

## Lab Signage Definitions and Symbols

### GHS Pictograms

|   |  |
|---|--|
| <p><b>Health Hazard</b></p>    |  |
| <ul style="list-style-type: none"> <li>Aspiration Toxicity</li> </ul>   | Chemicals or mixtures of liquids or solids that can damage the respiratory system if inhaled (i.e., aspirated) by mistake.   |
| <ul style="list-style-type: none"> <li>Carcinogen</li> </ul>  | A chemical or mixture that will induce cancer or increase its incidence.   |
| <ul style="list-style-type: none"> <li>Germ Cell Mutagenicity</li> </ul>  | Chemicals that will cause mutations to germ cells of humans that can be transmitted to progeny.  |
| <ul style="list-style-type: none"> <li>Reproductive Toxicity</li> </ul>   | Chemicals or mixtures that affect sexual function and fertility and/or developmental toxicity from conception through birth.   |
| <ul style="list-style-type: none"> <li>Specific Target Organ Toxicity Single/Repeated Exposure</li> </ul>   | Chemicals and mixtures that have demonstrated to cause non-lethal but both reversible and irreversible damage to specific organs.  |
| <ul style="list-style-type: none"> <li>Respiratory or Skin Sensitizer</li> </ul>  | A substance that will lead to hypersensitivity of the airways or allergic responses to the skin following inhalation/contact.  |
| <p><b>Skull and Crossbones</b></p>   <p style="text-align: center;">ACUTE TOXICITY                      HIGH ACUTE TOXICITY</p> |  |
| <ul style="list-style-type: none"> <li>Acute Toxicity</li> </ul>  | Chemicals that have the potential to cause death if inhaled, ingested, or absorbed through the skin in relatively small amounts.   |
| <ul style="list-style-type: none"> <li>High Acute Toxicity</li> </ul>   | Chemicals having high acute toxicity are those that have oral, inhalation, or dermal LD <sub>50</sub> and LC <sub>50</sub> values below specified thresholds listed in the OSHA Lab Standard. These values are as follows: <ul style="list-style-type: none"> <li>Oral LD<sub>50</sub> (rats) &lt; 50 mg/kg</li> <li>Dermal LD<sub>50</sub> (rabbits) &lt; 200 mg/kg</li> <li>Inhalation LC<sub>50</sub> (rats) &lt; 200 ppm in air</li> </ul> |
| <p><b>Corrosion</b></p>    |  |
| <ul style="list-style-type: none"> <li>Corrosive to Metal</li> </ul>  | A substance or a mixture, which will materially damage, or even destroy metals or cause irreversible damage to the skin.   |
| <ul style="list-style-type: none"> <li>Skin Corrosion/Burns</li> </ul>  | A substance or a mixture, which will cause irreversible damage to the skin.  |
| <ul style="list-style-type: none"> <li>Serious Eye Damage</li> </ul>  | Chemicals or mixtures that produce irreversible tissue damage or serious physical decay of vision.   |

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| <p><b>Exclamation Mark</b></p>   |  |
| <ul style="list-style-type: none"> <li>Irritants (Skin &amp; Eye)</li> </ul>  | A substance that causes reversible changes to the eye or skin.   |
| <ul style="list-style-type: none"> <li>Skin Sensitizer</li> </ul>   | A substance that causes an allergic response following skin contact.   |
| <ul style="list-style-type: none"> <li>Toxicity</li> </ul>  | A substance that exhibits acutely harmful effects if swallowed, has contact with the skin, or inhaled.   |
| <ul style="list-style-type: none"> <li>Narcotic Effects</li> </ul>  | A substance that may cause drowsiness, dizziness, lack of coordination, vertigo, reduced alertness, or similar condition.  |
| <ul style="list-style-type: none"> <li>Respiratory Tract Irritant</li> </ul>  | A substance that may cause redness, cough, pain, or similar effect on the respiratory tract.   |
| <p><b>Flame Over Circle</b></p>  |  |
| <ul style="list-style-type: none"> <li>Oxidizers</li> </ul>   | Substances that generally by yielding oxygen cause or contribute to the combustion of other materials.   |
| <p><b>Gas Cylinder</b></p>      |  |
| <ul style="list-style-type: none"> <li>Gases Under Pressure</li> </ul>  | Gases under a pressure of 200 kPa (29 psi, 2 atm) or more or which are liquefied or liquefied and refrigerated.  |
| <p><b>Exploding Bomb</b></p>   |  |
| <ul style="list-style-type: none"> <li>Explosives</li> </ul>  | A solid or liquid substance (or mixture of substances), which is in itself capable of extremely violent decomposition.   |
| <ul style="list-style-type: none"> <li>Self-Reactives (Type A or B)</li> </ul>                                      | Thermally unstable liquid or solid chemicals liable to undergo a strongly exothermic decomposition even without participation of oxygen (air) when heated and which may result in explosion or fire.               |
| <ul style="list-style-type: none"> <li>Organic Peroxides (Type A or B)</li> </ul>                                   | Thermally unstable chemicals, which may undergo exothermic self-accelerating decomposition and which may be sensitive to impact or friction, explosive decomposition, or explosive reaction with other substances. |
| <p><b>Flame</b></p>            |  |
| <ul style="list-style-type: none"> <li>Pyrophorics</li> </ul>   | A liquid, solid, or gas which is liable to ignite shortly after coming into contact with air, even in small quantities.  |

