Contingency Plan

Coppermine River/Dismal Lake Area, Nunavut
Diamond Drilling Program

Coronation Minerals
Suite 301 141 Adelaide St West
Toronto On M5H 3L5

Phone: 520 240 5306
Fax: 520 733 9720
Email: jadefalcon@golden.net

Table of Contents

1.0 Introduction

This plan has been developed as part of a commitment by Coronatyion Minerals to minimize any detrimental effect its operations may have on the environment. The focus of the plan will be on the exploration camp diamond drilling operation.

The plan is designed to combat spills on land and/or into watercourses.

As the need arises Bayswater may enter into agreements for the sharing of expertise and equipment with other companies, municipalities and resource agencies.

The Plan will be updated and revised as required.

1.1 Project Location

The Boundaries of the project area are shown in Figure 1.

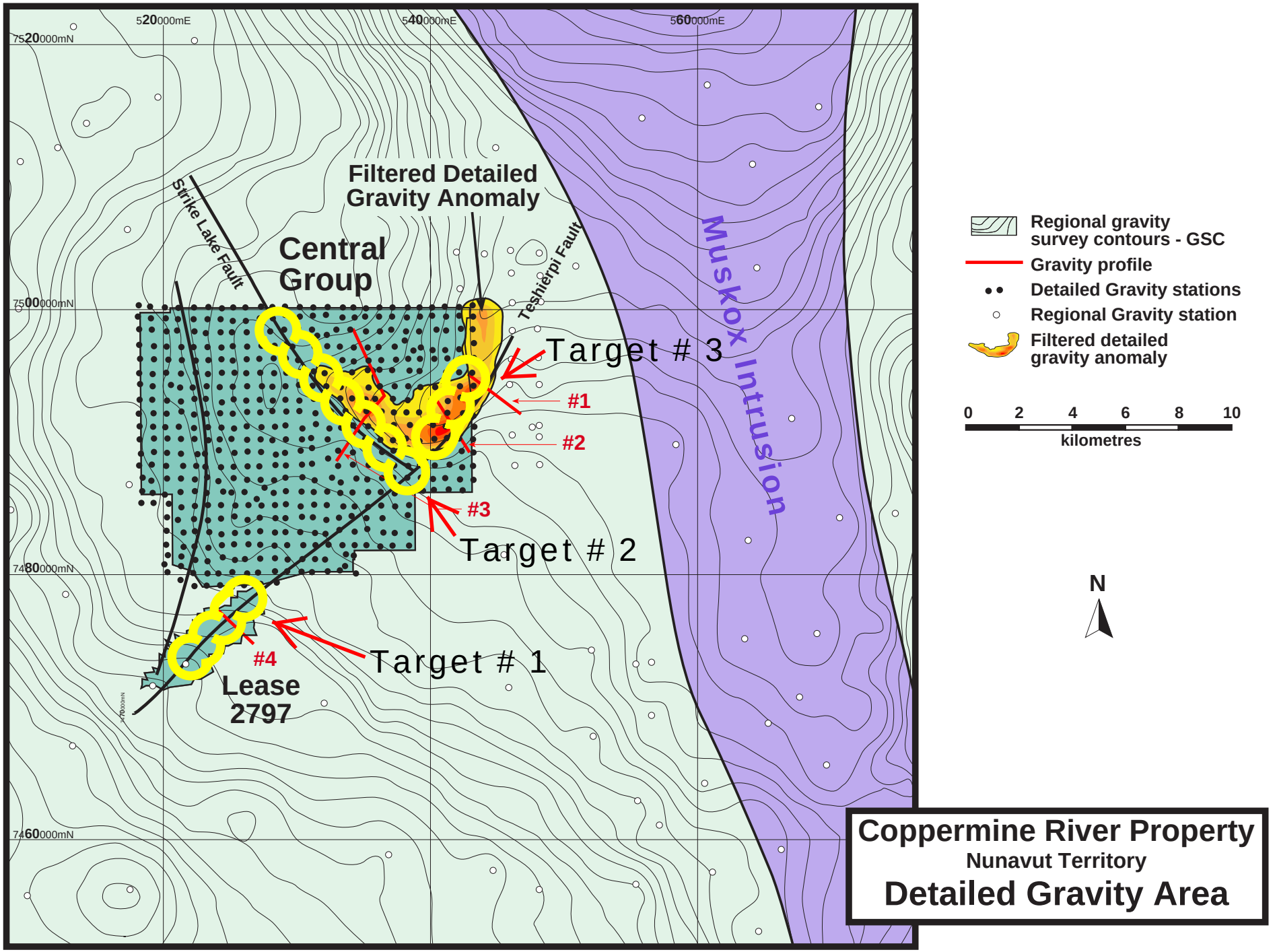
NW corner	67 ^{o} 38.8’	116 ^{o} 34.6’
SE Corner	67^{o} 17.7’N	116 ^{o} 03’W

The mineral claims and leases that are covered are:

Claim Number	Claim Name	Status	Owner 1	Owner 2
F70634	TK 14	LAPSED	Calhoun	Rory
F70629	TK 9	LAPSED	Calhoun	Rory
F70626	TK 6	LAPSED	Calhoun	Rory
F70633	TK 13	LAPSED	Calhoun	Rory
F70630	TK 10	LAPSED	Calhoun	Rory
F70625	TK 5	LAPSED	Calhoun	Rory
F70624	TK 4	LAPSED	Calhoun	Rory
F70631	TK 11	LAPSED	Calhoun	Rory
F70632	TK 12	LAPSED	Calhoun	Rory
F70623	TK 3	LAPSED	Calhoun	Rory
F70622	TK 2	LAPSED	Calhoun	Rory
F70621	TK 1	LAPSED	Calhoun	Rory
F97941	RC 1	ACTIVE	Calhoun	Rory
F97942	RC 2	ACTIVE	Calhoun	Rory
F97943	RC 3	ACTIVE	Calhoun	Rory
F97944	RC 4	ACTIVE	Calhoun	Rory
F97945	RC 5	ACTIVE	Calhoun	Rory
F97946	RC 6	ACTIVE	Calhoun	Rory
F97947	RC 7	ACTIVE	Calhoun	Rory
F97948	RC 8	ACTIVE	Calhoun	Rory
F97949	RC 9	ACTIVE	Calhoun	Rory

F97950	RC 10	ACTIVE	Calhoun	Rory
F97951	RC 11	ACTIVE	Calhoun	Rory
F97952	RC 12	ACTIVE	Calhoun	Rory
F97953	RC 13	ACTIVE	Calhoun	Rory
F97954	RC 14	ACTIVE	Calhoun	Rory
F97959	RC 19	ACTIVE	Calhoun	Rory
F97957	RC 17	ACTIVE	Calhoun	Rory
F97963	RC 23	ACTIVE	Calhoun	Rory
F97964	RC 24	ACTIVE	Calhoun	Rory
F97965	RC 25	ACTIVE	Calhoun	Rory
F97966	RC 26	ACTIVE	Calhoun	Rory
F97967	RC 27	ACTIVE	Calhoun	Rory
F97962	RC 22	ACTIVE	Calhoun	Rory
F97956	RC 16	ACTIVE	Calhoun	Rory
F97955	RC 15	ACTIVE	Calhoun	Rory
F97961	RC 21	ACTIVE	Calhoun	Rory
F97968	RC 28	ACTIVE	Calhoun	Rory
F98041	RC-102	PENDING	Ollerhead and Associates Ltd.	
F98042	RC-103	PENDING	Ollerhead and Associates Ltd.	
F98039	RC-100	PENDING	Ollerhead and Associates Ltd.	
F98040	RC-101	PENDING	Ollerhead and Associates Ltd.	
Mineral Lease	2797	Active	Coppermine River Ltd.	

Figure 1: General Project location map and drill targets.


520000mE
540000mE
560000mE
7520000mN
7500000mN
7480000mN
7460000mN
Filtered Detailed
Gravity Anomaly
Central
Group
Strike Lake Fault
Teshierpi Fault
Muskox Intrusion
Target # 3
#1
#2
#3
Target # 2
#4
Target # 1
Lease
2797
Regional gravity
survey contours - GSC
Gravity profile
Detailed Gravity stations
Regional Gravity station
Filtered detailed
gravity anomaly
0 2 4 6 8 10
kilometres
N
Coppermine River Property
Nunavut Territory
Detailed Gravity Area

2.0 Reporting Procedures

ORGANIZATION AND RESPONSIBILITIES

The overall responsibility for the contingency plan lies with:

Coronation Minerals
Suite 301 141 Adelaide St West
Toronto On M5H 3L5

Phone: 520 240 5306
Fax: 520 733 9720
Email: jadefalcon@golden.net

The onsite responsibility for the plan lies with the Coronation Minerals Project Manager **Rory Calhoun** who will be the On-site Coordinator (OSC). The camp, which will be operated by and under permit to Matrix Aviation Solutions Inc. will have a satellite phone. The number will be supplied when it is installed.

Contractors, sub-contractors and suppliers will provide assistance in all phases of a clean up as directed by the OSC. In the event that a contractor, sub-contractor or supplier or their employees causes a spill, Coronation Minerals will charge clean-up and disposal expenses to the responsible party. The OSC will:

1. Be familiar with fuel spill procedures, equipment and contact numbers.
2. Provide liaison with Territorial Government Emergency Programs, Ministry of Environment and Department of Fisheries personnel where applicable.
3. Direct the actions of personnel during clean-up operations.
4. Familiarize key personnel with fuel spill equipment and procedures.
5. Prepare a report on all aspects of any spill.

3.0 Site Information

Fuel	Number of Containers and Capacity	Total Fuel	Purpose
Diesel	400 barrels (205 liters each)	82,000 liters	Diamond Drills, heating and generator
Gasoline	10 barrels (205	10,500 liters	ATV, pumps

	liters/barrel)		
Jet B	400 barrels (205 liters/barrel)	82,000 liters	Helicopter
Propane	20 bottles (45 kg/bottle)	900 kgs	Cooking

4.0 Failure Prevention

The system components where spills are most likely to occur are:

Petroleum Products and Other Fuels

- Drummed product: Leaks or ruptures may occur. This includes drums of Diesel, Jet B, Waste Fuel, and Waste Oil.
- Fuel cylinders: Propane, leaks may occur at the valves. All cylinders are secured at all times.
- Vehicles and equipment: Wheeled vehicles and equipment, aircraft (fixed and rotary wing), generators, pumps. Incidents involving leaking or dripping fuels and oils may occur due to malfunctions, impact damage, and lack of regular maintenance, improper storage, or faulty operation.

The risk of spills will be reduced through regular inspection and maintenance of all storage areas and equipment associated with fuel handling in accordance with recognized and accepted standard practices at all Coronation Minerals projects. These include:

- Fuel caches in excess of 10 drums should be inspected daily.
- All fuel storage containers will be situated in a manner that allows easy access and removal of containers in the event of leaks or spills.
- Routine checks of fuel transfer hoses and cam lock.
- Carefully monitor fuel content in the receiving vessel during transfer.
- Cleaning up drips and minor spills immediately.
- Waste tracking, or "manifesting," will be implemented to ensure proper use, storage, and management of materials. Manifests provide detailed information to first responders in the event of an accident and serve as a tool for confirming that shipments of dangerous or hazardous waste are properly handled, transported, and disposed of.
- Training personnel, especially those who will be operators, in proper fuel handling and spill response procedures.

A record of these inspections and any remedial action will be maintained in camp.

Spill response training is provided to personnel who handle fuels and other petroleum products, and at least one emergency response drill will be held during the season. A report will be prepared by the response coordinator following each drill, noting response time, personnel involved and any problems or deficiencies encountered. This report will be used to evaluate emergency response capability and remedy any deficiencies if required.

A 45 gallon spill kit will be positioned at each of the diamond drill. A 45 gallon spill kit will be placed in the area of the fuel storage for any major events.

5.0 Response Action

Discovery of a fuel spill

Upon discovery of a spill personnel will immediately
a) identify the product that is spilling, or has spilled;
b) assess immediate hazards, and ensure all on-site persons are aware of them;
c) secure the site, and,
d) commence initial notification of appropriate personnel and agencies.

Identification/Assessment of spill

This step is critical to ensure the safety of responders, and to minimize the impact to the environment. The assessment should include:
a) reassess the material spilled and quantity spilled;
b) reassess any immediate hazards;
c) identify all the safety issues that need to be dealt with before taking action. These include ignition sources, protective clothing and public safety.
e) Refer to Material Safety Data Sheets for product identification and handling.

Notification

The On Site Coordinator will take note of the following information from the discoverer of the spill:

a) discoverer's name
b) time and location of the spill;
c) material spilled and approximates quantity;
d) cause of spill if known;
c) weather conditions;
f) action taken so far',
g) immediate serious threats (water courses, fire)

The OSC will then make the following contacts:

1. Immediately notify the Coronation Minerals corporate office
2. The 24 Hour SPILL LINE DIAND:
    a. **Spill Line Tel.1-867-920-8130, fax. 1-867-873-6924.**
    b. **Environment Canada – 24 hr. emergency pager 867-766-3737**

c. Peter Kusugak, District Manager, Nunavut Field Operations, INAC (867) 975-4295

3. The Nunavut Spill Report Form is filled out as completely as soon as possible before or immediately after contacting the 24 Hour Spill Line.
4. Other members of the response team are notified as deemed necessary
5. Other contacts for spill response/assistance as necessary

The Contact list for this project is as follows:

Organization	**Personnel**	**Telephone Number**
Coronation Minerals	Rory Cahloun	Telephone: (604) 687-2153 Fax: (604) 669-8336
	Marnie Muirhead, Project Manager	Telephone: (604) 684-9066 Fax: (604) 684-9068
Nunavut 24-Hour Spill Report Line		**867.920.8130**
Environment Canada	Jim Nobel, Environmental Enforcement Officer	867 975 4644 867 920 5131 (Pager)
Government of Nunavut	Department of Environment	867.975.5900
	Manager Pollution Control and Air Quality	867.975.5907
Indian and Northern Affairs Canada	Peter Kusugak District Manager, Indian and Northern Affairs, Nunavut Field Operations, Iqaluit, Nunavut	(867) 975-4295
	Andrew Keim, Water Resources Manager	(867) 975-4289
	Baba Pedersen,; Resource Managment Officer – Kitikmeot	(867) 982-4306
RCMP		867.982-0123
Kivalliq Inuit Association		867.982-3310
Nunavut Water Board		867.630.6338

Action

This part of the plan will reconfirm steps that need to be followed when taking action. The person who takes charge is responsible and should:

i) ensure the use of trained personnel is prioritized when possible;
ii) brief responders on safety issues, first aid procedures for material involved;
iii) secure the site from access;
iv) ensure responders are wearing appropriate protective equipment;
v) eliminate all sources of ignition;
vi) stop the source of the spill or contamination
vii) remain at the scene and use every effort to contain the spill until such time as help arrives. This would include the arrival of the OSC, or agency of authority.

Procedure for Spills on Rock

For hydrocarbon spills on rock outcrops, boulder fields, etc.:

1. First responder or his designate obtains plastic tarp(s) and absorbent sheeting on-site.
2. A berm of peat, native soil or snow is constructed down slope of the seepage or spill. the tarp is placed in such a way that the fuel can pool for collection and removal (e.g. at the foot of the berm). If there is a large volume of spilled product, pump the liquid into spare empty drums for sealing and disposal.
3. Absorbent sheeting is placed on the rock to soak up spilled oil, fuel, etc.
4. Multi Sorb (crushed lava rock) can be used to scrub the rock surface.
5. Saturated material is disposed of in an empty drum, which is then labeled and sealed. Alternatively, the pads may be wrung out into the empty drum(s), the drums marked and then secured for eventual disposal.
6. Depending on the nature and volume of the spill, the 24-Hour Spill Line may be contacted after Step 4 or Step 5.

Procedure for Spills on Land

1. First responder or his designate obtains plastic tarp(s), absorbent sheeting, Multi Sorb or other ultra-dry absorbent and any other necessary spill containment equipment, pump, hoses, etc.
2. A berm of peat, native soil or snow is constructed down slope of the seepage or spill. The tarp is placed in such away that the fuel can pool for collection and removal (e.g. at the foot of the berm).
3. If there is a large volume of spilled product, pump the liquid into spare empty drums, and dispose of product as advised by the 24-Hour Spill Line.
4. Applying a thin dusting of Multi Sorb or other ultra-dry absorbent to the groundcover may control petroleum-product sheen on vegetation.
5. Contact the 24-Hour Spill Line. Receive instructions from the appropriate contact agencies listed in Section 5.4 regarding collection of the contaminated soil or vegetation, its removal and site cleanup/restoration.

Fuel Spills on Water

It is important to immediately limit the extent of spills. The following procedure is to be implemented when an incident occurs:

1. If the spill is small, deploy hydrophobic (water repellent) absorbent pads on the water. Hydrophobic pads readily absorb hydrocarbons. Alternatively, an ultra-dry absorbent designed for use on water-based spills may be deployed.
2. If the spill is larger, ready several empty drums to act as refuge containers for the spill.
3. Deploy containment booms on the water surface to "fence in" the spill area gradually and to prevent it from spreading. Keep in mind those environmental factors such as high winds and wave action can adversely affect attempts at spill cleanup. Absorbent booms can then be deployed to encircle and then absorb any hydrocarbon spillage that may have escaped the containment boom.
4. Once a boom has been secured, a skimmer may be brought on-scene to aid in capture of the hydrocarbon; once captured, the product should be pumped to the empty fuel drums and held for disposal.
5. As soon as possible either during or after the incident, contact the 24-Hour Spill Line. (This will ensure government agencies are informed).

Fuel spills on Snow and Ice

By its nature, snow is an absorbent, and fuel spilled on snow is collected with relative ease, either by shovel, in the case of small-range spills, and by loader, in the case of more extensive spills.

