Spill Contingency Plan, November 28, 2014
Prepared for Hamlet of Kugluktuk, NU

Item 1.0 Introduction

Contact Person:

Existing: Don LeBlanc
Replace: Kimberley Young

Item 1.3.2 Water Treatment Plant (1st paragraph)

Existing: The water treatment plant …. Building at a safe storage.
Replace: The new water treatment plant (WTP) include sedimentation, filtration, UV and disinfection process. An additional process CFS coagulation/flocculation by using ferric chloride solution to water to sediment flocculent before entering to the sand filtration process when the high turbidity determined in raw water. The 12% sodium hypochlorite (comes in 20L pail) solution dosing into water before the truckfill for disinfection while supply water store in the resident tank for all purposes. The CFS process only used when needed, otherwise only 12% NaoCl uses followed by filtration and UV process. All these chemicals comes in plastic pails and store inside the storage room at WTP building.

Item 1.3.2 Water Treatment Plan (3rd paragraph)

Existing: The new treatment plant system will be an

Replace: The new treatment plant includes

Item 3.3.1 Existing lagoon

current: The old lagoon has yet to be commissioned
Replace: The old lagoon has been decommissioned

current: the former lagoon will be desludged with the sludge transferred
Replace: the former lagoon was desludged and level gradients towards the wetland

Current: A decommissioning plan has developed…. the topography of the area
Replace: the old sewage facility has been decommissioned. Metal spillway has been removed and berm materials were pushed to infill lagoon area and levelled.

Item 5.2 Spills Response Personnel: (Table 1st and 2nd row)

Current (1st row): Don LeBlanc
Replace: Kimberley Young

Current (2nd row): George Egotak
Replace: Kevin Klengenberg and Shaun Cummins

Kugluktuk, NU
Spill Contingency Plan

Submitted by

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Community and Government Services

Nov 28, 2014

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1.0 Introduction and Community Details:

Contact person:

Don Lablanc,
Senior Administrative Officer (SAO),
Hamlet of Kugluktuk, P.O. Box 271,
Kugluktuk, NU X0B 0E0

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The purpose of the Spills Contingency Plan (SCP) is to outline initiative & response actions for the spills in operating facilities involve for intake water, wastewater, solid waste, and fuel supply and uses in the community of Kugluktuk. The plan identifies key response personnel and their roles and responsibilities in the event of a spill, as well as the equipment, resources and measures to clean up a spill. The plan also details spill response procedures that will minimize potential health and safety hazards, environmental damage and clean-up efforts. The Licensee is committed to operate facilities with compliance to the requirements with NWB water licence, sensitive to environmental issues and ensuring public safety measures.

1.1 Purpose and Scope

The scope and purpose of the Contingency plan is to:

- Provide a understanding statement and procedure to be followed in response to a spill
- Minimize the potential environmental impact of a spill by establishing a pre-determined action plan
- Protect public health and ensure safety of the personnel involved in the Spill Response activities
- Provide a response reporting and follow up action for spills or emergency situation
- Ensure site protection, restoration and re-business facilities for water, fuel, sewage and waste
- Identify the roles and responsibilities involved in the spill response activities and
- Identify skill personnel, materials and equipment needed to make an adequate response to a spill.

1.2 Community Description:

The Hamlet of Kugluktuk (formerly known as Coppermine), is situated on Coronation Gulf at the mouth of the Coppermine river. The Hamlet is situated on a rocky area on the west side of the Coppermine river, at latitude 67°49'N, longitude 115°06'W

The Hamlet is predominately residential with a few small commercial establishments including a hotel, several consultants & contracting businesses, grocery stores, and a variety of other small businesses. Hunting and fishing in the traditional manner is still a prime occupation for many of the inhabitants. Community buildings include a high school, elementary school, arena, swimming pool, hamlet office, public works yard, GN offices and police station.

1.3 Facilities Description:

For community water supply, sewage disposal, solid waste management, granular procurement, vehicle maintenance, parking and other community events, the hamlet of Kugluktuk is responsible for operation of some specific facilities including a water treatment plant, an intake pump house, an engineered sewage lagoon, a municipal solid waste facility, a land farm, a granular crushing plant, a municipal mechanical garage, a maintenance shop and parking garages.

1.3.1 Water Intake Pump house:

Water is pumped from the Coppermine River of Kugluktuk. The intake site is close to the river approximately 2.5km upstream from Coronation Gulf. Salt water periodically reaches upstream to the intake site due to the effects of tide and wind. The river has an average width of 570m at the current intake location. Depths are generally less than 3m, but can reach up to 8m in isolated areas.

1.3.2 Water Treatment plant

The water treatment plant in the hamlet of Kugluktuk is currently consists of cartage filters system followed by biological treatment with Chlorine dosing. Water feed into treatment plant from intake system through the intake Pumphouse and enter into the cartage filter train, collect into storage tank inside the treatment plant building, then truck-fill from outside. 2-steps Chlorine dosing- 1st dosing before filtration and 2nd dosing before truck-fill. Liquid 12 % solution of Sodium Hypochlorite comes in 20L pail and store inside the plant building at safe storage.

