible If breathing has stopped, artificial respiration should be applied

Chronic poisoning from long-continued exposure to comparatively low concentration is considerably more important to industry than is acute poisoning Such exposures affect the nervous system and may result in mental derangement or in impairment of the motor nerve function and in neuritis Recovery is likely to be good if exposure is terminated before the nervous system is seriously injured

See Industrial Data Sheet 341 and *Hygienic Guide*

Carbon monoxide is a colorless, odorless gas generated by combustion of the common fuels with an insufficient air supply or where combustion is incomplete because of a condition such as impingement of burning gases on a cold surface

In most industrial plants, carbon monoxide is released by accident or by improper maintenance or adjustment of burners or flues, by use of open salamanders in enclosed places, and by internal combustion engines

Poisoning is entirely by inhalation of the gas and may come on practically without symptoms in an individual who is comparatively quiet The most common symptoms of complete asphyxia are pounding of the heart, dull headache, flashes before the eyes, dizziness, ringing in the ears, nausea, and sometimes (but not often) convulsions.