1. Assess the nature of the spill. Necessary equipment might include shovels, plastic tarp(s, empty drums, and wheeled equipment.
2. Shovel or scrape contaminated snow and deposit in empty refuge drums. If the spill is more extensive, build peat-bale berms or compacted snow berms with plastic over top, around the affected area.
3. Either during or immediately after the accident, notify the 24-Hour Spill Line. Receive instructions on the preferred disposal method (e.g. storage in sealed drums, incineration or deposit in a designated lined containment area on land) from the appropriate contact agencies.

Procedure for spills on Ice

Spills on ice are handled in similar fashion as those on snow. However, as ice presents the added danger of immediate access to water, care must be taken to respond quickly to such spills. Should fuel seep or flow through cracks or breaks in the ice, despite all precautions, assistance should besought immediately.

.

1. Construct a compacted-snow berm around the edge of the spill area.
2. Although hard ice will retard or prevent fuel entry to the receiving waters below, all

contaminated snow and ice, as well as objects embedded in the ice (such as gravel or frozen absorbent pads) must be scraped from the ice surface and disposed of in an appropriated manner. Contact the 24-Hour Spill Line. Receive disposal instructions (e.g. sealing in drums, burn off, etc.) from the appropriate contact agencies.

Procedure for Loss of External Load

The loss of external loads of fuel, oil, or chemicals from aircraft almost certainly results in complete and catastrophic failure of the container that once held the product. Immediate response is imperative.

1. Mark the loss target with GPS coordinates and relay to camp or base ASAP.
2. Describe quantity and type of load loss.
3. Base or camp will contact 24 Hour Spill Line, and receive direction and instruction. Administer the appropriate procedure for Spills on Land, Water , Snow, or Ice

6.0 SPILL RESPONSE EQUIPMENT AND SUPPLIES INVENTORY

Spill Kits and Absorbent Material

The basis of the spill response will be two 206-litres heavy duty polyethylene overpack containers which are available commercially pre-packed with an assortment of petroleum absorbent materials. A separate chest of additional absorbent materials and empty labeled chests to contain the materials from the overpacks should they be used will make the petroleum absorbent component of the spill response equipment. The kit contains:

- 150 absorbent pads – 16” x 20”
- 2 absorbent booms - 5" x 120"
- 8 absorbent socks - 3" x 48"
- 4 six mil clear disposal bags
- 1 pairs of safety goggles
- 1 pairs of nitrile gloves
- 1 Tyvek suit
- Instructions

Fuel Transfer Pumps

Dedicated manual fuel transfer pumps for each type of liquid fuel will be stationed in close proximity to each site where that fuel is stored.

Fire Extinguishers

Fire extinguishers of the proper type, size and number will be stationed in each building and near each site where equipment is normally serviced (including fuelling) and anywhere

else it is deemed advisable.

Hand Tools

A full complement of shovels, scoops, and grub hoes or pulaskis will be stationed around camp (typically one shovel and/or scoop at each door to a building); a dedicated set of these tools will be stationed with the chest of absorbent materials at the powerhouse/workshop.

Containers For Storage Of Spilled And Contaminated Materials

A supply of 20-litres polyethylene pails and heavy polyethylene sample bags will be reserved for the collection and storage of used absorbent materials and acid neutralizer.

All-Terrain Vehicle And Trailer

A small ATV and trailer with a load capacity of 450 kilograms will be situated in camp for general purposes and will be dedicated to assisting in any spill response as deemed suitable

7.0 Training Exercises

All members of the Response Team will be familiar with the spill response resources at hand, this Contingency Plan, and appropriate spill response methods. This familiarity will be acquired through:

1. Initial or refresher training, as appropriate, provided once per season.
2. Regular inventory updates are provided in list form to all team members. Information to be reported includes listing of all resources, number of items, their location, condition, date of last inspection and any special comments (such as expiry dates, under whose authority they may be accessed and special handling instructions).

Practice Drills

Coreonation Minerals is aware that without practice, no Contingency Plan has value. At least one practice drill will be held per season to give personnel a chance to practice emergency response skills. Each practice will be evaluated and a report prepared with the objective of learning where gaps and deficiencies (either in skills or physical resources) exist, and in what areas more practice is required.

Appendix 1 –MSDS Sheets

SINCLAIR
MATERIAL SAFETY DATA SHEET
SINCLAIR DIESEL MSDS No. 58

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name (Used on Label): Diesel
Description: Diesel
Synonyms: Diesel, Distillate, Cycle Oil, Fuel Oil, Diesels Cycle Oil, Furnace Oil
Chemical Family: Liquid Hydrocarbons

EMERGENCY TELEPHONE: CHEMTREC - (800) 424-9300 or (703) 527-3887 (collect)
SUPPLIER: Sinclair Oil Corporation
P. O. Box 30825
Salt Lake City, Utah 84130
TELEPHONE: (888) 340-3466
FAX: (801) 524-2740

2. COMPOSITION, INFORMATION ON INGREDIENTS

CAS Registry Number: #1 Diesel 8008-20-6
#2 Diesel 68476-34-6

COMPOSITION COMMENTS:

	Typical wt.%	CAS Registry #
#1 Diesel		
Toluene	0-0.5	108-88-3
Naphthalene	0-0.5	91-20-3
#2 Diesel		
Toluene	0-0.5	108-88-3
Naphthalene	0-0.5	91-20-3

EXPOSURE GUIDELINES:

	OSHA		ACGIH			
COMPONENTS	TWA	STEL	CEILING	TWA	STEL	UNIT
Toluene	200		300			ppm
Naphthalene	10			10	15	ppm
Petroleum Distillates (Naphtha)	500					ppm

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Colorless, red, blue, or amber liquid with kerosene odor. May cause eye, skin and respiratory tract irritation.

POTENTIAL HEALTH EFFECTS:

Trauma and burns secondary to explosions and fires can result. In enclosed spaces, oxygen may be displaced by vapors or consumed by combustion. Incomplete combustion will produce carbon monoxide and other toxic gases.

INHALATION:

Overexposure may cause weakness, headache, nausea, confusion, blurred vision, drowsiness and other central nervous system effects.

EYE CONTACT:

Contact may cause eye irritation. Naphthalene vapor causes eye irritation.

