

ORGANIC PHOSPHATES - INSECTICIDES

A serious life hazard is presented by today's wide-spread use of organic phosphate insecticides. The danger to life and health of firemen during fire operations from organic phosphates is serious.

WHAT THEY ARE:

The most commonly used of the group of insecticides, parathion, is a by-product of the development of war gas by the Germans in World War II, and has been referred to as "nerve gas." These chemicals are extremely poisonous to humans and without proper control can cause serious illness or death.

WHAT TO LOOK FOR:

Organic phosphate insecticides are sold under many trade names. Some common ones to watch for are:

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| 1. Parathion | 2. HETP | 5. OMPA |
| 2. TEPP | 4. EPN | |

WHERE TO FIND THEM:

They are usually found in storage as concentrates and commercial products in chemical warehouses and agricultural insecticidal spray companies throughout the city. In agricultural areas, they may be encountered while being applied or in bulk quantity in the field.

MEDICAL ASPECTS:

Organic phosphate insecticides are readily absorbed through the skin, mouth, mucous membranes of the eyes and respiratory tract. They are only slightly irritating and give little immediate warning. They impair the nervous system of the body and in extreme cases death results.

SYMPTOMS:

Headache, dizziness, nausea, diarrhea, increased salivation, flow of tears and sweating may result from exposure. The pupils of the eye become smaller and vision is impaired. The muscles in the eyelids and tongue may twitch, ' followed by generalized muscle spasms of the entire body. Overall muscular weakness may result in an inability to breathe, -requiring artificial respiration.

TREATMENT:

In all cases of suspected poisoning, medical aid should be obtained immediately. Atropine is the antidote. The amount of atropine to be given depends upon the symptoms and should be administered by a physician,

First Aid:

Eyes: Contact by eyes may cause temporary blindness. Flush with water immediately and continue for at least fifteen minutes.

Skin: Immediately remove contaminated clothing and scrub skin with soap and water for fifteen minutes.

Internal: If swallowed, make patient vomit by giving warm salty or soapy water.

Inhalation: Remove patient from contaminated atmosphere; keep him under continuous observation. (Get medical aid immediately). Be prepared to administer artificial respiration.

PRECAUTION:

Contact with bare skin must be avoided. Full protective clothing including rubber boots, gloves, goggles and self-contained breathing apparatus should be worn. Never eat, drink or smoke in areas where these insecticides may be used.

FIRE FIGHTING:

High or sustained heat will break down and destroy these compounds. Low heat, 200* to 240* F. can break down the product to form a gas. This gas is highly toxic. Since there is no way of determining when this gas may be formed, the use of breathing equipment and protective clothing in fire fighting is always indicated.

These insecticides are not soluble in water (except OMPA so that the contents of drums and bags cannot be diluted to a point where it will be harmless. Regardless of where it is washed, the dried residue is dangerous and creates a decontamination problem. Probably the best control is a decontamination process using large quantities of five per cent or greater lye solution.

FIRE PREVENTION:

The following are good fire prevention practices:

1. Limited amount of storage: Isolated outside storage or inside storage in sprinklered fire resistive construction with proper drainage and ventilation to the outside is desirable.

2. Adequate warning signs.
3. A special cabinet or locker containing all necessary emergency equipment should be located near the insecticidal storage area.
4. Recommend to all civilian personnel that they should receive adequate training relative to the hazards, emergency procedures and first aid.
5. Provide at least two units of fire extinguishers outside and adjacent to storage room - CO 2 and dry powder are preferred.