

Worksheet #8 – Storage & Proper Handling of Fuels, Pesticides, and other Typical Household Chemicals

Use this worksheet to learn about best management of fuels and chemicals.

Why should you be concerned?

- Petroleum products contain toxic compounds, such as benzene, which can cause cancer.
- Some toxic chemicals are colourless and odourless and can go undetected in water that has not been tested for contamination.
- Contaminated water or soil greatly devalues land property and is very expensive to clean-up. Clean-up may not even be possible in some cases.
- A property owner may be held liable for contaminating any water source.
- Vapours from some chemicals such as fuels can ignite or cause explosions.
- Pesticides have been found in amounts below the tolerance levels set by the government in Ontario's drinking water. We don't know the effects of repeated exposure to very small amounts over a long period of time. Chronic health problems may not appear for many years.

What can you do?

1. Inform yourself of alternative non-toxic or lower toxicity chemicals to deal with the situation.
2. Avoid storing chemicals. Buy only the amount you need and make sure you have a safe storage area. Contact your local municipality to learn how you can dispose of empty chemical containers and rinse water safely.
3. Never store fuel or any chemical on your property where it may come in contact with water.
4. Read and follow instructions carefully. Note if weather conditions can affect application.
5. Never pour chemical leftovers down the drain, storm sewer, storm drain or into open water.

Chemicals: How do you rate?

Topic	Best 4	Good 3	Fair 2	Poor 1	Your Rating
FUEL CHEMICALS					
1 Vehicles and Machinery	Regular checks to ensure vehicles and machinery are not leaking.		Irregular checks to ensure vehicles and machinery are not leaking.	Never check to ensure vehicles and machinery are not leaking.	<input type="checkbox"/>
	Any fluid spills are cleaned up immediately. Rags are disposed of appropriately.	Any fluid spills are cleaned up immediately.	Some fuel spills are cleaned up immediately.	Drips and spills are not cleaned up.	<input type="checkbox"/>
	Used oil, antifreeze and other wastes are appropriately recycled.	Used oil, antifreeze, and other wastes are disposed of at landfill.	Used oil, antifreeze and other wastes are allowed to accumulate on your property.	Used oil, antifreeze, and other wastes are dumped down the storm-sewer, in a ditch or on the ground.*	<input type="checkbox"/>
	There are no unused or decommissioned vehicles on the property,	There are no unused or decommissioned vehicles on the property,	There are unused or decommissioned vehicles on the property,	There are unused or decommissioned vehicles on the property,	<input type="checkbox"/>
	AND no dirty car parts, wastes or chemicals.	OR dirty car parts and vehicle wastes/chemicals are kept out of reach of storm water runoff.	OR dirty car parts and vehicle wastes or chemicals are left on unpaved areas outside.	OR car parts and vehicle wastes or chemicals are left near water courses.*	

tip

Keep your vehicles regularly serviced to check for oil, antifreeze or gas leaks.

* These conditions may violate provincial legislation or municipal by-laws.

Topic	Best 4	Good 3	Fair 2	Poor 1	Your Rating
-------	---------------	---------------	---------------	---------------	-------------

FUEL STORAGE

2 Portable Fuel Storage

Fuel is purchased only as needed so that long-term storage is not required anywhere on the property.

A minimal amount of fuel is stored in safe, approved, original-sale, and clearly labeled containers,

Fuel is stored in safe, approved, original-sale, and clearly labeled containers.

Fuels are stored in unmarked, open or unapproved containers.

AND liquid fuel containers have a spout to prevent spills,

AND are stored on an impervious surface, such as concrete.

Distance between petroleum storage and nearest surface water is greater than 150 metres (500 feet).

Distance between petroleum storage and nearest surface water is 61-150 metres (200-500 feet).

Distance between petroleum storage and nearest surface water is 30-60 metres (100-199 feet).

Distance between petroleum storage and nearest surface water is less than 30 metres (100 feet).*

Distance between petroleum storage and well(s) is greater than 90 metres (300 feet).

