

FIRE EXTINGUISHMENT AND CONTROL

er type of dry powder and the method of application.

A problem recently developed in fire fighting involves pyrophoric liquids, such as triethylaluminum. These liquids ignite spontaneously and the resulting fires cannot be easily extinguished by dry powder or other commonly used agents. A special material ("Met-L-Kyl") has been developed, consisting of a bicarbonate base dry chemical and an activated absorbent.

The principle of extinguishment involves the combination effect of dry chemical, which extinguishes the flames, and the absorbent which absorbs the remaining fuel and prevents reignition. This extinguishing agent has been designed so that it can be discharged from an extinguisher similar to the standard cartridge-operated dry chemical model.

Federal rules on fire extinguishers

Effective June 13, 1962, a Federal Food and Drug Administration ruling requires special labeling on fire extinguishers that produce substances that are highly toxic or toxic when used according to directions.

The ruling states that

- 1 If the substance produced is *highly toxic*, the labeling must contain the word "Danger" and the statement "Poisonous gas formed when used to extinguish flame or on contact with heat."
- 2 If the substance produced is *toxic*, labeling must contain the word "Warning" or "Caution" and the statement "Dangerous gas formed when used to extinguish flame or on contact with heat."
- 3 Whether or not the substance produced is toxic or highly toxic, any fire extinguisher that, if used on an electrical fire, would be likely to cause electric shock must be labeled "Caution. Do not use on electrical fires." All fire extinguishers producing toxic or highly toxic substances must also be labeled "Use in an enclosed place may be fatal" and "Do not enter area until well ventilated and all odor of chemical has disappeared."

A product is "toxic" under the law if it has the capacity to cause personal injury to man through ingestion, inhalation, or absorption through the body surface. A product is "highly toxic" if tests have shown

that it produces death in test animals under controlled conditions.

The above information is an amendment to the Federal Hazardous Substances Labeling Act published in the *Federal Register*, Vol 27, April 5, 1962, p 3,255.

Miscellaneous equipment

Wheeled equipment. Large portable units on wheels are commercially available and include 17-gal and 30-gal soda-acid, loaded stream, calcium chloride, and foam types, 50-lb, 75-lb, and 100-lb carbon dioxide types, and 150-lb and 350-lb dry-chemical types (See Fig 34-1).

Wheeled "tinned" extinguishers. With the development of fluorocarbon surfactants that are water soluble, foam agents are available that give water the property of floating in thin layers on liquid fuel surfaces ("light water"). This characteristic provides excellent protection against reflash on liquid hydrocarbon fires with only one-fourth the volume as compared to protein/air foam.

A combination wheeled extinguisher with "purple K" dry chemical and "light water" fluorocarbon foam provides a synergistic extinguishing system with both rapid knock-down of flames and complete protection against reflash. The two agents are simultaneously applied through dual pistol-grip nozzles.

Vehicle-mounted equipment. Water, foam, carbon dioxide, and dry chemical extinguishing agents are available in units that are mounted on vehicles. The range in size from in plant fire vehicles capable of turning in warehouse isles, to large trucks suitable for refinery or airport protection.

Fire blankets. In some cases, fire blankets can be used to smother a small fire. Their major purpose is to extinguish burning clothing, but they are useful, too, for smothering flammable liquid fires in small open containers.

Asbestos and flameproofed woolen blankets are available, the most common size is 66 by 80 in. Blankets are usually stored in containers mounted on a wall or column, so arranged that they can be readily pulled out.

Miscellaneous hand equipment. Five-gal or 2½-gal water or antifreeze back-pack tanks are available with hand pumps built into the hose nozzle handles. This type of unit is carried on the back, and the slide