WHMIS (2015) Hazard Pictograms & Classes

WHMIS distinguishes two (2) major groups of hazards: **physical** and **health**. Each hazard group includes hazard classes (19 for the physical hazards group and 12 for the health hazards group) that have specific hazardous properties.

NOTE: The Table including current WHMIS pictograms reflects the amendments to the Hazardous Products Regulations (HPR), published by Health Canada on January 4th, 2023.

Pictogram	Classes	Example of Risks	Example of Safe Handling Procedures
	• Gases Under Pressure • Chemicals Under Pressure	**Materials which are kept in a pressurized container** ✓ May explode if heated, punctured or dropped.	**Ensure container is always secured** ✓ Store in appropriate designated areas. ✓ Do not drop or allow to fall. ✓ Protect from mechanical damage.
	• Flammable (Liquids, Solids, Gases (Including Chemically Unstable and Pyrophoric Gases) • Self-Reactive • Pyrophoric • Self-Heating • In Contact with Water Emits Flammable Gas • Organic Peroxides • Chemicals Under Pressure • Aerosols	**Materials which will continue to burn after being exposed to a flame or other ignition source** ✓ May be ignited if exposed to heat, sparks, friction, flames or incompatible materials.	**Store in properly designated areas** ✓ Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. ✓ Store in a well-ventilated, cool place.
	• Oxidizing Gases, Liquids and Solids	**Materials which can cause other materials to burn or support combustion** ✓ Can provide Oxygen which enables burning or explosion. ✓ Can increase the intensity of a fire. ✓ Can transform combustible into flammable.	**Store in areas away from flammables/combustibles in well-ventilated cool place** ✓ Store in proper containers which will not rust or oxidize. ✓ Keep away from heat, hot surfaces, sparks. ✓ Keep valves and fittings free from oil and grease.

	• **Self-Reactive (severe)** • **Organic Peroxides** • ***Explosives****	**Materials which may explode due to reaction to light, fire, shock, friction, heat, puncture, or incompatible material** ✓ Different types for different hazardous situations. ✓ Flame pictogram can be associated.	**Handle with care avoiding vibration, shocks and sudden temperature changes** ✓ Store in appropriate containers. ✓ Ensure storage containers are sealed. ✓ Store/work in designated areas.
	• **Serious Eye Damage** • **Skin Corrosion** • **Corrosive to Metals**	**Materials which react with metals and living tissueS** ✓ Skin burns. ✓ Can generate heat, flammable gas, toxicity, reactivity when in contact with other incompatible materials.	**Use appropriate storage containers and ensure proper non venting closure** ✓ Wear appropriate PPE (*e.g.*, apron, thick gloves). ✓ Minimize handling and quantity. ✓ Always add corrosive to water and not the other way round.
	• **Acute Toxicity (harmful)** • **Skin and/or Eye Irritant** • **Skin Sensitizer** • **Specific Target Organ Toxicity (STOT) – Single exposure (Cat. 3)** • ***Hazardous to the Ozone Layer****	**Poisonous materials which cause immediate and severe harm** ✓ Defines the less hazardous situations for the classes of: 1) Acute toxicity (harmful), 2) Chronic toxicity (STOT-Single exposure and skin/respiratory sensitization), 3) Skin/eye corrosion or irritation.	**Avoid breathing dust/vapours** **Avoid contact with skin/eyes** ✓ Wear Personal Protective Equipment (PPE) which is effective for exposure situation. ✓ Work in well-ventilated areas. ✓ Wash potentially exposed b.ody parts thoroughly after handling.
	• **Carcinogenicity** • **Germ Cell Mutagenicity** • **Reproductive Toxicity** • **Respiratory Sensitization** • **STOT – Repeated and Single exposure (Cat. 1&2)** • **Aspiration Hazard**	**Materials which can cause or suspected of causing serious long term health effects**	**Work in a well-ventilated area** ✓ Store in appropriate designated areas. ✓ Avoid direct contact. ✓ Use appropriate PPE. ✓ Obtain, learn special controls instructions before use. ✓ Avoid repeated and/or prolonged exposure situations.
	• **Acute Toxicity (Severe: Fatal and Toxic)**	**Materials which can cause toxicity or death even in small quantities** ✓ Adverse health effects or death following a brief oral, dermal or inhalation exposure within 4 to 24h. ✓ Could result from exposure to a toxic gas released when the product is in contact with water.	**Materials which can cause toxicity or death even in small quantities** ✓ Wear appropriate PPE. ✓ Work in well-ventilated area. ✓ Follow manufacturer's use, handling, storage, and disposal instructions to prevent exposure and adverse health effects.

