

**University of Kansas
Department of Environment, Health & Safety
Laboratory Safety Program**

Laboratory Hazard Identification

Identify and assess laboratory hazards and potentially harmful materials with respect to university safety policy and procedures, as well as standard laboratory safety practice. (Laboratory Safety Manual, Part I, Section 3.3)

Many radioactive, biological, and chemical materials require prior review and approval by Environment, Health & Safety (EHS) and/or university safety committees before ordering and/or working with them. This information is also used for creating door postings, facilitating emergency response procedures, and coordinating laboratory safety efforts.

This form is updated by the Principal Investigator and/or Lab Supervisor annually or each time the hazards change. File one copy in the laboratory and submit a second copy to EHS.

Submit completed form for review and approval:

Department of Environment, Health & Safety
Kurata Building

I am familiar with the policies and procedures of the University of Kansas regarding laboratory safety. I hereby certify that the use of all materials and all activities undertaken within this lab are in accordance with the policies and procedures of the KU Laboratory Safety Manual.

Laboratory Information:

| | | | |
|-------------------------|----------------------|--------|----------------------|
| Building: | <input type="text"/> | Date: | <input type="text"/> |
| Room: | <input type="text"/> | | |
| Department: | <input type="text"/> | | |
| Primary Contact: | <input type="text"/> | Phone: | <input type="text"/> |
| Alternate Contact: | <input type="text"/> | Phone: | <input type="text"/> |
| Principal Investigator: | <input type="text"/> | Phone: | <input type="text"/> |

Lab Hazards: Radiation Biohazards Chemicals Physical Lasers

Lab Category: Research Teaching Support

For more information, please visit the EHS website, <http://www.ehs.ku.edu/>, or call 864-4089.

LAB SAFETY EQUIPMENT (Part I)

Identify present or anticipated equipment in the lab.

Emergency Equipment

Safety Shower in Lab

or location of closest working Safety Shower?

Eyewash (hands-free operation)

Drench Hose(s)

Chemical Spill Kit

Fire Blanket

First Aid Kit

Present in Lab

Y N 1

Weekly flushing required by Lab.

Y N 2

Call EHS 864-4089 for a free kit.

Y N 3

Y N 4

Y N 5

Supplied by Lab or Department.

Y N 6

Personal Protective Equipment (PPE)

Safety Glasses, Goggles, Face Shields, Gloves, Lab Coats, etc.

Full-Length Pants or Skirt, Shoes that completely cover feet.

Filtered or Air Purifying Respirator, Self Contained Apparatus / Suit, etc.

Requires specific training, fit tests, and medical monitoring.

Required Training Records and Compliance Documents on file.

Chemical Storage Cabinets

Flammable / Combustible

Acids / Corrosives

Compressed gas, vented. (Specifically designed for storing and venting compressed gas cylinders.)

Refrigerator(s) / Freezer(s) Chemical Storage

Regular (Refrigerator / Freezer)

Vapor Proof

Explosion Proof

Freezer ("sub zero", -80C, etc.)

Labels, "No Food or Drink", "No Solvents", etc.

Y N 10

Y N 11

Y N 12

Y N 13

Y N 14

Y N 15

Y N 16

Y N 17

Y N 18

Fire Extinguisher or Fire Suppressor System

Dry Powder

CO2

Halon

Metals

Other

Present in Lab

Y N 19

Y N 20

Y N 21

Y N 22

LAB SAFETY EQUIPMENT (Part II)

Identify present or anticipated equipment in the lab.

Local Exhaust Ventilation

Chemical Fume Hood(s)

Present in Lab

Y N 23

Perchloric Acid Hood

Y N 24

Glovebox

Y N 25

Ventilated Work Station

Y N 26

Balance Enclosure

Y N 27

Biological Safety Cabinet

Y N 28

PHYSICAL HAZARDS

Identify present or anticipated equipment in the lab.

Present in Lab

Cryogenic Equipment (liquid nitrogen, sub-zero freezers, etc.)

Y N 29

Drying Ovens

Y N 30

Heating Apparatus

Y N 31

Autoclaves

Y N 32

Industrial Equipment posing a physical hazard

Y N 33

High Risk Electrical (>25 milliamperes exposure)

Y N 34

Solvent Still

Y N 35

Distillation Equipment

Y N 36

Centrifuge, (high- or ultra- speed)

Y N 37

Other Physical Hazards: *If yes, please identify:*

LABORATORY CHEMICAL HAZARDS (Part I)

Identify present or anticipated chemicals in the lab.

