1.0 INTRODUCTION

This standard provides general safe work criteria to be implemented where flammable and combustible substances are used or stored.

2.0 SCOPE

This standard applies to all employees and contractors that use and handle flammable and combustible substances.

3.0 REFERENCES

NB OHS General Regulation 91-191	Part VIII section 58-69.
Regulation 2016-6	Workplace Hazardous Materials Information System (WHMIS)
CSA B 376:22	Portable containers for gasoline and other petroleum fuels

4.0 TERMS AND DEFINITIONS

Flammable liquids	flammable liquids will ignite (catch on fire) and burn easily at normal working temperatures.
Combustible liquids	Combustible liquids have the ability to burn at temperatures that are usually above working temperatures.
Flash Point	The flashpoint of a liquid is the lowest temperature at which the liquid gives off enough vapour to be ignited (start burning) at the surface of the liquid.
Safety Data Sheets (SDS)	Summary documents that provide information about the hazards of a product and advice about safety precautions. SDSs are usually written by the manufacturer or supplier of the product.

5.0 ROLES AND RESPONSIBILITIES

5.1 Supervisor

- Ensure your employees understand the hazards and control measures associated with flammable and combustible substances.
- Provide applicable information and instruction necessary to ensure their health and safety.
- Ensure employees are competent for the task being performed.
- Ensure all employees must be trained in WHMIS

5.2 Employee

- Comply with the requirements outlined within this standard.
- Work only within competencies held and advise front line supervision when additional training is required to safely execute work.

- Understand the specifics of the hazards of the product and how to use it safely.
- Trained in WHMIS

6.0 STANDARD

Hazardous products with the flame pictogram can be a fire or explosion hazard in the workplace. For a fire to occur, three elements must be together at the same time and in the right proportions:

- a source of fuel (e.g., the flammable product),
- oxygen, and
- heat (e.g., an ignition source such as a spark).

It is very important when working with flammable products that these three elements are not present together in the right amounts at any time.

You also need to consider the potential for **hazardous thermal decomposition and combustion products.** When flammable products burn, hazardous gases and vapours can be produced (e.g., carbon monoxide, hydrogen cyanide and nitrogen oxides).

Note: ALWAYS check the SDS and label for the product that you are working with to ensure that you know what is being used and all of the hazards and precautions associated with the product. Ask questions if you are not sure.

6.1 General practices for flammable and combustible Substances

- Obtain and read the Safety Data Sheets (SDSs) for all the materials you work with.
- Eliminate ignition sources (sparks, smoking, flames, hot surfaces) when working with flammable
- Keep containers closed when not in use.
- Use the smallest number / amount of flammable substances necessary in the work area.
- Keep storage areas cool and dry.
- Store flammable and combustible substances away from incompatible materials (e.g., oxidizers).
- Bond and ground metal containers when transferring flammable and combustible liquids. Flammable cabinets must be grounded.
- Practice good housekeeping and equipment maintenance. Keep area clear of combustible materials.
- Wear the appropriate personal protective equipment for each of the jobs you do.
- Do not weld, cut or perform hot work on empty container until all traces of product have been removed.

- Use approved containers for disposal of rags and other material.
- Store, handle and use flammable and combustible liquids in well-ventilated areas.
- Use approved equipment, including labelled safety containers, for flammable and combustible liquids.

6.2 Combustibles

Combustible material must be kept away from steam lines, radiators, heaters, and hot process and service lines.

If combustible material is under or near welding and burning operations, it must be moved a safe distance away (35 feet [10.7 meters]) or covered with fire-retardant material. Where this is not possible, all sparks and slag must be contained in an approved spark catcher.

6.3 Refueling

- Portable power equipment must not be refueled while running or when hot.
- Ensure fuel transfer tanks are properly grounded (ie: slip tanks, fuel cube)
- Place portable fuel containers on the ground for refueling (jerry cans)
  - To discharge electrostatic charge
  - Keep one hand on the fuel container to reduce electrostatic build up and discharge
  - only use portable fuel containers that meet the designed criteria of CSA B 376:22, ANSI/UL/ULC 30

6.4 Smoking

Smoking is allowed only in designated smoking areas.
Discard butts in approved containers, never in waste baskets or trash cans.

6.5 Flammables

Store flammables in properly labeled containers and in designated areas. Keep flammables away from smoking, welding, burning, or other sources of heat.

