

Particularly Hazardous Chemical Definition

A particular chemical substance and associated laboratory operation, procedure, or activity considered sufficiently hazardous to require prior approval.

The following classes of chemical are considered particularly hazardous:

Allergen (Sensitizer): A foreign agent or substance that is capable of causing an immune response in an individual. In most cases, initial exposure results in a normal response, but repeated exposures lead to progressively stronger and abnormal responses.

High Acute Toxicity: Acute toxicity is the adverse effects resulting from a single dose or single exposure to a substance. Ordinarily refers to effects occurring within a short time following administration. A chemical is considered acutely toxic if the LC₅₀ (inhalation) = <200 ppm, the LD₅₀ (dermal route) = < 200 mg/kg body weight, or the LD₅₀ (ingestion) = < 50 mg/kg body weight.

Physical Hazards: A chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, corrosive, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive), water reactive, or a cryogenic liquid.

Reproductive Toxins: Health hazard that targets the human reproductive system; includes teratogens and mutagens.

Regulated Chemicals: Use of any chemical that has an OSHA substance specific standard should be reviewed to ensure potential exposures do not exceed action levels or permissible exposure limits (PELs). Employee exposures must be maintained at or below permissible exposure limits (PELs) for chemicals specified in 29 CFR 1910 Subpart Z.

Select Carcinogen (High Chronic Toxicity) A select carcinogen meets one of the following criteria:

- 1) It is regulated by OSHA as a carcinogen; or
- 2) It is classified as a “**Known**” or “**Anticipated**” carcinogen by the National Toxicology Program (NTP); or
- 3) It is classified as a “**1, Human**”, “**2A, Probable**”, or “**2B, Possible**” carcinogen by the International Agency for Research on Cancer (IARC)

If a project, involving the use of particularly hazardous materials, is funded the following requirements must be met:

- 1) The Principal Investigator (P.I.) must have an updated Chemical Hygiene Plan.
- 2) A Standard Operating Procedure (SOP), specific to that task, must be developed. SOPs should address: instruction for the safe use of the chemical, consideration or assignment of “designated areas” for material use, use of containment devices, personal protective equipment, and instructions regarding handling of contaminated waste, spill response procedures, and decontamination procedures.