List specifics in separate chemical inventory.

| | Present in Lab | | |
|---|-------------------------|-------------------------|----|
| Flammable / Combustible Liquids | <input type="radio"/> Y | <input type="radio"/> N | 38 |
| Flammable Solids | <input type="radio"/> Y | <input type="radio"/> N | 39 |
| Air Reactive Solids | <input type="radio"/> Y | <input type="radio"/> N | 40 |
| Water Reactive Solids | <input type="radio"/> Y | <input type="radio"/> N | 41 |
| Oxidizers | <input type="radio"/> Y | <input type="radio"/> N | 42 |
| Organic Peroxides | <input type="radio"/> Y | <input type="radio"/> N | 43 |
| Compressed Gas: | | | |
| <i>Flammable</i> | <input type="radio"/> Y | <input type="radio"/> N | 44 |
| <i>Corrosive</i> | <input type="radio"/> Y | <input type="radio"/> N | 45 |
| <i>Inert</i> | <input type="radio"/> Y | <input type="radio"/> N | 46 |
| <i>Oxidizing</i> | <input type="radio"/> Y | <input type="radio"/> N | 47 |
| <i>Poisonous</i> | <input type="radio"/> Y | <input type="radio"/> N | 48 |
| <i>Reactive</i> | <input type="radio"/> Y | <input type="radio"/> N | 49 |
| <i>Hydrogen</i> | <input type="radio"/> Y | <input type="radio"/> N | 50 |
| <i>Chlorine</i> | <input type="radio"/> Y | <input type="radio"/> N | 51 |
| <i>Fluorine</i> | <input type="radio"/> Y | <input type="radio"/> N | 52 |
| Corrosive Compounds (Liquid) | <input type="radio"/> Y | <input type="radio"/> N | 53 |
| Corrosive Compounds (Solid) | <input type="radio"/> Y | <input type="radio"/> N | 54 |
| Hydrofluoric Acid | <input type="radio"/> Y | <input type="radio"/> N | 55 |
| Perchloric Acid (< 70% Concentration) | <input type="radio"/> Y | <input type="radio"/> N | 56 |
| Perchloric Acid (≥70% Concentration) | <input type="radio"/> Y | <input type="radio"/> N | 57 |
| Mutagens | <input type="radio"/> Y | <input type="radio"/> N | 58 |
| Teratogens | <input type="radio"/> Y | <input type="radio"/> N | 59 |
| Carcinogens | <input type="radio"/> Y | <input type="radio"/> N | 60 |
| Mercury, elemental (not contained in devices) | <input type="radio"/> Y | <input type="radio"/> N | 61 |
| Mercury Containing Devices (thermometers, barometers, etc.) | <input type="radio"/> Y | <input type="radio"/> N | 62 |
| Highly Toxic Chemicals: <i>If yes, please identify: (eg.: Sodium Azide)</i> | <input type="radio"/> Y | <input type="radio"/> N | 63 |

Use MSDS Toxicology: (LD50-oral <50mg/Kg; LD50-skin <200 mg/Kg; LC50-inh<200 ppm or <2mg/l)

LABORATORY CHEMICAL HAZARDS (Part II)

Identify present or anticipated chemical hazards in the lab.

List specifics in separate chemical inventory.

| <u>Reference Lab Safety Manual, Part II</u> | <u>Appendix</u> | <u>Present in Lab</u> | | |
|--|-----------------|-------------------------|-------------------------|----|
| Peroxide Forming Chemicals | 8.2.6.2 | <input type="radio"/> Y | <input type="radio"/> N | 64 |
| Potentially Explosive Compounds | 8.2.7.1 | <input type="radio"/> Y | <input type="radio"/> N | 65 |
| ATF / DOT Identified Explosives | 8.2.7.2 | <input type="radio"/> Y | <input type="radio"/> N | 66 |
| OSHA Listed Carcinogens | 8.2.8.1 | <input type="radio"/> Y | <input type="radio"/> N | 67 |
| OSHA Regulated Substances (<i>Example: Benzene</i>) | 8.2.8.1 | <input type="radio"/> Y | <input type="radio"/> N | 68 |
| National Toxicology Program (NTP) Report on Carcinogens (RoC) | 8.2.8.2 | <input type="radio"/> Y | <input type="radio"/> N | 69 |
| International Agency for Research on Cancer (IARC) Listed Carcinogens | 8.2.8.3 | <input type="radio"/> Y | <input type="radio"/> N | 71 |