Distance between petroleum storage and well(s) is 24-90 metres (76-300 feet) for a drilled well,
OR 47-90 metres (151-300 feet) for a bored/ dug well.

Distance between petroleum storage and well(s) is 15-23 metres (50-75 feet) for a drilled well,
OR 30-46 metres (100-150 feet) for a bored/dug well.

**Distance between petroleum storage and well(s) is less than 15 metres (50 feet) for a drilled well,
OR less than 30 metres (100 feet) for a bored/dug well.***

* These conditions may violate provincial legislation or municipal by-laws.

Topic	Best 4	Good 3	Fair 2	Poor 1	Your Rating
-------	---------------	---------------	---------------	---------------	-------------

ABOVE GROUND FUEL TANK STORAGE

3 Gasoline and Diesel Fuel Tanks

No fuel tanks are present above or below ground anywhere on the property.

All tanks are made of steel and have a protective, anti-corrosive coating,

AND ULC approved.

Steel tank with no protective coating,

OR fiberglass tank,

OR not ULC approved.*

Tanks are regularly checked for leaks.

Tanks are tested monthly for leaks.

Tanks are not checked for leaks.

The water table is located more than 3 metres (10 feet) below the surface, under the fuel tank.

The water table is located consistently 1.5 metres (5 feet) to 3 metres (10 feet) below the surface.

The water table is located consistently less than 1.5 metres (5 feet) below the surface.

Inactive tanks are decommissioned and properly removed.

Inactive tanks are abandoned.

Tanks sites are checked for contamination. If found, it is immediately reported.

Tanks sites are not checked for contamination,

OR if found, not immediately reported.

tip

If a spill or leak occurs, report it immediately to the Spills Action Centre at the MOE by calling: 1-800-268-6060

* These conditions may violate provincial legislation or municipal by-laws.

Topic	Best 4	Good 3	Fair 2	Poor 1	Your Rating
-------	---------------	---------------	---------------	---------------	-------------

ABOVE GROUND FUEL TANK STORAGE *continued*

4 Heating Oil Tanks

All types of tank(s) are located more than 3 metres (10 feet) from any building.

Tank(s) with a capacity of less than 2500 litres (550 gallons) are located 3 metres (10 feet) or less from any building.

Fuel tank is located inside a building,

OR tank(s) with a capacity greater than 2500 litres (550 gallons) are located less than 1.5 metres (5 feet) from a building.*

Tanks are ULC approved, monitored for leaks, and proper vent pipe used,

AND protective coating maintained.

Tanks are not ULC approved,

OR are not monitored for leaks,

OR no vent pipe used,

OR protective coating not maintained.*

Tank less than 5 years old.

Tank less than 10 years old.

Tank less than 20 years old.

Tank more than 25 years old,

OR age of tank unknown.

Fuel delivery system between fuel storage and appliance is installed by a registered contractor and inspected annually for leaks.

Fuel delivery system between fuel storage and appliance is not installed by a registered contractor,

OR not inspected annually for leaks.*

tip

*If you have underground storage of fuel, you are not in compliance with regulations.**

* These conditions may violate provincial legislation or municipal by-laws.