6.6 Liquids – Flammable

Spraying of liquids increases the fume and vapor problem and creates fire and explosion hazards. Do not use any of the following liquids until told specifically to do so. Do not mix different liquids or chemicals unless specifically told to do so. Complete a hazard assessment including respirator, ventilation, and skin-protection requirement.

- Petroleum Fuels
- Solvents
- Thinners
- Degreasers
- Protective Coatings
- Acids
- Caustics

The following hazards are also associated with flammable liquids:

- Accumulation of static charge – static electricity is the electric charge generated when there is friction between two things made of different materials or substances. This charge can occur and accumulate when flammable liquids are poured, pumped, filtered, agitated, stirred or flowing through pipes, and these actions can act as an ignition source. Release of the static charge from the liquid can ignite flammable products.
- Flashback – the vapour of most flammable liquids is heavier than air. In this case, the vapour can spread a long distance along the ground or floor and eventually be ignited by a distant spark, flame or other source of heat. Once the vapour ignites, the flames or fire can "flash-back", meaning that the flames travel back to the container or source of the flammable liquid and an explosion can occur.

6.7 In case of Emergency:

Understand and practice emergency procedures so that you know what to do if it becomes necessary to act:

- Make sure that appropriate fire extinguishers are available.
- Be aware of at least two different exit paths in the event of fire.
- Make sure that eyewash and emergency showers are readily available in the immediate work area. These devices must be tested regularly.
- Have spill control procedures and equipment ready (e.g., absorbent spill control materials, PPE, non- sparking tools, etc.). Avoid using combustible materials (such as paper towels or sawdust) to clean up or absorb spills.
- Remove contaminated clothing and footwear since they can be a severe fire hazard. Wash contaminated items immediately and thoroughly in water before re-wearing or discard them.
- Immediately report leaks to your supervisor, warn people in the area, and move to a safe location, if necessary.

7.0 TRAINING

WHMIS training

8.0 APPENDIX

Appendix A = Flammable and Combustibles WELL sheet

DOCUMENT APPROVAL/REVISION RECORD

Revision #	Date	Revision Summary	Author	Reviewed By	Approved By
New	2022-01-26	New	A. Munn	H. Georgiadis	R. Condon
02	2023-06-08	Updated references, clarification on fueling safety	A. Munn	H&S Team	R. Roy

Director of Total
Health & Safety

Énergie NB Power

WELL Sheet #: 1037
Revision: 2021/11

Flammables & Combustibles – WELL Sheet

Date:	**Job:**	**:**
Observation team member:		Signature:
Observation team member:		Signature:
Observation team member:		Signature:

Location of Work:		**Yes**	**No**	**N/A**
1.	Minimize fuels and chemicals on the project, and at facilities where practicable.			
2.	All products must be stored in pre-designated safe and secure product storage area, in accordance with provincial legislation and permits.			
3.	Storage areas should be inspected periodically for compliance with these requirements.			
4.	Secondary containment is required for each above ground storage tank.			
5.	Capacity shall be volume of tank plus 10%.			
6.	Containers larger than 10 gallons, 45-gallon drums of oils and hazardous materials shall be stored in secondary containment (i.e., spill containment trays, berms, etc.) to reduce the risk of spills.			
7.	All products shall be properly labeled.			
8.	All products shall be handled by employees who are trained and qualified in handling the specific product.			
9.	Any spilled product shall be contained and cleaned up and reported.			
10.	All empty product containers will be removed from the project and returned to the appropriate areas for disposal.			
11.	Consult MSDS/SDS and/or the manufacturer prior to rinsing brushes, rollers, or containers in a sink. Never rinse paint brushes or materials in a gutter or street.			
12.	Install workplace air extraction fans and tail-pipe exhaust extraction systems and filters, as appropriate.			
13.	Use job rotation to minimize exposure.			
14.	Wear suitable PPE (gloves, goggles etc.) always and provide workers with training in its correct use and maintenance.			
15.	No smoking or eating in areas where fuel fumes are likely to occur.			
16.	Avoid skin contact with cold or hot fuel or oil.			
17.	Always turn off engines when not required.			
18.	Keep all doors and windows open, where practicable.			
19.	Provide all workers with information on the risks of exposure to fuel fumes.			
	NOTE: *Consult with Total Health & Safety (Safety Specialist) and/or other SME(s) as necessary to verify these criteria.*			

Comments: