Temple University
Environmental Health and Radiation Safety

Standard Operating Procedure

Identifying Chemicals That Require a SOP

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The Occupational Safety and Health Administration's (OSHA) Hazardous Chemicals in Laboratories Standard (29 CFR 1910.1450) defined particularly hazardous substances (PHS) as including select carcinogens, reproductive toxins and substances which have a high degree of acute toxicity. Temple University also considers some reactive materials to be particularly hazardous and has identified some extremely hazardous chemicals as "High-Risk"

Laboratories must maintain an accurate and up-to-date inventory of particularly hazardous substances and "High-Risk" chemicals in the EHRS Management System-Chemical Inventory module, the University's campus-wide chemical tracking system. In addition, a lab-customized SOP must be prepared and implemented for all PHS and/or high-risk chemicals. The use of "High-Risk" chemicals requires PI approval and PI-approved Standard Operating Procedure (SOP).

DETERMINATION

Laboratories at Temple University should evaluate GHS-compliant Safety Data Sheets (SDS) and other chemical information and should treat chemicals as particularly hazardous if they have one or more hazard classifications indicated below. If the chemical has a hazard classification shown in red, it is also considered "high-risk".

Criteria for Particularly Hazardous Chemicals Based on GHS* Labeling-found in Section 2 of the SDS	
Select Carcinogens	• GHS*-Carcinogenicity Category 1A of 1B • IARC** Group 1 • NTP's*** "Known to be Human Carcinogens" • OSHA-listed carcinogens • GHS Category 2 and IARC Group 2 (A or B), And NTP "Reasonably Anticipated to be Human Carcinogens"

Reproductive Toxins	• GHS Category 1A or 1B for reproductive toxicity
Chemicals Having High Acute Toxicity	• Acute toxicity by inhalation or dermal exposure GHS-Category 1 or 2 • Acute toxicity by oral exposure GHS category 1 • Specific Target Organ Toxicity-Single Exposure GHS category 1 • Skin or Respiratory Sensitizer-Category 1A • Strong Hydrogen Fluoride releaser • Corrosive to the respiratory tract
Reactive & Explosive Chemical Considered Particularly Hazardous (and High-Risk)	• In contact with water liberates toxic gas • Reacts violently with water • Pyrophoric liquid or solid-Category 1, or Pyrophoric Gas • Explosives-Unstable or Divisions 1.1.-1.3 • Explosives when dry, or Explosives with or without air contact • Self-reactive or Organic Peroxides-Type A • Self-heating Category 1 • Oxidizing liquid or solid GHS category 1 • In contact with water releases flammable gas GHS category 1 or 2 • In contact with acids liberates toxic gas • Pyrophoric liquid or solid GHS category 1 • Self-reactive or organic peroxides-Type B

***GHS=Global Harmonized System**

****IARC=International Agency for Research on Cancer**

*****National Toxicology Program**