The plant runs with electrical power line and standby diesel Generator. The Electrical power feed from Qulliq distribution system, estimated power consumption about 15,500 KWh annually. Power supply is 120/208V, 3-phase, 60Hz, 100A. The diesel Generator runs with Arctic grade diesel (P50). Estimated fuel consumption 400L per year, supplied from a Fuel tank.

The new treatment system will be an enhanced slow sand system preceded by a roughing filter. The coagulation/flocculation/sedimentation (CFS) pre-treatment step within the enhanced slow sand process is only needed during high turbidity months. It is estimated that it would run from May to November annually. This provides adequate downtime for maintenance during the offseason. The roughing filter reduces the solid loading on the slow sand filter and prolongs the filter runtime between scrapings

1.3.3 Sewage facility:

At present, the Hamlet of Kugluktuk operates a single-cell, lined sewage lagoon with effluent discharged to a natural wetland, which eventually discharges into the Coronation Gulf. This new sewage lagoon was constructed in 2009 and was built to replace the old sewage treatment lagoon cell which is being decommissioned. The new lagoon is located approximately 4 km west south-west of the community and is accessed from the community by Coronation Drive. The lagoon is out of sight of the community in close proximity to the solid waste landfill facility and the bulky metals disposal area. It is adjacent to the

waste battery and waste oil storage area. There are no documented complaints of related odours from the lagoon. The sewage lagoon was designed to treat approximately 62,000m3 of sewage. Collected sewage mostly comes from residential houses in the community as there are limited institutional or commercial sources. The sludge will generally be a mixture of fecal matter, organic and inorganic material. However, contaminants such as heavy metals, solvents and petroleum products may enter the lagoon due to municipal activities.

1.3.4 Solid waste facility:

The Hamlet of Kugluktuk Solid Waste facilities consist of Landfill, a Bulky Metal disposal area, Land farming area and a Hazardous Waste Storage area. The Solid Waste facility is located on both sides of Coronation Drive. On the north side is the landfill including the Landfarm and Hazardous Waste Storage area. On the south side of the road is the Bulky Metals disposal area.
Materials pick up and transport at the facility by a small dump garbage truck owned by the Hamlet or by private residential drop-off. The facility is not developed with liner base or lined berm enclosure, therefore, potential amounts of contaminants water are able to leach from the waste and enter the natural environment. Some improvement work done to divert much waste from landfilling including for hazardous wastes, batteries, waste oil, waste antifreeze, and other materials that could harm the environment.

2.0 Hazardous materials in the community: List of Hazardous materials

Materials	Storage Container	Quantity on site	uses
Oil	drum and pail	unknown	Vehicles operation
Gear oil	pail	unknown	Vehicle servicing
Antifreeze	Pail & jar	unknown	Vehicle servicing
Chlorine solution	20-30 L pail (12% solution)	20-30 pails	Water Treatment
Gasoline	drums	unknown	Vehicles
Diesel	drums	unknown	Power Generation
Jet Fuel A-1	drums	unknown	Aircraft
Propane	Cylinder at coop	unknown	House hold uses

2.1 Other Chemical Materials:

Hamlet stores a 12% solution of sodium hypochlorite in the raw water pumphouse and treatment plant which are used to disinfect drinking water. Possible Sodium hypochlorite spills range from a small leak or spillage during normal operation, to a major spill caused by damage to a storage drum. Sodium hypochlorite can cause several adverse health effects, including skin, eye and respiratory system irritation or burns. If ingested in significant amounts, this chemical can cause a wide range of symptoms, from nausea to death. Sodium hypochlorite can cause dangerous reactions with some chemicals, and therefore should not be allowed to mix with other chemical.

The action plan laid out here for sodium hypochlorite spills is generally applicable to any other chemical spills that the hamlet may deal with, but some chemicals may have special handling and disposal requirements. Refer to WHMIS (Workplace Hazardous Materials Information System) labels and MSDS (material safety data sheets) for chemical-specific information.

Beside this chemical and fuel oil are used for heating and to run pumps and other equipment. The fuel storage tanks are also to the other side of the community and close near the water body lake. Sewage trucks drive from community to Sewage Lagoon to a distance of 3.2 km after collecting raw sewage from house sewage tanks. All these are in the risk list of possible spills in conjunction to water, sewage waste and municipal waste.

3.0 Potential Environmental Impacts of spills:

Many operational uses of petroleum products in the community for transportation, heating, water and waste systems, used oil and paint drums end up at the waste disposal facility. These product spills from their operation (such as gas tank filling) to constant leaks from pipelines comes to repair, and major spills cause large contamination to soil and supply water issues.

Waste oil, paint, antifreeze or engine coolant products are used in automotive engines and generally consist of **ethylene glycol** or **propylene glycol** mixed with distilled water (propylene glycol is significantly less toxic). Like petroleum products, used antifreeze product drums or other containers end up at the waste disposal facility and can range from minor spills to large spills.

Generally, for sewage spills, environmental impacts are much lower during the winter, as snow is a natural sorbent and ice forms a barrier lining for limiting soil or water contamination. Spills can be more readily recovered when identified in the records.