SKIN CONTACT:

Contact may irritate or burn skin. Absorption through the skin may cause symptoms of intoxication, followed by kidney damage.

INGESTION:

If aspirated (liquid enters lung) following ingestion, severe lung irritation and pulmonary edema (swelling of lung tissue) may occur. Aspiration may also result in central nervous system depression or excitement. Serious permanent lung damage may result. Nausea, vomiting, diarrhea, and abdominal pain may occur following ingestion.

4. FIRST AID MEASURES

Remove all clothing impregnated with material immediately. Consult a physician for major exposures of inhalation or skin contact.

INHALATION:

Remove from further exposure. If unconsciousness occurs, seek immediate medical assistance. If breathing stops, use mouth-to-mouth resuscitation.

EYE CONTACT:

Flush immediately with water for at least 15 minutes minimum. Seek medical attention promptly.

SKIN CONTACT:
Discard contaminated leather articles. Wash contact areas with soap and water. Launder contaminated clothing before reuse.

INGESTION:
DO NOT INDUCE VOMITING. Get medical assistance promptly. (Note to physician: Material if aspirated into the lungs may cause chemical pneumonitis. Treat appropriately.)

5. FIRE FIGHTING MEASURES

Flashpoint and Method:	100^{o} F Minimum
Flammable Limits:	LEL - 1.3 UEL - 6
Autoignition Temperature:	490^{0} - 545^{o} F

GENERAL HAZARD:
Incomplete burning can produce carbon monoxide. Vapors will be released above flash point and when mixed with air, can burn or explode in confined space if exposed to sources of ignition.

FIRE FIGHTING INSTRUCTIONS:
Use foam, dry chemical, CO_2, water fog or vaporizing liquid (Halon). Keep personnel removed from and up-wind of fire. Cool adjacent structures and storage drums with water spray. Evacuate area. Prevent runoff from fire control dilution from entering streams or drinking water supply.

FIRE FIGHTING EQUIPMENT:
Use of SCBA in enclosed or confined spaces, or as otherwise needed. Bunker gear.

HAZARDOUS COMBUSTION PRODUCTS:
May produce carbon monoxide.

6. ACCIDENTAL RELEASE MEASURES

LAND SPILL:

Shut off and eliminate all ignition sources. Keep people away. Remove leaking containers to a safe area. Contain and remove by mechanical means. Add sand, earth or other suitable absorbent to spill area than scrape off the ground. Guard against contamination of water supplies. Report spills to appropriate authorities. Dispose of in accordance with Federal, State and Local regulations.

WATER SPILL:

Spill may be removed from water with mechanical dredges or lifts. Report spills to appropriate authorities. Dispose of in accordance with Federal, State and Local regulations.

7. HANDLING AND STORAGE

GENERAL:

Ground and bond all transfer and storage equipment. Drums must be grounded/ bonded/ equipped with self- closing valves, pressure vacuum bungs and flame arrestors. Store away from ignition sources in a cool area. Outside or detached storage is preferred.

When handling use non-sparking tools and equipment. Do not use as a cleaner or solvent, use only as fuel. Do not siphon by mouth.

8. ENGINEERING CONTROLS, RESPIRATORY & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide ventilation sufficient to prevent exceeding recommended exposure limit or build-up of explosive concentrations of vapor in air. Use explosion-proof equipment.

PERSONAL PROTECTION:

RESPIRATOR:

Approved respiratory protection must be used when vapors or mist concentrations are unknown or exceed the TLV. Avoid prolonged or repeated breathing of vapor or mists.

PROTECTIVE CLOTHING:

Use full-face shield, chemical goggles, impervious gloves, boots and whole body protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure: < 1 PSIA	Vapor Density: >1
Specific Gravity: 0.75 - 0.90	(Air = 1)
Solubility in Water: No	Freezing Point: 0^{o} F
pH: N/A	Appearance: colorless, red, blue or amber
Boiling Point: 550^{o} F	Physical State: Liquid

10. STABILITY AND REACTIVITY

GENERAL:
This product is stable.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:
Strong acids, alkalies and oxidizers. Avoid heat, sparks, flame and static electricity.

HAZARDOUS DECOMPOSITION:
Incomplete burning can produce carbon monoxide**GENERAL:**

11. TOXICOLOGICAL INFORMATION

SYSTEMIC:
Petroleum-derived fuels and fuel oils are complex and variable mixtures of hydrocarbons. In general, the more viscous the mixture, the less toxic it will be. At high level exposures, humans experience multiple organ failures, some of which may be due to hypoxia and secondary to the failure of other organ systems. In humans kidney failure has been noted only at high, acute levels of exposures, and appears reversible. Liver enzymes may be transiently elevated. At lower level exposures, most acute health effects are reversible. People can be exposed by inhalation, ingestion and dermal contact. Frequently, people are exposed by combined dermal and inhalation exposure.

ACUTE:
Inhalation: Headaches, confusion, disorientation, blurred vision occur with inhalation. Higher exposures may cause hallucinations, CNS excitation, drowsiness, CNS depression. Seizure and coma occur from very high exposures and death may result from respiratory depression. ECG changes, cardiac arrhythmias, tachycardia, shock and cardiovascular collapse can occur. Pneumonia, pulmonary edema and hemorrhages can occur.

Inhalation of 8000-16000 mg/m3 for 2 to 4 hours was lethal to rats.

Ingestion: Central nervous system, cardiovascular, and respiratory effects have been reported with acute exposures to various hydrocarbon fuels and oils similar to those reported with inhalation. Nausea, vomiting, cramping and diarrhea may occur.

Eye: Conjunctivitis and burning, watery eyes have been reported in acute exposures to various hydrocarbon fuels and oils.

Skin: Mild erythema to full thickness chemical burns have occurred after prolonged exposure to various hydrocarbon fuels and oils.

Chronic:
Chronic dermatitis with acanthosis, inflammation, parakeratosis and hyperkeratosis have occurred with chronic exposures to various hydrocarbon fuels and oils.
Occupational exposures in petroleum refining are considered Group 2A (probably carcinogenic) by IARC.

12. DISPOSAL CONSIDERATIONS

RCRA: Disposal of this product or material contaminated with this product may be regulated by RCRA due to the characteristic of ignitability.

