

39—Chemical Hazards

exposures and acceptable air-borne concentrations), see "Documentation of Threshold Limit Values," American Conference of Governmental Industrial Hygienists, P O Box 1937, Cincinnati, Ohio 45201

Column 7

ACTION ON SKIN Local action on normal skin of the undiluted material *

- A** Relatively harmless.
- B** Sensitizer—Can cause allergic reactions
- C** Primary skin irritant—Brief contact can cause inflammation or burns
- D** Can cause solvent irritation-type dermatitis

Column 8

NFPA HAZARD CLASSIFICATIONS Fires and other emergency situations may involve chemicals that have varying degrees of toxicity, flammability, and reactivity (instability and water reactivity) The National Fire Protection Association grading of these relative hazards (under fire conditions) is given in the columns marked "NFPA Health" "NFPA Flammability," and "NFPA Reactivity" (See Fig 39-1)

For a full description of the NFPA classifications, see NFPA Standard No 704M, *Identification of the Fire Hazards of Materials* A complete listing is given in NFPA Standard No 49, *Hazardous Chemicals Data*, and in Standard No 325M, *Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids* (Also see Chapter 43, "Fire Protection," specifically Identification of Hazardous Materials)

An explanation of the degrees of hazard follows.

NFPA health hazards In general the health hazard in fire fighting is that of a single exposure which may vary from a few seconds up to an hour The physical exertion caused by fire fighting or other emergency may intensify the effects of any exposure

Health hazards arise from two sources (a) the inherent properties of the material, and (b) from the toxic products of combustion or decomposition of the material (Common

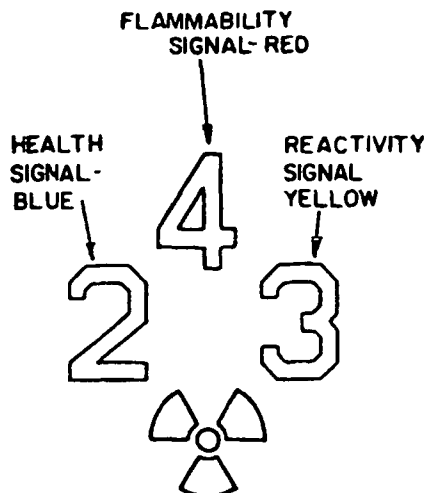


FIG 39-1 —Correct arrangement and order of signals used on equipment for quick identification of material hazards For details, see NFPA Standard 704M, see also pages 1378-1380

hazards from burning of ordinary combustible materials are not included)

The degree of hazard should indicate (a) that people can work safely only with specialized protective equipment, (b) that they can work safely with suitable respiratory protective equipment, or (c) that they can work safely in the area with ordinary clothing

A health hazard, as defined by the NFPA, is any property of a material which either directly or indirectly can cause injury or incapacitation, either temporary or permanent, for exposure by contact, inhalation, or ingestion

The degrees of hazard under fire conditions are ranked according to the probable severity of hazard to personnel, as follows

- 4** Materials which on very short exposure could cause death or major residual injury even though prompt medical treatment were given, including those which are too dangerous to be approached without specialized

* See "Occupational Diseases," Bul No 1097, US Dept of Health, Education, and Welfare, 1964 (Available US Government Printing Office)