3.1 Materials used in the community and impact:

The Hamlet of Kugluktuk is committed to operate the Intake Pumphouse, water Treatment Plant, Sewage lagoon and Solid Waste facility in an environmentally sensitive way and complying requirements of the standard set out in the Nunavut Water Board. This plan is used for activities associated for their operation and negative impact in failing the proper uses of materials.

3.1.1 Gasoline & Diesel:

Environmental Impacts:

- Harmful to wildlife and aquatic life
- Not readily biodegradable
- Has potential to bio-accumulate in environment
- Volatilizes easily
- Runoff into water bodies must be avoided

Worst Case Scenario: All fuel drums open simultaneously and contents pour onto ground and surrounding environment.

3.1.2 Waste Oil and miscellaneous Oils & Grease:

Environmental Impacts:

- Harmful to wildlife and aquatic life
- Not readily biodegradable
- Has potential to bio-accumulate in environment
- Runoff into water bodies must be avoided

Worst Case Scenario: All storage drums open simultaneously and contents pour onto ground and surrounding environment.

Note: Qulliq Energy has stored considerable waste oil and hazardous substances on the up-slope of the newly constructing Water Treatment Plant and close near to the water reservoir (use for summer when turbidity notes high in intake water) with no secondary containment for spill protection. It poses substantial risk to water source at intake location through surface runoff and rain& snow water washout. Also, an old vehicles parking area on the up-slope across the current truck fill station which has a potential risk of waste oil runoff into the water source at the old intake point which is using as the backup intake of water.

3.1.3 Chlorine:

Environmental/Health Impacts:

- Harmful if inhaled, corrosive, causes eye and skin burns, digestive and respiratory tract burns
- Run-off into water bodies must be avoided
- Wear protective face masks to prevent inhalation of dust

Worst Case Scenario: All pails open simultaneously and contents pour onto ground and surrounding environment.

3.1.4 Antifreeze:

Environmental Impacts:

- Antifreeze made from glycol is harmful to animal and human.
- Used antifreeze (from automobile)contains copper, zinc, lead and benzene can pose severe risk
- to environment and aquatic life when leach to water
- Potential impact to ground water if spills and leach to ground
- Degradation of glycol in antifreeze demands large amount of oxygen- thus reduces oxygen in the
- water used by aquatic life for survival.
- Oil spills when reaches coastline, reacts with coast sand, rock, vegetation and others causing
- marine plants die slowly.

Worst case Scenario: container of antifreeze open and pour on ground or direct through on ground will leach into ground water when snow melts and summer rains.

4.0 Spills Prevention Measures:

In general all contaminated material generated from spills, will be stored in steel drum temporarily for appropriate disposal at a later time which may include off-site transport to an approved facility. Labeled with materials information and contact addresses on the container will be transport through sealift barge or contractor transport.

Procedure for Transferring, storing and managing Spills related wastes:

- First anticipate what will be affected by the spill
- Assess direction and speed of spill, and any factors that could affect these
- Determine best location for containing spill

4.1 Location and Type of Spills prevention:

Measure of spills prevention is based on type and location and also duration of facility operation. Some types of operation are for the whole year and some are seasonal. The Spill Contingency Plan is prepared to address the protective measures of materials, operators, facilities and public for overall period.

4.1.1 Barrel Storage Area spills prevention measure:

In order to prevent spill or accidents at barrel storage area, the following procedures apply:

- Conduct ATV fuelling in a manner that avoids spillage. Operators are to be in attendance for the duration of the refuelling operation and are to ensure that all storage container outlets are properly sealed after use.
- Smoking is prohibited within 7.5 metres of the fuel storage facility. Provide appropriate signage.
- Store the barrel in an upright elevated position.
- The barrel shall be labelled. The label is to be to industry standards and should provide all information necessary for health and safety, and environmental purposes. This should include a Material Safety Data Sheet.
- Remove all fuel and associated materials from the site at the conclusion of the work.

4.1.2 Sewage Spills prevention measures:

- Sewage truck operators must be trained in safe truck operation and sewage disposal procedures
- Operators must take caution to ensure that the sewage trucks are not filled to capacity
- Inspections of sewage trucks and equipment must be performed and recorded on a regular basis
- An effective reporting system for reporting potentially hazardous situations where spills might
- occur must be developed and implemented

Concerns: Human and wildlife health hazard and unsightly appearance and high nutrient concentrations could negatively impact water bodies and runoff into water bodies must be avoided.

Worst case scenario: full sewage truck releases raw sewage onto ground and or into water body and surrounding environment or substantial failure of the sewage lagoon berm that releases the entire contents of the lagoon uncontrolled into the surrounding environment.

4.1.3 Spills on Land prevention:

- Dykes and trenches can be constructed to contain spills on land. Soil surrounding the spill area can be dug out, and piled up to create a barrier for the spill. A plastic tarp can be placed at the base of the dyke, so that the pooled material can be removed with sorbent materials.
- Trenches can be excavated to permafrost, which will provide a natural containment of the spill.
- Once the material is contained, it can be pumped out, or removed by using sorbent materials.