EPA Hazard Class: Acute Hazard/Chronic Hazard/Fire Hazard

Dispose of in accordance with Federal, State, and Local regulations.

13.TRANSPORT INFORMATION

DOT (Department of Transportation):

PROPER SHIPPING NAME:	Combustible Liquid nos (Diesel #1, Diesel #2)
HAZARD CLASS:	Combustible Liquid
IDENTIFICATION NUMBER:	UN 1993 PG III
NAERG96 NUMBER:	128

14. REGULATORYINFORMATION

CERCLA (Comprehensive Environmental Response Compensation, and Liability Act):
Naphthalene and Toluene are hazardous substances under CERCLA and therefore are subject to emergency notification requirements.

SARA TITLE III (Superfund Amendments and Reauthorization Act): Naphthalene and Toluene are subject to SARA Title III, Sections 311 and 312, which require MSDS reporting and hazardous chemical inventory reporting.

Naphthalene and Toluene are also subject to SARA Title III, Section 313, which requires chemical release reporting.

15.OTHER INFORMATION

NFPA 704/HMIS

Health - 0 Flammability - 2 Reactivity - 0
(0=insignificant, 1=slight, 2=moderate, 3=high, 4=extreme)

REVISION SUMMARY:
Complete review of MSDS, December 2002.

THIS PRODUCT MATERIAL SAFETY DATA SHEET PROVIDES HEALTH AND SAFETY INFORMATION. THE PRODUCT SHOULD BE USED IN APPLICATIONS CONSISTENT WITH THIS PRODUCT LITERATURE. FOR ANY OTHER USES, EXPOSURES SHOULD BE EVALUATED SO THAT APPROPRIATE HANDLING PRACTICES AND TRAINING PROGRAMS CAN BE ESTABLISHED TO ENSURE SAFE WORKPLACE OPERATIONS

THIS MATERIAL SAFETY DATA SHEET IS PROVIDED IN GOOD FAITH AND MEETS THE REQUIREMENTS OF THE HAZARDOUS COMMUNICATION PROVISIONS OF SARA TITLE III AND 29CFR1910.1200(g) OF THE OSHA REGULATIONS. THE ABOVE INFORMATION IS BASED ON REVIEW OF AVAILABLE INFORMATION SINCLAIR BELIEVES IS RELIABLE AND IS SUPPLIED FOR INFORMATIONAL PURPOSES ONLY. SINCLAIR DOES NOT GUARANTEE ITS COMPLETENESS OR ACCURACY. SINCE CONDITIONS OF USE ARE OUTSIDE THE CONTROL OF SINCLAIR, SINCLAIR DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, AND ANY LIABILITY FOR DAMAGE OR INJURY WHICH RESULTS FROM THE USE OF THE ABOVE DATA. NOTHING HEREIN IS INTENDED TO PERMIT INFRINGEMENT OF VALID PATENTS AND LICENSES.

DATE: **July 2004**
SUPERSEDES: **July 2003**

Shell Canada Limited

Material Safety Data Sheet

Effective Date: 2002-08-14
Supersedes: 2001-01-08

Class B2 Flammable Liquid

Class D2B Other Toxic Effects - Skin Irritant

Class D2A Other Toxic Effects - Carcinogen

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:	**SHELL JET B WITH ANTI-ICING ADDITIVE**
SYNONYMS:	WIDE BOILING RANGE AVIATION TURBINE FUEL PLUS ANTI ICING ADDITIVE
PRODUCT USE:	Fuel
MSDS Number:	141-020

MANUFACTURER	**TELEPHONE NUMBERS**	
Shell Canada Limited	**Shell Emergency Number**	1-800-661-7378
P.O. Box 100, Station M	**CANUTEC 24 HOUR EMERGENCY NUMBER**	613-996-6666
400-4th Ave. S.W.		
Calgary, AB Canada	For general information:	1-800-661-1600
T2P 2H5	For MSDS information:	403-691-3982
	(From 7:30 to 4:30 Mountain Time)	403-691-2220

This MSDS was prepared by the Toxicology and Product Stewardship Section of Shell Canada Limited.

*An asterisk in the product name designates a trade-mark(s) of Shell Canada Limited, used under license by Shell Canada Products.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	% Range	WHMIS Controlled
Naphtha (Petroleum), Full-range Reformed	68919-37-9	>95	Yes
Benzene	71-43-2	0.5 - 1.5	Yes

See Section 8 for Occupational Exposure Guidelines.

3. HAZARDS IDENTIFICATION

Physical Description: Liquid Bright Clear Typical Gasoline Odour

Routes of Exposure: Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.

Hazards:

Flammable Liquid.
Irritating to skin.
Contains Benzene.
May cause cancer.
Vapours are moderately irritating to the eyes.
Vapours are moderately irritating to the respiratory passages. The liquid when accidently aspirated into the lungs can cause a severe inflammation of the lung.
Excessive exposure to benzene may cause leukemia in man.

Handling: Eliminate all ignition sources.
Wear suitable gloves and eye protection.
Bond and ground transfer containers and equipment to avoid static accumulation.
Avoid prolonged exposure to vapours.
Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.

For further information on health effects, see Section 11.

4. FIRST AID

Eyes: Flush eyes with water for at least 15 minutes while holding eyelids open. If irritation occurs and persists, obtain medical attention.

Skin: Wash contaminated skin with mild soap and water for 15 minutes. If irritation occurs and persists, obtain medical attention.

Ingestion: DO NOT INDUCE VOMITING! OBTAIN MEDICAL ATTENTION IMMEDIATELY. Guard against aspiration into lungs by having the individual turn on to their left side. If vomiting occurs spontaneously keep head below hips to prevent aspiration of liquid into the lungs.

Inhalation: Remove victim from further exposure and restore breathing, if required. Obtain medical attention.

Notes to Physician: The main hazard following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis. If more than 2.0 mL/kg has been ingested, vomiting should be induced with supervision. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before vomiting, gastric lavage with a cuffed endotracheal tube should be considered.

