

# RESIDUAL HAZARDOUS MATERIALS MANAGEMENT GUIDE FOR NUNAVIK

for municipalities and regional organizations

Guide No. 1



April 2016

hisasibi

Kawawachikamach



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This guide is the first in a series of three guides. Guide No. 2 is intended for the general public and describes residual materials in broad terms, including proper handling and storage practices. Guide No. 3 is a reference guide for municipalities and organizations responsible for environmental contamination responses and contaminated-site remediation.



# 1 INTRODUCTION TO RESIDUAL HAZARDOUS MATERIALS

The first objective of the *Residual Hazardous Materials Management Guide for Nunavik* is to define proper residual hazardous materials management, as well as to provide related information and support. The second objective of the Guide is to foster awareness among municipalities and regional organizations regarding the issue of residual hazardous materials and their impact on the environment.

## 1.1 Types

Hazardous materials pose risks to human health and the environment. To reduce these risks, special disposal techniques are required. Various types of hazardous materials are found in Nunavik. A few of these are:

- **Batteries.** Batteries contain heavy metals that may leak and contaminate the ground and water. Batteries also contain corrosive materials.
- **Paint waste.** Paint may contain toxic solvents or metallic elements. Oil paints are also highly flammable.
- **Solvents.** Solvents may contain carcinogens and are highly flammable.
- **Used oil, fuel and antifreeze.** Old drums may contain one or all of these products or other highly flammable or toxic liquids that could contaminate the ground and water.
- **Halogenated hydrocarbons.** Household appliances, such as refrigerators, freezers and air conditioners, contain halogenated hydrocarbons. These appliances also contain coolant that produces chlorofluorocarbons (CFCs). CFCs collect in the atmosphere, contributing to the depletion of the ozone layer.
- **Light bulbs** (fluorescent tubes, mercury-vapour lamps and high-intensity discharge lamps). These products may contain mercury. Long-term exposure to mercury is dangerous for human health and the environment.
- **Hazardous household products.** These products contain ingredients that may adversely affect safety, human health and the environment. Signal words and symbols indicate the type of hazard, such as *poison*, *corrosive*, *warning* and *caution*, and are found on a wide range of hazardous household products, such as bleach, antifreeze, furniture polish, insecticides, paint, mothballs, etc.

## 1.2 Potential Effects

The mismanagement or non-management of hazardous materials may be harmful for humans, plants and animals. Several human health problems are caused by exposure to hazardous materials. Long-term exposure to these materials may even harm vital organs, affect the immune system and be fatal. For example, water contaminated with hazardous materials could infiltrate an entire community water supply system, impacting on human health and the environment.



## 2 ROLES AND RESPONSIBILITIES

### 2.1 Generators

Any person, business or organization that uses hazardous materials is responsible for their proper management, including handling, packaging, storage, treatment and disposal in accordance with provincial and federal regulations. (Refer to Section 4.2 References.)

In Québec, the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises* obliges producers of 5 types of products (electronic products, batteries, mercury lamps, paint and paint containers, and oils, coolants, antifreeze, their filters and containers) to provide for drop-off centres, collection services, the transportation of their products to treatment centres and information, awareness and education activities to inform consumers of their programs.

Since 2015, a selection of villages have participated in collection events for products covered under this regulation. The objective is to eventually have all 14 villages participate in the pilot-project and to provide them with the skills and support to manage a permanent drop-off centre and annual collection event.

### 2.2 Support

The *ministère du Développement durable, de l'Environnement et Lutte contre les changements climatiques* (sustainable development, environment and the fight against climate change, MDDELCC) is the provincial authority responsible for monitoring, supervision, inspections and investigations to ensure compliance with environmental standards. The MDDELCC regional office performs regular inspections in the Northern Villages to assess compliance with the management practices applicable to residual hazardous materials and to review the impacts of any recent spills or environmental contamination. The MDDELCC is available to respond to the inquiries and concerns of the general public regarding hazardous materials in Nunavik.

The Kativik Regional Government (KRG) makes decisions, establishes priorities and acts on behalf of the residents of Nunavik. The KRG Renewable Resources, Environment, Lands and Parks Department and the KRG Municipal Public Works Departments often cooperate with the MDDELCC and the Northern Villages on residual hazardous materials management. A KRG environmental specialist and environmental technician are both available to provide assistance with issues regarding the handling and storage of hazardous materials, as well as spills and environmental emergencies.

## 3 RESIDUAL HAZARDOUS MATERIALS MANAGEMENT

In the normal course of industrial, commercial and institutional activities, residual materials are produced. Some of these materials are more hazardous than others due to their chemical, physical and biological properties. To reduce the risks posed to human health and the environment, special treatment and disposal techniques must be followed.