If the spill is moving very slowly, such structures may not be necessary and the material can be removed before migrating away from the spill location

4.1.4 Spills on Water prevention:

Spills on water are considered the most serious types of spills, as there is often no containment of the spilled material and water quality and aquatic life are negatively impacted.

- Booms and weirs can be installed to contain the spill. Booms are designed to float and are made of absorbent material to soak up the spill. Weirs can be installed across a stream to prevent further migration.
- Plywood or other materials found onsite can be used. Barriers made of fence or netting can be used as well with sorbent material placed at the base of the barrier.
- The spill contents can be removed by absorbent materials, pumped out or allowed to volatilize

4.2 Procedure for Restoring affected areas:

Determination of the required level of final clean-up, restoration, and ongoing monitoring will be completed in consultation with or to the satisfaction of the AANDC inspector and Nunavut Water Board. Site specific studies may be required to determine the appropriate final clean-up criteria.

5.0 Spills Response Action Plan:

The Hamlet of Kugluktuk remains responsible for spill response clean up in the event of a spill during the facility operation and running community program. For severe issues and large spill, expert consultation will be required. This plan explains details information and responsive action in the event of a spill for immediate action and follow measures for regulatory reporting.

The following Table summarizes potential discharge events associated to spills with primary hazardous materials stored in Kugluktuk.

List of Hazardous materials, potential discharge events and direction of potential discharge

Materials	Potential discharge	Quantity of potential discharge	Affected facilities and operation
Oil	Spills and drum tips over	unknown	Towards west into Coppermine river from municipal Garage, parking and Maintenance shop.
Gear oil	Drums tips over and spills contents	unknown	Towards west into Coppermine river from municipal Garage.
Antifreeze	Container tips over and spills	unknown	Vehicle servicing
Chlorine solution	Pail tips over and spills locally	12% solution in 20-30 L pails. About 20 pails in storage.	From nearby Water Treatment plant into water source Coppermine river.
Gasoline	Leak in tank or pipe and spills on ground	Unknown	From nearby dispense station and household tanks into river water
Diesel	Leak in tank or pipe and spills on ground	unknown	Power Generation plant very close vicinity to new water treatment plant. Also, sitting on uphill side of the water source river and water storage reservoir. Potential of spill-runoff mixing into river water.
Jet Fuel A-1	Leak in tank or pipe and spills on ground	unknown	Towards south and outside of the community. Possible mixing with Coppermine river water.
Propane	Barbecue tanks leak or tip over	Unknown. Mostly at the Coop and Northern store.	House premise and shop, store & warehouse. Less possibility of mixing into river water

5.1 Procedure for Initial Actions:

In the event of a spill, protection of human health and safety is paramount. Contamination of personnel involved in a clean-up is a real possibility, as is contamination of the surrounding workplace and environment. The individual discovering a spill shall, following list of actions should be followed by the first person on the scene:

- Ensure safety of all personnel.
- Assess the hazards and risks to persons in the vicinity of the spill.
- Identify the product spilled and extend of the spill
- If possible, control the danger to human life effected without further assistance.
- If it is safe to do so, and if possible, stop the spill (i.e. shut off pump, replace cap, etc.).
- Gather information on the status of the situation, including:
- Estimated size of spill and migration route.
- Contact Municipal Supervisor

5.1.1 Procedures for the Protection of Human Health and Safety

Following a spill, the health and safety of workers as well as the general public is a priority

In the event of a sewage spill: Restrict public access (including pets and animals) to the spill area. Workers involved in the clean-up of the spill must be properly trained to deal with the type of spill and must wear appropriate personal protective equipment (PPE).

In the event of oil and gasoline spill: Depending on the location of the spill, a petroleum product spill may result in contaminated soil, snow, ice or water. The contaminated materials must be cleaned up and removed for disposal along with the spilled petroleum product.

In the event of a Petroleum product spill: Petroleum and antifreeze product spills can be handled in the same manner. Refer to WHMIS (Workplace Hazardous Materials Information System) labels and MSDS (material safety data sheets).

5.1.2 Public Notification Procedure

The Contingency Planning and Spill Reporting Regulations for Nunavut require that Spill Contingency Plans include a public reporting procedure used to alert anyone who may be affected by a spill on a case-by-case basis. The Senior Administrative Officer (SAO) and hamlet council decide on the type of public notification procedure that is to be implemented to ensure public health and safety in the case of a spill.

Typically, in the case of a large scale spill that is deemed to have a potential impact on public health and safety, the hamlet will notify local residents verbally and in person, via individual household visits.

In the case of a small spill, where a negative impact on public health and safety is unlikely, the hamlet gives public notice of the spill via the local community radio.

5.2 Spills Response Personnel:

The following Table lists the personnel who will be involved in the spill response and contacted:

Name	Contact Information	24 hours Contact Number
Don LeBlanc	SAO, Hamlet of Kugluktuk, NU	PH: 867-982-6505
George Egotak	Maintenance Foreman	PH: 867-982-3090
Eugene Coady	Transportation Foreman	PH: 867-982-6520

5.2.1 Spills Response Communication Equipment:

The following communication equipment available for Spill responses:

- Telephone with land line
- Computer with internet connection and accessible to Hamlet Office
- Facsimile facilities.

