Arizona State University

Environmental Health and Safety

Risk Categories	Areas defined examples
1 Low	Areas with general hazardous chemicals that do not have special risks. • Biosafety Level One laboratories • Classroom teaching labs • Labs with small useable amounts of chemicals • Lasers - Class 1, 2, 3A
2 Moderate	Areas considered special risk laboratories. These labs use and store Particularly Hazardous Substances as defined in ASU Chemical Hygiene Plan. Examples include: • All radioisotopes • Radiation producing equipment • Biosafety Level Two containment laboratories with Non-Select Agents • Lasers - Class 3B, 4 • Large volumes of chemicals in storage • High voltage electrical equipment – more than 600 volts • DEA controlled substances • Lab performing research with vertebrate animals
3 High	Areas with extremely hazardous activities, and chemical or material use. Examples include: • Select Agent laboratories and Biosafety Level Three facilities • Laboratories with security related equipment requiring passwords or security related entries • Any quantity of highly toxic gases, or pyrophoric materials or gases • Areas whose grant applications require environmental and safety certification
Training and SOPs	**Risk category training and procedure requirements** Category 1 All Applicable EHS Required Training and PI provided Lab-Specific Safety Training Category 2 and 3 All Applicable EHS Required Training and PI provided Lab-Specific Safety Training and Standard Operating Procedures for Particularly Hazardous Substances.

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Carcinogens are chemicals which cause cancer. For the purpose of the CHP, chemicals which are known carcinogens include those which: are regulated by OSHA as carcinogens, listed under the category known to be carcinogens in the Annual Report on Carcinogens published by the National Toxicology Program, or under carcinogenic to humans by the International Agency for Research on Cancer Monographs.

Reproductive toxins affect the reproductive capabilities including chromosomal damage and effects on the fetuses. Examples of signs and symptoms include birth defects and sterility. Examples of chemicals which are reproductive toxins include lead and dibromochloropropane.

Lethal doses of highly toxic chemicals:

- Ingestion: LD_{50} of less than 50 mg/kg body weight when administered orally to albino rats;
- Inhalation: LC_{50} of less than 200 parts per million of gas or vapor or 2 mg/l of mist, fume, or dust, when administered continuously by inhalation for one hour to albino rats.
- Skin Contact: LD_{50} of less than 200 mg/kg body weight when administered by continuous dermal contact over a 24 hour period to albino rabbits.

Extremely Hazardous Activities – a short list of chemicals or activities difficult to control and have lethal potential. The list evolves but is likely to include:

- beryllium
- highly toxic
- methyl mercury
- pyrophoric and carcinogenic gases,
- toxic gases with poor warning properties,