

**SAFETY SIGNS IN MEDICAL LABORATORY**

**BY**

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**TO THE**

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## SUMMARY

Safety signs are meaningful and recognizable graphical signs that warn of or identify hazards associated with the location or item. Safety signs include images, pictograms, shapes, words, sentences or statements which are displayed on walls, boards, buildings, doors entrances, machines, equipment etc. The signs inform individuals about the presence of hazardous materials or chemicals or a hazardous environment and instruct on how to remain safe or the possible consequences if not avoided. Safety signs are required for the safety of personnel using or working in a particular location that has potential hazards. Use of these signs is a type of administrative hazard prevention and control method. There are four (4) types of safety signs: Hazard alerting: Conveys information related to the nature of hazards. Mandatory action: Conveys actions that should be taken to avoid hazards. Prohibition: Conveys actions that should not be taken. Information: Conveys equipment and safety equipment location and permitted actions.

## **INTRODUCTION**

The use of signs or graphical images is a simple safety system used to convey safety messages at glance, colours and signs appropriately used can provide information and warnings of hazards which are essential to safety at work, and in some instances may be independent of language.

Laboratory safety signs or sign is an information or instruction about health and safety at work on signboard, a colour, an illuminated sign or a verbal communication or hard signal.

Safety signs are crucial in any work environment. The primary importance of displaying safety signs is to prevent injury and ensure staff and visitors are well aware of the possible dangers and hazards ahead in certain situations and / or environments.

# MEDICAL LABORATORY SAFETY SIGNS

## 1. Gloves Required



Look for the gloves safety symbol to identify when hand protection should be worn for handling hazardous materials, even in small quantities. It is important to choose the appropriate type of glove for the hazard present, such as chemical resistant gloves, heat resistant gloves, etc. Be aware that no chemical resistant glove protects against all chemical hazards. Read the Material Safety Data Sheet for guidance on the appropriate type of glove to wear, or consult with lab supply distributors for glove vs. chemical comparison charts when choosing chemically resistant gloves. Be aware that some materials may cause reactions in some workers such as allergies to latex. Make sure the gloves fit properly.

## 2. Protective Clothing



The protective clothing safety symbol indicates that a lab coat or other protective clothing needs to be worn. There are several types of lab coats for different types of protection. Cotton protects against flying objects, sharp or rough edges, and is usually treated with a fire retardant. Since many synthetic fabrics can adhere to skin when burning, cotton is the most preferred laboratory clothing fabric. Wool protects against splashes of molten materials, small quantities of acid, and small flames. Synthetic fibers protect against sparks and infrared or ultraviolet radiation. Aluminized and reflective clothing protect against radiant heat.

### 3. Wash Hands



Hand washing is a primary safeguard against inadvertent exposure to toxic chemicals or biological agents. The wash hands safety sign lets lab personnel know to wash their hands after removing soiled protective clothing, before leaving the laboratory, and before eating, drinking, smoking, or using a rest room. Workers should also wash their hands periodically during the day at intervals dictated by the nature of their work. Wash with soap and running water, with hands held downward to flush the contamination off the hands. Turn the tap off with a clean paper towel to prevent recontamination, and dry hands with clean towels.

### 4. Food & Drink Prohibited



A no food and drink safety sign lets lab personnel know that eating and/or drinking where hazardous materials are used, handled, or stored is not permitted, as such activity can result in the accidental ingestion of hazardous materials (chemical, biological, and/or radiological). Food or beverage containers may not be stored in the laboratory and washed drinking cups, food containers, or eating utensils may not be dried on laboratory drying racks. Refrigerators used for storage of research materials must not be used for storage of food or beverages.

## 5. General Warning



The general warning lab safety symbol consists of a black exclamation point in a yellow triangle. As you'd expect, it is a general warning to laboratory staff that a hazard exists. This symbol can be found on equipment, doorways, cupboards or other areas of the lab. It provides a good reminder to work safely and check if you are not sure of the safety procedures for certain equipment or areas in the lab.

## 6. Health Hazard



The health hazard sign denotes chemicals in the lab that can cause serious, often long-term health problems. Hazards include carcinogens, respiratory sensitizers, reproductive toxins, aspiration toxins, target organ toxins, and mutagens. An important step in protecting worker health is recognizing the various health hazards in the lab, as ignorance of the harmful effects of laboratory materials can have serious and even fatal consequences.