5.3 Spills reporting procedure

Spills should be reported immediately to the Municipal Supervisor, who will notify the SAO. Together they will determine if the spill is to be reported to the 24-Hour Spill Report Line at 867-920-8130.

Copies of the Spill Report Form are available in each spill kit. The Form will be filled out by the Public Works Foreman (or designate) and faxed or emailed to the 24-Hour Spill Report Line. Contact information is as follows:

24-Hour Spill Report Line
Phone: (867) 920-8130, Fax: (867) 873-6924, Email: spills@gov.nt.ca

Environment Canada requires that spills or environmental accidents be reported to the twenty-four (24) hour Spill Report Line. When reporting a spill to the twenty-four (24) Hour Report Line, give as much of the following information as possible:

- Date and time of spill,
- Location of spill,
- Direction spill is moving,
- Name and phone number of a contact person close to the location of spill,
- Type and quantity of contaminant spilled,
- Whether spill is continuing or stopped,
- Actions taken to contain, recover, clean-up and dispose of contaminant,
- Name and phone number of person reporting spill and person in charge of the facility.

The Hamlet must also submit to an Inspector a detailed report on the occurrence within thirty **(30)** days of reporting the event.

5.3.1 Spill Response Contact List

Organization	Contact /Location	contact Number
AANDC Water Resources	Water Resource Officers in Iqaluit	Ph: (867) 975-4295 Ph: (867) 975-4500
Northwest Territories/Nunavut 24 Hour Spill Report Line		Ph: (867) 920-8130 Fax: 867-873-6924 spills@gov.nt.ca
Nunavut Department of Environment Conservation Office		Ph : (867) 983-4164
Environment Canada	Environmental Protection Operations, Environmental Emergencies	Ph: (780) 951-8861
Kitikmeot Inuit Association	Cambridge Bay	Ph: (867) 983-2458
Fisheries Management, Department of Fisheries and Oceans.	Iqaluit	Ph: (867) 979-8000

5.4 Spills Follow-Up Action

After cleaning up spills, other reporting, disposal and follow-up activities may be required. The following measures should be taken if applicable:

- Dispose of chemical, inert absorbent material, and mop-up water as directed by Spill Reporting Line
- Arrange for repair or replacement of chemical containers, pipelines and equipment, if damaged
- Submit a detailed report on the occurrence to an AANDC Inspector, within thirty (30) days of reporting the event.
- For large spills, install wells to monitor the groundwater for signs of contamination as explained in the Subsurface Monitoring Plan. Determine the level of final clean-up in consultation with an AANDC inspector.

5.5 Spill Response Training

Hamlet operations personnel should have up-to-date spill training so they are prepared in the event of a chemical fuel or waste spill. This training will at least include on-the-job training, and may include formal spill training courses and on-site spill training exercises (mock spills). If the Hamlet brings contractors on-site to make modifications to the water and waste facilities, the contractors should be made aware of procedures to be followed in the event of a spill.

Workplace Hazardous Materials Information System (WHMIS) training should be given to employees. WHMIS training is legally required in Canada for all employees who are exposed/likely will be exposed to a hazardous material at the workplace.

6.0 Spill Kit

A spill kit would be in the safe storage & available when required in the event of a spill. The kit includes:

- Heavy-duty gloves
- Safety glasses
- Mop/wringer/spill squeegee
- Shovel/ broom/dustpan
- Chemical spill container with sealable lid
- Sand/kitty litter (absorbent, non-flammable material)

It is recommended that the hamlet retain one spill kit in the community, located at operator working area. The spill kit should contain the following with a 56 Gallon Universal Sorbent:

- (30)–3" x 48" socks
- (6)–3" x 10' socks
- (50)–15" x 17" pads
- (4)–pillows
- (50)–wipers
- (24)–disposal bags and ties
- (5)–tamperproof seals
- (4)–pair nitrile gloves
- (4)-shovels
- (2) Spill signs
- (1)–emergency response guidebook
- (1) Safety and Compliance Directory

6.1 First Aid

The following first aid recommendations relate to spills of sodium hypochlorite. For first aid with other chemicals, follow any chemical-specific instructions or call the twenty-four (24) hour Spill Reporting Line for assistance.

6.1.1 Skin Contact

Immediately flush skin with water for at least twenty (20) minutes while removing all exposed clothing. Get medical attention immediately. Wash all exposed clothing with soap and water and dry before reuse, thoroughly clean exposed shoes.