DEA CONTROLLED SUBSTANCES

Y N 72

BIOLOGICAL HAZARDS

Identify present or anticipated biological materials in the lab.

| | <u>Present in Lab</u> | | |
|--|-------------------------|-------------------------|----|
| CDC / USDA Select Agents http://www.cdc.gov/od/sap/docs/salist.pdf | <input type="radio"/> Y | <input type="radio"/> N | 73 |
| Bacterial Agents | <input type="radio"/> Y | <input type="radio"/> N | 74 |
| Fungal Agents | <input type="radio"/> Y | <input type="radio"/> N | 75 |
| Parasitic Agents | <input type="radio"/> Y | <input type="radio"/> N | 76 |
| Rickettsial Agents | <input type="radio"/> Y | <input type="radio"/> N | 77 |
| Viral Agents | <input type="radio"/> Y | <input type="radio"/> N | 78 |
| Toxins | <input type="radio"/> Y | <input type="radio"/> N | 79 |
| Bloodborne Pathogens (<i>HIV, HBV, Tuberculosis</i>) | <input type="radio"/> Y | <input type="radio"/> N | 80 |
| Human blood, tissues, fluids or cells | <input type="radio"/> Y | <input type="radio"/> N | 81 |
| Animal blood, tissues, fluids or cells | <input type="radio"/> Y | <input type="radio"/> N | 82 |
| Recombinant DNA | <input type="radio"/> Y | <input type="radio"/> N | 83 |

Other Biological Hazards: *If yes, please identify:*

IONIZING, NON-IONIZING RADIATION & LASER HAZARDS

Identify present or anticipated radiation generating materials in the lab.

Sources / Devices

Ionizing:

Present in Lab

| | | | |
|--|-------------------------|-------------------------|----|
| Static Eliminators | <input type="radio"/> Y | <input type="radio"/> N | 84 |
| Electron Capture Detectors (ECD) Gas Chromatograph | <input type="radio"/> Y | <input type="radio"/> N | 85 |
| Liquid Scintillation Counters | <input type="radio"/> Y | <input type="radio"/> N | 86 |
| Moisture / Density Gauges | <input type="radio"/> Y | <input type="radio"/> N | 87 |
| Radioactive materials (unsealed sources) | <input type="radio"/> Y | <input type="radio"/> N | 88 |
| Sealed sources / Check Sources | <input type="radio"/> Y | <input type="radio"/> N | 89 |
| Geological / Specimen Samples (uranium, thorium) | <input type="radio"/> Y | <input type="radio"/> N | 90 |
| Electron Microscope Mounting (uranyl compounds) | <input type="radio"/> Y | <input type="radio"/> N | 91 |
| X-ray Units, X-ray Diffraction | <input type="radio"/> Y | <input type="radio"/> N | 92 |
| Electron Microscope | <input type="radio"/> Y | <input type="radio"/> N | 93 |
| Electron Beam Devices | <input type="radio"/> Y | <input type="radio"/> N | 94 |

Non-ionizing:

| | | | |
|--|-------------------------|-------------------------|-----|
| UV -- transilluminators | <input type="radio"/> Y | <input type="radio"/> N | 95 |
| Visible -- Black Body | <input type="radio"/> Y | <input type="radio"/> N | 96 |
| IR (molten material, furnace emissions, etc.) | <input type="radio"/> Y | <input type="radio"/> N | 97 |
| Microwave (transmitters, drying equipment, etc.) | <input type="radio"/> Y | <input type="radio"/> N | 98 |
| RF (induction heating, backside metallization, etc.) | <input type="radio"/> Y | <input type="radio"/> N | 99 |
| Magnetic Sources Above 0.2T (NMR / EPR / FRI) | <input type="radio"/> Y | <input type="radio"/> N | 100 |

Laser / Laser Systems:

| | | | |
|----------------------------|-------------------------|-------------------------|-----|
| Laser (Class 3a, 3b, or 4) | <input type="radio"/> Y | <input type="radio"/> N | 101 |
| Laser Device (other) | <input type="radio"/> Y | <input type="radio"/> N | 102 |

Other Radiation Hazards: *If yes, please identify:*