5. FIRE FIGHTING MEASURES

Extinguishing Media:

Dry Chemical
Carbon Dioxide
Foam
Water Fog

Firefighting Instructions: Extremely flammable. Vapour forms a flammable/explosive mixture with air between upper and lower flammable limits. Vapours may travel along ground and flashback along vapour trail may occur. Flashback may occur along vapour trail. Do not use water except as a fog. Use water to cool fire exposed containers. Product will float and can be reignited on surface of water. Containers exposed to intense heat from fires should be cooled with water to prevent vapour pressure buildup which could result in container rupture. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure. Do not enter confined fire space without adequate protective clothing and an approved positive pressure self-contained breathing apparatus. Always stay away from ends of containers due to explosive potential. Fight fire from maximum distance.

Hazardous Combustion Products: A complex mixture of airborne solid, liquid, particulates and gases will evolve when this material undergoes pyrolysis or combustion. Carbon dioxide, carbon monoxide and unidentified organic compounds may be formed upon combustion.

6. ACCIDENTAL RELEASE MEASURES

Issue warning "Flammable". Eliminate all ignition sources. Handling equipment must be grounded. Isolate hazard area and restrict access. Try to work upwind of spill. Avoid direct contact with material. Saturated clothing should be immediately removed to avoid flammability hazard. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Dike and contain land spills; contain water spills by booming. Use water fog to knock down vapours; contain runoff. For large spills remove by mechanical means and place in containers. Absorb residue or small spills with absorbent material and remove to non-leaking containers for disposal. Recommended materials: Clay or Sand . Flush area with water to remove trace residue. Dispose of recovered material as noted under Disposal Considerations. Notify appropriate environmental agency(ies).

7. HANDLING AND STORAGE

Handling: Extremely flammable. Avoid excessive heat, sparks, open flames and all other sources of ignition. Fixed equipment as well as transfer containers and equipment should be grounded to prevent accumulation of static charge. Vapours are heavier than air and will settle and collect in low areas and pits, displacing breathing air. Extinguish pilot lights, cigarettes and turn off other sources of ignition prior to use and until all vapours are gone. Vapours may accumulate and travel to distant ignition sources and flashback. Do not cut, drill, grind, weld or perform similar operations on or near containers. Empty containers are hazardous, may contain flammable/explosive dusts, residues or vapours. Do not pressurize drum containers to empty them. Never siphon by mouth. Wash with soap and water prior to eating, drinking, smoking, applying cosmetics or using toilet facilities. Launder contaminated clothing prior to reuse. Use good personal hygiene.

Storage: Use explosion-proof ventilation to prevent vapour accumulation. Keep container tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

THE FOLLOWING INFORMATION, WHILE APPROPRIATE FOR THIS PRODUCT, IS GENERAL IN NATURE. THE SELECTION OF PERSONAL PROTECTIVE EQUIPMENT WILL VARY DEPENDING ON

THE CONDITIONS OF USE.

OCCUPATIONAL EXPOSURE LIMITS (Current ACGIH TLV/TWA unless otherwise noted):

North American exposure limits have not been established for the product. Consult local authorities for acceptable provincial values.
Recommend SHELL guideline of 125 mg/m3 for vapours (8 hour shift).
Gasoline: 300 ppm (STEL: 500 ppm)
Benzene (skin) : 0.5 ppm (STEL: 2.5 ppm)

Mechanical Ventilation: Use explosion-proof ventilation as required to control vapour concentrations. Concentrations in air should be maintained below lower explosive limit at all times or below the recommended threshold limit value if unprotected personnel are involved. Make up air should always be supplied to balance air exhausted (either generally or locally). For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space entry procedure must be followed including ventilation and testing of tank atmosphere.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes. Provide an eyewash station in the area.

Skin Protection: Impervious gloves (viton, nitrile) should be worn at all times when handling this material. In confined spaces or where the risk of skin exposure is much higher, impervious clothing should be worn. Safety showers should be available for emergency use.

Respiratory Protection: If exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator. Use a NIOSH-approved chemical cartridge respirator with organic vapour cartridges or use a NIOSH-approved supplied-air respirator. For high airborne concentrations, use a NIOSH-approved supplied-air respirator, either self-contained or airline breathing apparatus, operated in positive pressure mode.

9. PHYSICAL DATA

Physical State:	Liquid
Appearance:	Bright Clear
Odour:	Typical Gasoline Odour
Odour Threshold:	Not available
Freezing/Pour Point:	<-51 degrees C
Boiling Point:	60 - 260 degrees C
Density:	750 - 801 kg/m3 @ 15 degrees C
Vapour Density (Air = 1):	Not available
Vapour Pressure (absolute):	>42 mm Hg @ 38 degrees C
pH:	Not applicable
Flash Point:	Method Tag Closed Cup <1 degrees C
Lower Explosion Limit:	1 % (vol.)
Upper Explosion Limit:	7 % (vol.)
Autoignition Temperature:	Not available
Viscosity:	Not available
Evaporation Rate (n-BuAc = 1):	Not available
Partition Coefficient (K_{ow}):	Not available
Water Solubility:	Insoluble

Other Solvents: Hydrocarbon Solvents

10. STABILITY AND REACTIVITY

Chemically Stable:	Yes
Hazardous Polymerization:	No
Sensitive to Mechanical Impact:	No
Sensitive to Static Discharge:	Yes
Hazardous Decomposition Products:	Thermal decomposition products are highly dependent on combustion conditions.
Incompatible Materials:	Avoid contact with strong oxidizing agents and acids.
Conditions of Reactivity:	Avoid excessive heat, open flames and all ignition sources.

11. TOXICOLOGICAL INFORMATION

Ingredient (or Product if not specified)	**Toxicological Data**
Naphtha (Petroleum), Full-range Reformed	LD50 Oral Rat >28 mL/kg
Benzene	LD50 Oral Rat = 930 - 5600 mg/kg
	LC50 Inhalation Rat = 13700 ppm for 4 hours

Routes of Exposure:	Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.
Irritancy:	This product is expected to be irritating to skin but is not predicted to be a skin sensitizer.
Chronic Effects:	Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Prolonged exposure to high vapour concentration can cause headache, dizziness, nausea, blurred vision and central nervous system depression. Prolonged and repeated exposure may cause serious injury to blood forming organs, resulting in anemia and similar conditions.
Pre-existing Conditions:	Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.
Carcinogenicity and Mutagenicity:	This product contains benzene. Epidemiological studies indicate that long term inhalation of benzene vapour can cause leukaemia in man. Benzene has also produced chromosomal aberrations in peripheral blood lymphocytes. Carcinogenic hazard.