6.1.2 Inhalation

Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Ensure the person is at rest – no physical exertion. Get medical attention immediately

APPENDIX - A

NT-NU Spill Report Form

Spill Contingency Plan

Hamlet of Kugluktuk

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR	REPORT TIME	☐ ORIGINAL SPILL REPORT, OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____-_____
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME		

C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION	REGION ☐ NWT ☐ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN
E	LATITUDE DEGREES MINUTES SECONDS	LONGITUDE DEGREES MINUTES SECONDS

F	RESPONSIBLE PARTY OR VESSEL NAME	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION	
G	ANY CONTRACTOR INVOLVED	CONTRACTOR ADDRESS OR OFFICE LOCATION	
H	PRODUCT SPILLED	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER
I	SPILL SOURCE	SPILL CAUSE	AREA OF CONTAMINATION IN SQUARE METRES
J	FACTORS AFFECTING SPILL OR RECOVERY	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS		

L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC | SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN | FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			

APPENDIX - B

Materials Safety Data Sheet (Sample)

Spill Contingency Plan
Hamlet of Kugluktuk

HALL CHEM MFG. INC.
1270 rue Nobel
Boucherville Qc J4B 5H1
Tel. : (450) 645-0296
Fax : (450) 645-0444

MATERIAL SAFETY DATA SHEET

EMERGENCY : CANUTEC (613) 996-6666

MSDS : 300-2

PRODUCT IDENTIFICATION AND USE

NAME OF PRODUCT : Propylene glycol
USE OF PRODUCT : solvents, lubricants and antifreeze.

TRANSPORTATION OF DANGEROUS GOODS

SHIPPING NAME :
P.N.I. :
PACKING GROUP :
WHMIS CLASSIFICATION: NOT REGULATED
PRIMARY CLASS : No toxic
SUBSIDIARY CLASS :

COMPONENTS

COMPOSITION	% V/V	CASE #	LD_{50}mg/kg Oral/rat	LC_{50}	TLV ppm 8h
Propylene glycol	99	57-55-6	20 000-34 000		

PHYSICAL CARACTERISTICS

PHYSICAL STATE : Liquid	**APPEARANCE :** Slightly viscous, colorless or custom dyed	**ODOR :** Odorless	**ODORTRESHOLD :** Not available
VAPOR TENSION : 0,08 mmHg (20°C))	**VAPOR DENSITY :** 2,62	**EVAPORATING RATE :** Slight	
BOILING RANGE : 188°C (370°F)	**FREEZING POINT :** <-60°C	**pH :** Not available	
DENSITY : 1,038 at 20°C (68°F)	**DISTRIBUTION FACTOR WATER/OIL :** Not available	**SOLUBILITY IN WATER (25°C) :** 100%	

REACTIVITY DATA

CHEMICAL STABILITY : Stable under normal storage conditions.
INCOMPATIBILITY WITH OTHER PRODUCTS : Avoid heat and severe oxidizing conditions.

REACTIVITY CONDITIONS : No hazardous polymerization.

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EXPLOSION AND FIRE RISKS

FLAMMABILITY :
EXTINGUISHING METHODS : Water fog, alcohol foam, carbon dioxide, dry chemical. Do not use a continuous stream of water because this will be propagate fire.
FLASH POINT : 103°C (218°F) **AUTO-IGNITION TEMPS. :** Not available
FLAMMABILITY (% per volume)
SUPERIOR LIMIT : 12,5 **LOWER LIMIT :** 2,6
HAZARDOUS COMBUSTION PRODUCT : When available oxygen id limited, as in a fire or when heated to very high temperatures by hot wire or plate, propionaldehyde, carbon monoxide, hazardous compounds such as aldehydes, toxic gas and not identified toxic or irritating compounds or the both might be generated.
EXPLOSIBILITY DATA : Not available

TOXICOLOGICAL PROPERTIES

ABSORPTION WAYS			CONTACT	
SKIN √	INHALATION √	INGESTION √	WITH SKIN √	EYES √

EFFECTS OF EXPOSURE TO PRODUCT : Product can irritate mucus glands. High doses can provoke headaches, drowsiness, nausea, dizziness and fainting. Inhalation may aggravate cases of emphysema and bronchitis. Repeated contact with skin provokes irritations, dryness of the skin and cracking of the skin.

PREVENTIVE MEASURES

PROTECTIVE EQUIPMENT : Gloves, security glasses and protective apron.
GLOVES : Impervious
RESPIRATORY SYSTEM : Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations , use an approved air-purifying respirator. In misty atmospheres, use an approved mist respirator.
OCULAR INSTRUMENT : Chemical splash glasses and face shield. For misty operations, wear chemical goggles.
CLOTHING : Impervious apron
TECHNICAL CONTROL : At elevated temperatures, special ventilation may be required even of the flash point has not been exceeded. Flammable mists or aerosols can be generated below the flash point of high boiling liquids. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.
PROCEDURE IN CASE OF LEAKS/SPILLS : Combustible liquid. Spill may contaminate water supplies or pollute public waters. Evacuate and limit access to area. Supply cleanup crew with proper protective equipment. Stop release and prevent flow to sewers or public waters. Notify fire and environmental authorities. Restrict water use for cleanup. This material can create a dangerous slipping hazard on any hard surface. Spread a granular cover

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(such as sand) or provide open grating on walkways. Impound and recover large land spill. Soak up small spills with inert solids and collect in suitable disposal containers. This material is water soluble and may float or sink. Diluted material may biodegrade. Contain and minimize dispersion; collect and contain in suitable disposal containers. Disperse remaining residue to reduce aquatic harm. Report as per regulatory requirements.