### 3.1 Pollution Prevention: Reduce, Reuse, Recycle and Reclaim

An effective and proactive management practice is to eliminate or reduce the use of hazardous materials. This is referred to as pollution prevention or the 3 R-R method: reduce, reuse, recycle and reclaim.

#### Reduce

Reduce refers, first and foremost, to using fewer resources and decreasing our consumption of goods. For example, whenever you make a purchase, learn how to maintain the product in good condition and, then, do so. Regarding electronics, opt for quality, energy-efficient products.

#### Reuse

Before recycling or throwing anything out, ask yourself if it can be reused. You may have a new use for the materials or decide to make them available to others. For example, an old snowmobile could be repaired and sold.

#### Recycle

Recycling is a process whereby reusable materials, instead of being thrown out, are transferred to a designated location for reprocessing. The materials are then used to produce similar or new products. For example, the material from recycled tires may be reprocessed to surface roads, sprint tracks, sidewalks, etc.

#### Reclaim

Reclamation is a process whereby value is added to residual materials. For example, energy recovery may be practised by burning used oil in a certified furnace.

### 3.2 Safety

When handling hazardous materials, safety should always be the number one concern. To reduce exposure, personal protective equipment should be worn, such as rubber gloves, steel toe boots, hard hats, safety goggles and other related gear. This equipment does not eliminate the hazard, but it does reduce the risk of accident and injury.

### 3.3 Storage and Identification

It is unacceptable for residual hazardous materials to be abandoned or disposed of in the environment or as regular trash at a residual materials disposal site.

Residual hazardous materials should be stored in appropriate, resistant and leak-free containers whether inside or outside.. These containers should be properly labelled to facilitate inventory, storage and transportation. Appropriate storage and labelling practices for residual hazardous materials commonly found in Nunavik are described below.

Residual hazardous materials, such as batteries and paint, are covered under the *Transport of Dangerous Goods Regulations* (TDG Regulations) and, as such, they must be stored in UN-certified containers. The symbol below, when it appears on a container, certifies compliance with the TDG Regulations.



Below is a list of common hazardous waste materials found in Nunavik and how to properly package and store them. You will also find photo examples of properly packaged materials on page 13.

**Vehicle batteries** must be stored in a UN-certified container such as a Wrangler bag specifically designed for this purpose. Cover each battery post with a protective cap or tape. Store Wrangler bags in a designated container for residual hazardous materials or in a designated location at the local residual materials disposal site. Wrangler bags should never be stored directly on the ground. Advise the general public of the designated location for battery disposal. Labels (see immediately below) should appear on all four sides of Wrangler bags.

**SHIPPING NAME:**

Waste batteries, wet, containing acid

**UN:** 2794

**CLASS:** 8

**UNIT NUMBER:** 1 of 1

**PROVINCIAL CODE:** E15-8.0-S

**GENERATOR:** Northern Village of Tasiujaq

**DATE:** 2010-08-29



**Batteries** may be stored in a UN-certified container such as an open plastic drums or metal drum with an inserted plastic liner since batteries contain corrosive acids. The general public should be encouraged to dispose of their batteries in these drums at a designated location rather than as regular trash at the local residual materials disposal site. Labels (see immediately below) should appear on all drums. Note: These products are covered under the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises*.

<p><b>SHIPPING NAME:</b> Waste batteries, dry, containing potassium hydroxide</p> <p><b>UN:</b> 3028</p> <p><b>CLASS:</b> 8</p> <p><b>UNIT NUMBER:</b> 1 of 1</p> <p><b>PROVINCIAL CODE:</b> E16-8.0-S</p> <p><b>GENERATOR:</b> Northern Village de Puvirnitug</p> <p><b>DATE:</b> 2010-06-10</p>	
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Oil **paint** containers must be stored in a UN-certified container such as a Wrangler bag specifically designed for this residual hazardous material or in open drums. Store Wrangler bags in a designated container for residual hazardous materials or in a designated location at the local residual materials disposal site. Wrangler bags should never be stored directly on the ground. Labels (see immediately below) should appear on all four sides of Wrangler bags. Note: These products are covered under the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises*.