Topic	Best 4	Good 3	Fair 2	Poor 1	Your Rating
COSMETIC PESTICIDES, HOUSEHOLD CLEANERS AND NON-FUELS					
5 Cleaning Products	All household cleaning products are non-toxic and non-harmful to humans, AND minimal quantities are used.	Most household cleaning products are non-toxic and non-harmful to humans.	Typical chemical cleaners are used properly, AND minimal quantities are used.	No consideration given to a product's toxicity, OR more than is necessary is used.	<input type="checkbox"/>
6 Total Amount of Pesticide and Other Non-fuel Chemicals Stored	No chemicals stored any time.	Chemicals are not stored longer than immediate use period.	Small amount of chemicals stored for longer than immediate use period.	Large quantities of chemicals stored for longer than immediate use period.	<input type="checkbox"/>
7 Distance from Chemical Storage to Nearest Surface Water Source	Greater than 150 metres (500 feet).	60 -150 metres (200-500 feet).	30 - 60 metres (100-199 feet).	Less than 30 metres (100 feet).	<input type="checkbox"/>
8 Distance from Chemical Storage to Well	Greater than 90 metres (300 feet).	23 – 90 metres for a drilled well (76-300 feet), OR 46-90 metres for a bored/dug well (151-300 ft).	15-23 metres for a drilled well (50-76 feet), OR 30 -45 metres for a bored/dug well (100-150 feet).	Less than 15 metres for a drilled well (50 feet), OR less than 30 metres for a bored well (100 feet).	<input type="checkbox"/>
9 Chemical Solution Mixing	Chemicals are mixed in well ventilated area, on an impervious surface, and far from any open drain or open water source.			Chemicals are not mixed in well ventilated area, OR surface is permeable, OR mix far from any drain or open water.	<input type="checkbox"/>

Topic	Best 4	Good 3	Fair 2	Poor 1	Your Rating
-------	---------------	---------------	---------------	---------------	-------------

COSMETIC PESTICIDES, HOUSEHOLD CLEANERS AND NON-FUELS *continued*

10 Chemical Storage Area and Containers

Stored in a water-proof, locked cabinet or storage container. The container itself stored in a garage or shed with a concrete floor that does not contain any drains.

Stored in a garage or shed with a concrete floor that does not contain any drains.

Stored with human or animal food,

OR stored in residence,

OR stored in a garage or shed with a concrete floor that contains drains.

Sill installed in cabinet to contain any spills.

No sill installed in cabinet.

No sill installed in cabinet,

AND garage or shed has floor drain that leads to surface water source, etc.

Garage or shed is well ventilated to outside.

Garage or shed is not ventilated to outside.

Emergency numbers are posted nearby.

No emergency numbers are posted nearby.

All chemicals are in clearly marked containers.

Containers not labeled.

Storage/use of chemicals before the expiration date.

Chemicals not stored or used beyond expiration date.

Topic	Best 4	Good 3	Fair 2	Poor 1	Your Rating
COSMETIC PESTICIDES, HOUSEHOLD CLEANERS AND NON-FUELS <i>continued</i>					
11 Disposal of Pesticide Sprayer Rinse Water	Sprayer rinse water is applied only to plants listed on the label, AND more than 9 metres (30 feet) from surface water source, AND more than 61 metres (200 feet) from well.	Sprayer rinse water is applied only to plants listed on the label, AND more than 9 metres (30 feet) from surface water source, AND 45-60 metres (150-200 feet) from well.	Sprayer rinse water is applied only to plants listed on the label, AND less than 9 metres (30 feet) from surface water source, OR less than 45 metres (150 feet) from well.	Sprayer rinse water is applied to plants other than those listed on the label, OR open water source, OR dumped near a well.	<input type="checkbox"/>
12 Return, Rinsing and Disposal of Chemical Containers	Use of returnable or refillable containers, AND rinse water is used as per label instructions.	Triple or pressure rinsed containers or empty bags taken to municipal landfill, AND rinse water is used as per label instructions.	Appropriate disposal of triple/pressure rinsed containers, BUT rinse water is allowed into septic system or storm drain.	Inappropriate disposal of un-rinsed containers including burning them.*	<input type="checkbox"/>
13 Emergency Plan and Clean Up Equipment for Spills	Emergency plan easily accessible, outlining actions to be taken in case of spill, leak, fire or explosion, AND cleanup equipment available.	Emergency plan easily accessible, outlining actions to be taken in case of spill, leak, fire or explosion.	Emergency phone numbers posted nearby, AND general plan in case of emergency.	No emergency plan prepared, OR no spill cleanup equipment ready nearby.*	<input type="checkbox"/>

* These conditions may violate provincial legislation or municipal by-laws.