WASTE DISPOSAL : Contaminated product, soil, water is potentially combustible. Solids may be landfilled at permitted sites in compliance with federal, provincial, local solid waste regulations. Burn concentrated liquid waste. Avoid flameouts and assure emissions comply with regulations. Dilute aqueous wastes may be biodegradable. Avoid overloading and poisoning plant biomass. Effluent must comply with applicable regulations.

STORAGE AND HANDLING : This product will absorb water if exposed to air (hygroscopic). Store in tightly closed containers away from heat, moisture or strong oxidizing agents. Use dry nitrogen to low dew point air for tank padding. Do not heat higher than 10°C below flash point unless in a closed system away from air. Do not handle near heat, sparks or open flame. Handle empty containers with care as residue can burn if heated. Store in containers lined with stainless steel, aluminum, Plasite 3066 or stainless steel 316

FIRST AID

SKIN : Wash off in flowing water or shower. Wash clothing before re-use. See a doctor if irritation develops or persists.

EYES : Remove contact lenses. Wash with running water for 29 to 30 minutes; lift eyelids often. See a doctor if redness, pain or blinking develops or persists.

INHALATION : Remove to fresh air if effects occur. Give oxygen of artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

INGESTION : If a large quantity is swallowed, induce vomiting. Do not give by mouth to an unconscious person. Seek medical attention.

NOTES TO PHYSICIAN : No specific antidote. Supporting care, treatment based on judgement of the physician on response to reactions of the patient.

INFORMATION ON THE M.S.D.S. PREPARATION

PREPARED BY : **TELEPHONE : (450) 645-0296** **REVISED – January 2012**
Hall Chem Mfg. Inc.

NOTE :

The information in this detailed M.S.D.S. is available on request, for the customer service. It must not be used for any other purpose and its reproduction and/or publication is forbidden without the consent of HALL CHEM MFG. INC. Even though this information is based on reliable sources, HALL CHEM MFG. INC. cannot guarantee its accuracy and formally excludes all explicit guarantee relative to the exactitude of this information or of the results following its application.

APPENDIX - C

Materials Safety Data Sheet (Check list)

Spill Contingency Plan

Hamlet of Kugluktuk

MATERIAL SAFETY DATA SHEET — 16 Sections

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier		[WHMIS Classification]	
Product Use			
Manufacturer's Name		Supplier's Name	
Street Address		Street Address	
City	Province	City	Province
Postal Code	Emergency Telephone	Postal Code	Emergency Telephone
Date MSDS Prepared	MSDS Prepared By	Phone Number	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients ***(specific)***	**%**	**CAS Number**	**LD_{50} of Ingredient** ***(specify species and route)***	**LC_{50} of Ingredient** ***(specify species)***

SECTION 3 — HAZARDS IDENTIFICATION

Route of Entry ❒ Skin Contact ❒ Skin Absorption ❒ Eye Contact ❒ Inhalation ❒ Ingestion
[Emergency Overview]
[WHMIS Symbols]
[Potential Health Effects]

SECTION 4 — FIRST AID MEASURES

Skin Contact
Eye Contact
Inhalation
Ingestion

SAMPLE FORMAT PROVIDED BY THE WORKERS' COMPENSATION BOARD OF BRITISH COLUMBIA

Please continue on reverse side

[*Optional, not required under WHMIS*]

Product Identifier

SECTION 5 — FIRE FIGHTING MEASURES

Flammable ❒ Yes ❒ No	If yes, under which conditions?	
Means of Extinction		
Flashpoint (°C) and Method	Upper Flammable Limit (% by volume)	Lower Flammable Limit (% by volume)
Autoignition Temperature (°C)	Explosion Data — Sensitivity to Impact	Explosion Data — Sensitivity to Static Discharge
Hazardous Combustion Products		
[NFPA]		

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedures

SECTION 7 — HANDLING AND STORAGE

Handling Procedures and Equipment
Storage Requirements

SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits	❒ ACGIH TLV	❒ OSHA PEL	❒ Other *(specify)*			
Specific Engineering Controls *(such as ventilation, enclosed process)*						
Personal Protective Equipment	❒ Gloves	❒ Respirator	❒ Eye	❒ Footwear	❒ Clothing	❒ Other
If checked, please specify type						

[*Optional, not required under WHMIS*]

Product Identifier

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Odour and Appearance	Odour Threshold (ppm)
Specific Gravity	Vapour Density (air = 1)	Vapour Pressure (mmHg)
Evaporation Rate	Boiling Point (°C)	Freezing Point (°C)
pH	Coefficient of Water/Oil Distribution	[Solubility in Water]

SECTION 10 — STABILITY AND REACTIVITY

Chemical Stability ❒ Yes ❒ No	If no, under which conditions?
Incompatibility with Other Substances ❒ Yes ❒ No	If yes, which ones?
Reactivity, and under what conditions?	
Hazardous Decomposition Products	