	• **BIOHAZARDOUS INFECTIOUS MATERIALS**	**INFECTIOUS AGENTS OR BIOLOGICAL TOXIN CAUSING SERIOUS DISEASE OR DEATH** ✓ May cause anaphylactic shock. ✓ Includes exposure to viruses, yeasts, molds, bacteria, parasites which may cause disease in animals or humans.	**FOLLOW SAFE LABORATORY PRACTICES AND PROCEDURES** ✓ Avoid forming aerosols and breathing vapours. ✓ Store in designated areas with limited access and appropriate engineering controls (BSC). ✓ Follow routine practices such as hand hygiene and glove use.
No pictogram	• **COMBUSTIBLE DUSTS** • **SIMPLE ASPHYXIANT** • **HHNOC and PHNOC** • **Some less severe hazard categories**	**MAY CAUSE UNCONSCIOUSNESS OR DEATH BY SUFFOCATION** ✓ Risk of dust explosion or exposure.	**DO NOT USE WITHOUT UNDERSTANDING THE HAZARD** ✓ Apply appropriate controls.
	• ***HAZARDOUS TO THE AQUATIC ENVIRONMENT****	**MAY BE HARMFUL TO AQUATIC LIFE OR CAUSE LONG-LASTING EFFECTS TO THE AQUATIC ENVIRONMENT**	**USE PRODUCT ACCORDING TO DIRECTIONS** ✓Avoid release to the natural environment. ✓Dispose in accordance with all regulatory requirements and obligations.

The environmental, ozone layer and explosives hazard classes are not covered under WHMIS.

Old WHMIS 1988 Classification

Symbol	Classes	Definition	*Examples*
	**A – COMPRESSED GAS**	Products held under pressure	*Propane, Butane, Acetylene, Cryogens*
	**B – FLAMMABLE AND COMBUSTIBLE MATERIAL** B1 Flammable gases B2 Flammable liquids B3 Combustible liquids B4 Flammable solids B5 Flammable aerosols B6 Reactive flammable materials	Products that will burn or catch on fire easily	*Acetone, Toluene, Paint thinner, Varnish, Varsol, Spray paint, Oily rags*
	**C – OXIDIZING MATERIAL**	Products that can cause or promote combustion of another material (whether or not they are themselves combustible) or products that are organic peroxides	*Peroxides, Nitric acid, Javel, Nitrates*
	**D1 – POISONOUS AND INFECTIOUS MATERIAL (causing immediate and serious effects)**	Products that can rapidly cause harmful health effects, including death	*Pigments, Paints/varnishes, Solvents, Turpentine*
	**D2 – POISONOUS AND INFECTIOUS MATERIAL (causing other toxic effects)**	Products whose health effects generally appear over time following one or several exposures	*Silica dust, Wood dust, Developers, Accelerators*
	**D3 – POISONOUS AND INFECTIOUS MATERIAL (Biohazardous infectious materials)**	Living organisms or their toxins that can cause disease in people or animals	*Blood, Cells, Bacteria*
	**E – CORROSIVE MATERIAL**	Products that can corrode metal surfaces or cause burns to skin and eyes	*Acetic acid, Film developers, Ferric chloride, Javel*
	**F – DANGEROUSLY REACTIVE MATERIAL**	Products that can undergo decomposition, polymerization or become self-reactive under certain conditions (pressure, temperature, shock, violent reaction with water/air)	*Epoxys, Peroxides*