## 7. Biohazard



The biohazard lab safety sign warns of lab equipment such as fridges or freezers that either contains biohazardous materials or could be contaminated with biohazardous material such as blood samples. This sign also marks entire areas of the lab that either contain or are exposed to biohazards, for example, a lab working with infectious agents. Workers should always wear the proper PPE and follow proper procedures when working with such agents. Managers should also have an effective exposure control plan in place in case of an emergency. Regular cleaning and decontamination of areas and equipment that are exposed to biohazards is also a must.

## 8. Poison/Toxic Material



The toxic material symbol indicates the presence of substances that may harm an individual if they enter the body. Possible routes of exposure to toxic materials are through inhalation, skin contact, and ingestion. The hazards and health effects associated with toxic materials depend on the specific material in question, the route of exposure, and the concentration of the material.

## 9. Corrosive Material Hazard



The corrosive material hazard laboratory safety sign indicates corrosive substances in the lab that can eat away the skin if you come into direct contact with them. Such materials should always be stored at the proper humidity and temperature conditions in the proper cabinets. All employees who handle corrosive substances should be properly trained and wear gloves, protective clothing, and face protection.

## 10. Explosive Hazard



The exploding bomb symbol will appear on chemicals in the lab that have explosive properties; these include unstable explosives (solid or liquid chemicals capable of a chemical reaction that damages surroundings), self-reactive substances and mixtures (substances and mixtures that may cause fire or explosion in the absence of air), and organic peroxides.

### 13. Eye Wash Station



The eye wash safety sign indicates the location of an eyewash station. Eye wash stations provide a continuous, low-pressure stream of aerated water in laboratories in which chemical or biological agents are used or stored and in facilities where nonhuman primates are handled. The eyewash station should be easily accessible from any part of the laboratory and, if possible, located near the safety shower so that, if necessary, the eyes can be washed while the body is showered.

### 14. Safety Shower



Safety showers need to be installed in all areas where laboratory employees may be exposed to splashes or spills of materials that may be injurious to the eyes and body. As a general rule, new shower installations should adhere to the recommendations for shower location and minimum performance requirements established in American National Standard Z-358.1 (1998). Showers should be placed as close to the hazard as possible, but in no case more than 10 seconds' travel time from the hazard. Safety shower signage should be prominently displayed close to the shower.

## 11. Flammable & Combustible



The flammable and combustible symbol signifies substances that will ignite and continue to burn in air. Substances in this category may be gases, aerosols, liquids, or solids, and include many solvents and cleaning materials that are commonly used in the laboratory. Workers should always keep flammable materials away from open flames, heat, sparks, and ignition sources.

## 12. Emergency Meeting Point



The emergency meeting point sign marks a safe place, either inside or outside the building, where laboratory employees should meet in the event of an actual emergency (chemical spill, fire, etc.) or emergency drill. In their safety training, employees should be made aware of the location of the emergency point, or the meeting point closest to their location if there are multiple meeting points. Such locations should be large enough to accommodate all employees in the event of an evacuation. It's always a good idea to have a backup meeting point in case the primary one has been destroyed or is inaccessible due to the emergency taking place.

## 15. Boots Required



The laboratory boots required safety symbol indicates when street shoes are not adequate for certain lab-related tasks. Chemical resistant overshoes or boots should be used to avoid possible exposure to corrosive chemicals or large quantities of solvents or water that might penetrate normal footwear. Leather shoes tend to absorb chemicals and may have to be discarded if contaminated with a hazardous material. In a lab, dropping a beaker of acid will soon destroy an ordinary pair of shoes. Specialized laboratory footwear is designed for specific applications and settings.

## 16. Breathing Masks



Respirators are designed to prevent contaminated air from entering the body. “Half mask” respirators cover just the nose and mouth; “full face” respirators cover the entire face; and “hood” or “helmet” style respirators cover the entire head. Respirators can protect the user in two ways: By cleaning the “dirty” outside air that passes through a filter or adsorption bed or both when one inhales; or by supplying clean breathing air from a remote source. The clean air can either be delivered via a supply line, or the clean air is packaged and carried with you in a tank. The breathing mask safety sign lets you know that you’re working in an area with potentially contaminated air.

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