SECTION 11 — TOXICOLOGICAL INFORMATION

Effects of Acute Exposure	
Effects of Chronic Exposure	
Irritancy of Product	
Skin Sensitization	Respiratory Sensitization
Carcinogenicity – IARC	Carcinogenicity – ACGIH
Reproductive Toxicity	Teratogenicity
Embryotoxicity	Mutagenicity
Name of Synergistic Products/Effects	

[*Optional, not required under WHMIS*]

Please continue on reverse side

Product Identifier

SECTION 12 — ECOLOGICAL INFORMATION

[Aquatic Toxicity]

SECTION 13 — DISPOSAL CONSIDERATIONS

Waste Disposal

SECTION 14 — TRANSPORT INFORMATION

Special Shipping Information	
	PIN
TDG	[DOT]
[IMO]	[ICAO]

SECTION 15 — REGULATORY INFORMATION

[WHMIS Classification]	[OSHA]
[SERA]	[TSCA]

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by CPR.

SECTION 16 — OTHER INFORMATION

9-SECTION MSDS CHECKLIST

Review of 54 Items Required by Controlled Products Regulations (Schedule I)

Product Name: _____

☒ Missing or incorrect information [WHMIS Class(es)]:

[ ] Optional Information

INFORMATION TO BE DISCLOSED ON AN MSDS					COMMENTS
1. Hazardous Ingredients (specific)					
Hazardous Ingredients	%	CAS#	LD_{50}	LC_{50}	
❑					
❑					
❑					
❑					
❑					
2. Preparation Information					
❑ Name and phone number of the preparer					
❑ Date of preparation					
3. Product Information					
❑ Manufacturer's name, street address, city, province, postal code, emergency telephone number					
❑ Supplier identifier, supplier's street address, city, province, postal code and emergency telephone number					
❑ Product identifier					
❑ Product use					
4. Physical Data					
❑ Physical state (gas, liquid, solid or other – specify)					
❑ Odour and appearance					
❑ Odour threshold (ppm)					
❑ Specific gravity					
❑ Vapour density (air = 1)					
❑ Vapour pressure (mmHg)					
❑ Evaporation rate					
❑ Boiling point (^oC)					
❑ Freezing point (^oC)					
❑ pH (specify value)					
❑ Coefficient of water/oil distribution					

5. Fire or Explosion Hazard		COMMENTS
❑ Conditions of flammability		
❑ Means of extinction		
❑ Flashpoint (^{o}C) and methods of determination (open cup or closed cup)		
❑ Upper flammable limit (% by volume)		
❑ Lower flammable limit (% by volume)		
❑ Autoignition temperature (^{o}C)		
❑ Hazardous combustion products		
❑ Explosion data – sensitivity to mechanical impact		
❑ Explosion data – sensitivity to static discharge		
6. Reactivity Data		
❑ Conditions under which the product is chemically unstable		
❑ Name of any substance or class of substance with which the product is incompatible		
❑ Conditions of reactivity		
❑ Hazardous decomposition products		
7. Toxicological Properties		
Route of entry: ❑ skin contact ❑ skin absorption ❑ eye contact ❑ inhalation ❑ ingestion		
❑ Effects of acute exposure to product		
❑ Effects of chronic exposure to product		
Exposure limits	Value (Date)	
❑ ACGIH		
❑ OSHA		
❑ Other		
❑ Irritancy of product		
❑ Sensitization of product		

Toxicological Properties continued…	COMMENTS
❑ Carcinogenicity ❑ IARC (1, 2A or 2B) ❑ ACGIH (A1, A2 or A3)	
❑ Reproductive toxicity	
❑ Teratogenicity	
❑ Mutagenicity	
❑ Name of toxicologically synergistic products	
8. Preventive Measures	
Specific personal protective equipment: ❑ Respirator ❑ Gloves ❑ Eye protection ❑ Clothing ❑ Other	
Specific engineering controls to be used ❑ General ❑ Local exhaust ❑ Other (specify)	
❑ Procedures to be followed in case of leak or spill	
❑ Waste disposal	
❑ Handling procedures and equipment	
❑ Storage requirement	
❑ Special shipping information ❑ PIN	
9. First Aid Measures	
Specific First Aid Measures ❑ Inhalation	
❑ Eye Contact	
❑ Skin Contact	
❑ Ingestion	

APPENDIX - D

Training on PPE and Reporting

Spill Contingency Plan

Hamlet of Kugluktuk

Personal Protective Equipment (PPE) Meeting Record

Company: _____ **Department:** _____

Date: _____ **Time:** _____ **Presenter(s):** _____

PPE topic(s):

☐ Eye and face protection ☐ Fall protection ☐ High visibility garments ☐ Hand protection ☐ Head protection
☐ Hearing protection ☐ Foot protection ☐ Limb and body protection ☐ Personal flotation devices ☐ Respirators

Record of those attending:

Name: (please print)	Signature:
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
15.	

Absent:

1.	3.
2.	4.

Comments/suggestions/action items (Presenter[s] to complete):

_____

_____

_____

_____

_____

_____

Manager/Supervisor: _____ **Date:** _____

(signature)