<p><b>SHIPPING NAME:</b> Waste paint F.P. 35°C</p> <p><b>UN:</b> 1263</p> <p><b>CLASS:</b> 3</p> <p><b>UNIT NUMBER:</b> 1 of 1</p> <p><b>PROVINCIAL CODE:</b> D02-3.0-L</p> <p><b>GENERATOR:</b> Northern Village of Ivujivik</p> <p><b>DATE:</b> 2010-06-10</p>	
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**Solvents**, such as paint thinner, varnish and degreasing compounds, must be stored in closed metal drums that are waterproof and in good condition. For transportation purposes, up to four drums may be secured to a pallet. The drums should never be stored directly on the ground. Labels (see immediately below) should appear on all drums. A UN-certified container may also be required.

**SHIPPING NAME:** Waste petroleum – distillates,  
n.o.s. (Toluene), F.P. 35°C

**UN:** 1268

**CLASS:** 3

**UNIT NUMBER:** 1 of 1

**PROVINCIAL CODE:** C02-3.0-L

**GENERATOR:** Northern Village of Kuujjuaq

**DATE:** 2010-03-23



**Used antifreeze** should be stored in closed plastic or metal drums that are waterproof and in good condition. For transportation purposes, up to four drums may be secured to a pallet. Labels (see immediately below) should appear on all drums. Antifreeze should not be mixed with other liquids, such as used oil and fuel. Mixing will increase the residual hazardous material recovery costs in the South.

**SHIPPING NAME:** Waste antifreeze  
(not covered under the TDG Regulations)

**UN:** n/a

**CLASS:** n/a

**UNIT NUMBER:** 1 of 1

**PROVINCIAL CODE:** D01-0.0-L

**GENERATOR:** Northern Village of Kuujjuaq

**DATE:** 2010-03-23

**Used oil** should be stored in closed plastic or metal drums. For transportation purposes, up to four drums may be secured to a pallet. The drums should never be stored directly on the ground. Labels (see immediately below) should appear on all drums. Note: These products are covered under the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises*.

**SHIPPING NAME:** Waste – oil  
(not covered under the TDG Regulations)  
**UN:** n/a  
**CLASS:** n/a  
**UNIT NUMBER:** 1 of 1  
**PROVINCIAL CODE:** A01-0.0-L  
**GENERATOR:** Northern Village of Quaqtaq  
**DATE:** 2010-11-14

Mixing hazardous materials is discouraged, however labels should appear on all drums containing a **mixture of flammable liquids**. The liquid with the lowest flash point is indicated in brackets. Flash point (F.P.) is the temperature at which a product will ignite. A UN-certified container is also required.

**SHIPPING NAME:** Waste – flammable liquid, n.o.s.  
(gasoline) F.P. 40°C  
**UN:** 1993  
**CLASS:** 3  
**UNIT NUMBER:** 1 of 1  
**PROVINCIAL CODE:** C02-3.0-L  
**GENERATOR:** Northern Village of Kuujjuarapik  
**DATE:** 2010-05-17



Empty **Gas Cylinders** (ie. oxygen, acetylene, propane) must be properly packaged and labelled before returning them to the South. They must be separated according to contents with their safety caps on and secured in crates with ¾ inch metal straps. Transportation regulations must be followed by completing a *Dangerous Goods Declaration* Shipping name form and contacting the marine shipping company. Below is an example of how to label various types of cylinders:

Shipping name	UN	Class	Subs class
Oxygen, compressed	1072	2.2 Non-Flammable gas	5.1 Oxidizing substances (2 possible labels)
			
			
Propane	1978	2.1 Flammable Gas	none
			
Acetylene, dissolved	1001	2.1 Flammable Gas	none
			

Household appliances, such as refrigerators, freezers and air conditioners, contain **halogenated hydrocarbons**. Before transferring such appliances to the residual materials disposal site, a certified technician must remove the halogenated halocarbons. Contact the Northern Village for the next scheduled technician's visit to your community. Generally, a technician will visit once a year. Subsequently, appliances may be placed in a designated location at the local residual materials disposal site.

Care should be exercised to avoid breaking **mercury-vapour lamps**, including fluorescent-compact lamps, on removal from their sockets. Breakage could result in the release of mercury into the environment. Fluorescent lamps should be kept in their original or replacement packaging, which is considered safe. Note: These products are covered under the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises*.

**Hazardous household materials** are found in every home. Often hazardous household materials are handled like regular trash and sent to the local residual materials disposal site where they are burned, releasing toxic fumes into the air. A designated location at the residual materials disposal site should be set up for this type of waste, and residents should be encouraged to separate their hazardous household materials from their residual non-hazardous materials. Hazardous household materials are covered in greater detail in Guide No. 2, which is intended for the general public.