Topic	Best 4	Good 3	Fair 2	Poor 1	Your Rating
DISPOSAL OF ANY CHEMICALS					
14 Disposal of Hazardous Chemicals or Materials	No unused vehicle batteries stored on the property.			Vehicle batteries are stored on the property.	<input type="checkbox"/>
	Expired household batteries are taken to a hazardous waste facility.		Expired household batteries are thrown in the regular garbage and taken to a landfill.	Expired household batteries are not disposed of.	<input type="checkbox"/>
	Disposal is unnecessary because appropriate amount of chemical purchased and used up.	Leftover hazardous substances are given to others in proper and clearly labeled containers for appropriate use as soon as possible.	Chemical waste is properly disposed of at a hazardous waste facility.	Hazardous substances are poured down the drain, on the ground, burned, or taken to a landfill.*	<input type="checkbox"/>

tip

If you have leftover chemicals such as paint or turpentine, ask your neighbours or friends if they need it for a current project.

* These conditions may violate provincial legislation or municipal by-laws.

Additional Information

Storage & Handling of Chemicals

Typical Hazardous Household Chemicals:

(Taken directly from *Home-A-Syst*, 1997)

Household Waste

- Ash/sludge from burned household waste
- Light bulbs/lamps (contain mercury)
- Waste motor oil
- Plastic wraps and containers (hazardous only when burned)
- Pesticide or solvent containers
- Empty containers from other product categories listed here

Clothing and Fabric Care Products

- Mothballs
- Dry-cleaning fluids
- Spot removers (solvent based)
- Shoe-leather polishes

Hobby and Recreation Products

- Artist paints and solvents
- Charcoal lighter fluid
- Strong acids/bases*
- Bottled gas
- Household batteries (may contain mercury or cadmium)

Pesticides

- General use and 'restrictive use' pesticides
- Old and/or unwanted pesticides

Building/Wood Cleaners and Repair Products

Any building and wood cleaners with the following ingredients:

- wood polishes
- products for wood floor and panel cleaning

Building and equipment maintenance products:

- Strong acids/bases*
- Lead-based paint
- Oil/alkyd paints and primers
- Marine and exterior paints containing mercury and/or pesticides
- Aerosol paint products
- Stains and finishes
- Roof coatings and sealants
- Rust removers
- Silicon and other lubricants
- Adhesive removers
- Paint and finish preparation products
- Adhesives (glues, caulk)
- Wood-preserving products
- Products for brush or spray-gun cleaning
- Water repellents for wood and cement
- Solvents such as those used in degreasers, paint thinners, stains and varnishes

Vehicle Maintenance Chemicals

- Antifreeze, oil and grease, transmission fluid
- Solvents for oil and grease removal/disposal
- Engine/car parts cleaners such as carburetor and brake cleaner
- Paints and paint preparation products
- Lead acid batteries
- Tire cleaners
- Rust removers
- Ignition wire dryer
- Gasket removers
- Aerosol paint and primer products

NOTE:

A strong acid/base can be identified by noting if there is a hazard warning label that recommends using skin protection or to avoid breathing in vapours or aerosol mists. Also, if the product is intended for commercial use or if is intended to manage difficult stains or dirt on hard surfaces.

Resources List

Storage & Handling of Chemicals

For more information...

Abandoned Vehicles

Contact your local municipal office by consulting the internet or the *Blue Pages* in your telephone directory.

Ontario Ministry of Agriculture, Food and Rural Affairs

omafra.gov.on.ca

Ontario Petroleum Contractor's Association

Provide assistance in finding a petroleum equipment mechanic (PM2)

opcaonline.org

Technical Standards and Safety Authority

Fuel Oil Regulation Code

tssa.org

Spills

Call the Ministry of Environment (MOE)

Spills Action Centre 1-800-268-6060

Toronto number 416-325-3000