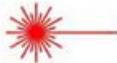
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| <ul style="list-style-type: none"> <li>Flammable Aerosols</li> </ul>             | Any non-refillable receptacle designed to eject components at least one of which is a flammable gas, liquid, or solid.  |
| <ul style="list-style-type: none"> <li>Flammable Gas</li> </ul>                  | A gas at 20° C and standard atmospheric pressure that has a flammable range in air.   |
| <ul style="list-style-type: none"> <li>Flammable Liquids</li> </ul>              | A liquid having a flashpoint of not more than 93° C (199.4° F).   |
| <ul style="list-style-type: none"> <li>Flammable Solids</li> </ul>               | A solid that is readily combustible, or may cause or contribute to fire through friction.   |
| <ul style="list-style-type: none"> <li>Emits Flammable Gas</li> </ul>            | Solids or liquids that are liable to become spontaneously flammable or give off flammable gases in dangerous quantities when in contact with water.   |
| <ul style="list-style-type: none"> <li>Self-Reactives (Type C – F)</li> </ul>    | Thermally unstable liquid or solid chemicals liable to undergo an exothermic decomposition even without participation of oxygen (air) when heated and which may result in fire (but not explosion). |
| <ul style="list-style-type: none"> <li>Organic Peroxides (Type C – F)</li> </ul> | Thermally unstable chemicals, which may undergo exothermic self- accelerating decomposition and burn rapidly or react with other substances to cause fire.  |

### General Hazards

| Category                 | Description  | Symbol  |
|--------------------------|--|---|
| No Food or Drink Allowed | Posted at access points to all laboratories where chemicals, biohazards, or radioactive materials are used or stored.  |   |
| No Open Toed Shoes       | Posted at access points to all potentially hazardous areas where a danger is present of foot injuries due to physical, chemical, biological, or radioactive hazards.   |  |
| Biohazard                | Used to denote the potential for human or animal pathogenic organisms. The Biosafety Officer will specify additional required postings as applicable by specific regulation or standard.   |  |
| Select Carcinogen        | Any substance which meets one of the following criteria: <ul style="list-style-type: none"> <li>It is regulated by OSHA as a carcinogen; or</li> <li>It is listed under the category, “known to be carcinogens,” in the Annual Report on Carcinogens published by the National Toxicology Program (NTP) (latest edition); or</li> <li>It is listed under Group 1 (“carcinogenic to humans”) by the International Agency for Research on Cancer Monographs (IARC) (latest editions); or</li> <li>It is listed in either Group 2A or 2B by IARC or under the category, “reasonably anticipated to be carcinogens” by NTP, and causes statistically significant tumor incidence in</li> </ul> |  |

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|                             | <p>experimental animals in accordance with any of the following criteria:</p> <ul style="list-style-type: none"> <li>○ After inhalation exposure of 6-7 hours per day, 5 days per week, for a significant portion of a lifetime to dosages of less than 10 mg/m<sup>3</sup>;</li> <li>○ After repeated skin application of less than 300 (mg/kg of body weight) per week; or</li> <li>○ After oral dosages of less than 50 mg/kg of body weight per day.</li> </ul>                                      |  |
| Reproductive Toxin          | Chemicals that affect the reproductive capabilities including adverse effects on sexual function and fertility in adult males and females, as well as adverse effects on the development of the offspring.   | <p>REPRODUCTIVE</p>  <p>TOXIN</p> |
| Electrical Hazard           | Indicates potentially hazardous areas containing accessible equipment with exposure and unguarded electrical components operating at less than 600 volts.  |  <p>ELECTRICAL HAZARD</p>         |
| Laser Radiation             | Indicates the presence of Class II, III, and IV laser(s) that have the potential for operating in an open beam configuration. Viewing of the direct beam or reflection is likely to cause serious eye injury. Additional hazards may include skin burns or fire.   |  <p>LASER RADIATION</p>          |
| Magnetic Field              | Indicates the presence of instruments that generate large static magnetic fields. Examples include NMR and MRI. Of primary concern are the affinity of the magnetic field for metal objects in the room, on a person, and effect on medical implants.  |  <p>STRONG MAGNETIC FIELD</p>   |
| Satellite Accumulation Area | Satellite Accumulation Area (SAA) is defined as a location at or near any point of generation where hazardous waste is initially accumulated in containers before consolidating the waste at a designated accumulation area (90/180-day) or storage area. The location must be under the control of the person generating the waste. No more than 55 gallons of non-acute hazardous waste and 1 quart of liquid acute hazardous waste or 2.2 pounds of solid acute waste may be accumulated in each SAA. |                                 |

## Personal Protective Equipment

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| <p>Lab Coat</p>           | <p>Posted at access points to all potentially hazardous areas where there is a possible exposure to potentially infectious material (including human blood and related blood products), potential contact with hazards or potentially hazardous chemicals clean-ups of spills of hazardous materials.</p>                                  |   |
| <p>Hearing Protection</p> | <p>Posted at access points to all potentially hazardous areas where there is a potential for noise exposures at or above 85 dBA.</p>   |   |
| <p>Eye Protection</p>     | <p>Posted where there is a reasonable probability of exposure to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation. Eye protection with side protectors is required where there is a hazard from flying objects.</p> |   |
| <p>Gloves</p>             | <p>Posted where hands are exposed to hazards such as skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns, or harmful temperature extremes.</p>   |  |