The storage of residual hazardous materials should not be considered an acceptable long-term management solution. Their safe storage is, however, important. Therefore, each Northern village should designate and clearly identify a location for the short-term storage of residual hazardous materials. The designated location should comply with the following:

- Drainage into and from the site is controlled to prevent runoff from entering the site and prevent spills or leaks from leaving the site.
- Residual hazardous materials should be stored by category in order to simplify identification and transportation.
- Access to the site should be restricted to personnel trained to handle residual hazardous materials.
- Regular inspections of the site and inventories should be carried out to monitor for leaks and deterioration.
- Emergency response equipment should be accessible and located nearby.
- The local fire department should be informed of the location of the site.



◀ An example of how to properly package a UN-certified container or bag of **vehicle batteries**.

An example of packaging for **batteries** provided for under the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises*. ▶



◀ An example of how to properly package a crate containing **empty gas cylinders**.

An example of how to properly package drums of **solvents, used antifreeze, used oil, mixed flammable liquids** and **contaminated water, soil** and/or **snow** ▶



### 3.4 Transportation

The treatment and disposal of residual hazardous materials is the final means for reducing and eliminating the risks posed to human health and the environment. These actions are moreover the responsibility of the generator. Generally, for this purpose the generator must transport the materials out of Nunavik. It should be noted that the transportation costs of electronic products, batteries, mercury lamps, paint and paint containers, and oils, coolants, antifreeze, their filters and containers are covered under the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises*.

Residual hazardous materials transported to recycling, treatment, storage or disposal facilities must be properly sorted, packaged, labelled and recorded on the shipping (air, marine or land) manifest.

Marine shipping companies that serve the North for the transport of these materials are indicated below:

**Groupe Desgagnés (Transarctik) Inc.**

6565 Hébert Blvd.  
Sainte-Catherine QC J5C 1B5  
Tel.: 450-635-0833  
Fax: 450-635-5126  
info@transarctik.desgagnes.com  
<http://desgagnes.com>

**Nunavut Eastern Arctic Shipping Inc. (NEAS)**

2100 Pierre-Dupuy, Suite 2060  
Montreal QC H3C 3R5  
Tel.: 514-597-0186  
Toll free: 1-877-225-6327  
Fax: 514-523-7875  
[www.neas.ca](http://www.neas.ca)

### 3.5 Residual Hazardous Materials Management Firms

Before shipping residual hazardous materials, it is strongly recommended that you contact the shipping company and a residual hazardous materials management firm in the South. Management firms that possess experience and equipment for receiving residual hazardous materials from Nunavik are indicated below. These management firms are able to provide advice regarding residual hazardous materials equipment, labels and containers. This list is not exhaustive.

#### **Avataani** (ᐱᐱᐱᐱᐱᐱ ᐱᐱᐱᐱᐱᐱᐱᐱ)

P.O. Box 939  
Kuuujuaq, QC J0M1C0  
Tel: 819-964-0131  
Fax : 866-823-9531  
cnakoolak@gmail.com  
www.avataani.ca

#### **Sanexen**

Tel. : 450-652-9990  
Fax: 450-652-2290  
info@sanexen.com  
www.sanexen.com

#### **Biogénie S.R.D.C. Inc.**

Tel.: 418-653-4422  
Toll Free: 1 800 267-4422  
Fax: 418-653-3583  
quebec@biogenie-env.com  
www.biogenie-env.com

#### **Recubec**

Tel.: 514-645-9233  
Fax: 514-645-2050  
info@recubec.ca  
www.recubec.ca

#### **Quatrex Environnement Inc.**

Tel.: 450-963-4747  
Toll free: 1-800-967-3002  
Fax: 450-622-5392  
info@quatrex.ca  
www.quatrex.ca

#### **Conterm Inc.**

Tel.: 514-694-2164  
Toll free: 1-888-447-2164  
Fax: 514-694-1640  
info@conterm.ca  
www.conterm.ca

## 4 CONCLUSION

This guide represents a brief introduction to residual hazardous materials management. However, in no manner whatsoever does it replace applicable Québec and Canadian regulations.

### 4.1 Resources

For further information about residual hazardous materials, contact the Kativik Regional Government or the Québec government:

#### **Kativik Regional Government**

Renewable Resources, Environment, Lands and Parks Department  
Environmental Specialist: Véronique Gilbert, or Environmental Technician:  
Monica Nashak (enviro@krg.ca)  
Tel.: 819-964-2961  
**Toll free: 1-877-964-2961**  
Fax: 819-964-0694  
www.krg.ca

#### **Ministère du Développement durable, de l'Environnement et Lutte contre les changements climatiques (MDELCC)**

Regional Analysis and Expertise Branch for Abitibi-Témiscamingue and Nord-du-Québec  
Emergency Coordinator: Guy Vallières (Guy.Vallieres@mddelcc.gouv.qc.ca)  
Tel.: 819-763-3333, ext. 256  
For communication in English: Daniel Richer (daniel.richer@mddelcc.gouv.qc.ca)  
Tel: 819-763-333, ext. 311  
**Emergency Line: 1-866-694-5454**  
Fax: 819-763-3202  
www.mddelcc.gouv.qc.ca

### 4.2 References

The following references were used to prepare this guide:

*Regulation respecting Hazardous Materials* (c. Q-2, r. 32), Québec government, February 2010.

*Transport of Dangerous Goods Regulations*, Government of Canada, February 2008.

*Management of Hazardous Waste*, training manual, Stabilis, 2004.

*Guideline for the General Management of Hazardous Waste in the NWT*, Government of the Northwest Territories, Department of Resources, Wildlife and Economic Development, February 1998.

# RESIDUAL HAZARDOUS MATERIALS MANAGEMENT GUIDE FOR NUNAVIK

# 1 2 3

for municipalities and regional organizations

HAZARDOUS MATERIALS

SECURE STORAGE

LABELING

TRANSPORTATION

		<p>SHIPPING NAME: Heavy batteries, wet, containing acid                      ICAO 2014                      CLASS: 9                      UNIT NUMBER: 1 of 1                      PROVISIONAL CODE: 014-04-05                      GENERATOR: Nunavut Village of Repulse                      DATE: 2014-08-29</p> 	
		<p>SHIPPING NAME: Heavy batteries, wet, containing acid                      ICAO 2014                      CLASS: 9                      UNIT NUMBER: 1 of 1                      PROVISIONAL CODE: 014-04-05                      GENERATOR: Nunavut Village of Repulse                      DATE: 2014-08-29</p> 	
		<p>SHIPPING NAME: Heavy petroleum - distillates, colorless                      ICAO 2014                      CLASS: 3                      UNIT NUMBER: 1 of 1                      PROVISIONAL CODE: 014-04-04                      GENERATOR: Nunavut Village of Repulse                      DATE: 2014-08-29</p> 	
		<p>SHIPPING NAME: Heavy petroleum - distillates, colorless                      ICAO 2014                      CLASS: 3                      UNIT NUMBER: 1 of 1                      PROVISIONAL CODE: 014-04-04                      GENERATOR: Nunavut Village of Repulse                      DATE: 2014-08-29</p> 	
		<p>SHIPPING NAME: Heavy petroleum and covered under the Transportation Act                      ICAO 2014                      CLASS: 3                      UNIT NUMBER: 1 of 1                      PROVISIONAL CODE: 014-04-04                      GENERATOR: Nunavut Village of Repulse                      DATE: 2014-08-29</p>	
		<p>SHIPPING NAME: Heavy petroleum and covered under the Transportation Act                      ICAO 2014                      CLASS: 3                      UNIT NUMBER: 1 of 1                      PROVISIONAL CODE: 014-04-04                      GENERATOR: Nunavut Village of Repulse                      DATE: 2014-08-29</p>	
		<p>SHIPPING NAME: <input type="text"/></p> <p>ICAO: <input type="text"/></p> <p>CLASS: <input type="text"/></p> <p>UNIT NUMBER: <input type="text"/></p> <p>PROVISIONAL CODE: <input type="text"/></p> <p>GENERATOR: <input type="text"/></p> <p>DATE: <input type="text"/></p>	
		<p>SHIPPING NAME: <input type="text"/></p> <p>ICAO: <input type="text"/></p> <p>CLASS: <input type="text"/></p> <p>UNIT NUMBER: <input type="text"/></p> <p>PROVISIONAL CODE: <input type="text"/></p> <p>GENERATOR: <input type="text"/></p> <p>DATE: <input type="text"/></p>	



**1**

**BEFORE SHIPPING:** Contact a hazardous materials management company.  
(See Guide #1, section 3.5)



**2**

**SHIPPING:** After materials have been properly prepared for transport, they are shipped out of the community by boat or air.



In an emergency spill situation, call:

- Your local municipality, or
- KRG: 1-819-964-2961, or
- MDDELCC: 1-866-694-5454

To request special labels or containers:

- See Guide #1, section 3.5



COMITÉ CONSULTIF EN MATIÈRE D'ENVIRONNEMENT KATIVIK  
 KATIVIK ENVIRONMENTAL AFFAIRS COMMITTEE





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Comité consultatif de l'environnement Kativik  
Kativik Environmental Advisory Committee



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Administration régionale Kativik  
Kativik Regional Government