12. ECOLOGICAL INFORMATION

Environmental Effects:	Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities. May be harmful to aquatic life. May cause physical fouling of aquatic organisms.
Biodegradability:	Not readily biodegradable. Potential for bioaccumulation.

13. DISPOSAL CONSIDERATIONS

Waste management priorities (depending on volumes and concentration of waste) are: 1. recycle (reprocess), 2. energy recovery (cement kilns, thermal power generation), 3. incineration, 4. disposal at a licenced waste disposal facility. Do not attempt to combust waste on-site. Incinerate at a licenced waste disposal site with approval of environmental authority.

14. TRANSPORTATION INFORMATION

Canadian Road and Rail Shipping Classification:

UN Number	UN1863
Proper Shipping Name	FUEL, AVIATION, TURBINE ENGINE
Hazard Class	Class 3 Flammable Liquids
Packing Group	PG II
Shipping Description	FUEL, AVIATION, TURBINE ENGINE Class 3 UN1863 PG II

15. REGULATORY INFORMATION

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

WHMIS Class:	Class B2 Flammable Liquid Class D2B Other Toxic Effects - Skin Irritant Class D2A Other Toxic Effects - Carcinogen
DSL/NDSL Status:	This product, or all components, are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act. This product and/or all components are listed on the U.S. EPA TSCA Inventory.
Other Regulatory Status:	No Canadian federal standards.

16. ADDITIONAL INFORMATION

LABEL STATEMENTS

Hazard Statement :	Flammable Liquid. Irritating to skin. Contains Benzene. May cause cancer.
Handling Statement:	Eliminate all ignition sources. Wear suitable gloves and eye protection. Bond and ground transfer containers and equipment to avoid static accumulation. Avoid prolonged exposure to vapours. Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.
First Aid Statement :	Wash contaminated skin with soap and water. Flush eyes with water. If overcome by vapours remove to fresh air. Do not induce vomiting. Obtain medical attention.

Revisions: This MSDS has been reviewed and updated.
Changes have been made to:
Section 14

MATERIAL SAFETY DATA SHEET

BP UNLEADED GASOLINES

MSDS No. 12632000 ANSI/ENGLISH

1.0 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BP UNLEADED GASOLINES

MANUFACTURER/SUPPLIER:

BP Oil Company
200 East Randolph Drive
Chicago, Illinois 60601 U.S.A.

EMERGENCY HEALTH INFORMATION:
1 (800) 447-8735

EMERGENCY SPILL INFORMATION:
1 (800) 424-9300 CHEMTREC (USA)

OTHER PRODUCT SAFETY INFORMATION:
(630) 836-5441

2.0 COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS#	Range % by Wt.
Gasoline	8006-61-9	99.9-100
Benzene	71-43-2	0-3
Butane	106-97-8	4-6
Cyclohexane	110-82-7	0-1
Ethylbenzene	100-41-4	0-2
Heptane	142-82-5	6-8
Hexane	110-54-3	8-10
Pentane	109-66-0	9-11
Toluene	108-88-3	10-12
Trimethylbenzene	95-63-6	0-3
Xylene	1330-20-7	8-10

(See Section 8.0, "Exposure Controls/Personal Protection", for exposure guidelines)

3.0 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Danger! Extremely flammable. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness, and nausea, and may lead to unconsciousness or death. Harmful if swallowed and/or aspirated into the lungs. Prolonged or repeated contact may cause irritation and/or dermatitis. Use as motor fuel only. Long-term exposure to vapors has caused cancer in laboratory animals.

POTENTIAL HEALTH EFFECTS:

EYE CONTACT: High concentrations of vapor/mist may cause eye discomfort.

SKIN CONTACT: Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

INHALATION: Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness, and nausea, and may lead to unconsciousness or death. See "Toxicological Information" section (Section 11.0).

INGESTION: Harmful or fatal if liquid is aspirated into lungs. Ingestion causes gastrointestinal irritation and diarrhea. See "Toxicological Information" section (Section 11.0).

HMIS CODE: (Health:1) (Flammability:3) (Reactivity:0) CHRONIC HEALTH HAZARD.

NFPA CODE: (Health:1) (Flammability:3) (Instability:0)

4.0 FIRST AID MEASURES

EYE: Flush eyes with plenty of water. Get medical attention if irritation persists.

SKIN: Wash exposed skin with soap and water. Remove contaminated clothing, including shoes, and thoroughly clean and dry before reuse. Get medical attention if irritation develops.

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get medical attention.

INGESTION: If swallowed, do NOT induce vomiting. Get immediate medical attention.

5.0 FIRE FIGHTING MEASURES

FLASHPOINT: -45°F

UEL: 7.6%

LEL: 1.3%

AUTOIGNITION TEMPERATURE: 495.0°F

FLAMMABILITY CLASSIFICATION: Extremely Flammable Liquid.

EXTINGUISHING MEDIA: Agents approved for Class B hazards (e.g., dry chemical, carbon dioxide, foam, steam) or water fog. Water may be ineffective but should be used to cool-fire exposed containers, structures and to protect personnel.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Extremely flammable vapor/air mixtures form. Extinguishment of fire before source of vapor is shut off can create an explosive mixture in air. Product gives off vapors that are heavier than air which can travel considerable distances to a source of ignition and flashback. Runoff to sewer may cause a fire or explosion hazard.

FIRE-FIGHTING EQUIPMENT: Firefighters should wear full bunker gear, including a positive pressure self-contained breathing apparatus.

PRECAUTIONS: Keep away from sources of ignition (e.g., heat and open flames). Keep container closed. Use with adequate ventilation.

HAZARDOUS COMBUSTION PRODUCTS: Combustion of this product in an area without adequate ventilation may result in hazardous levels of combustion products (e.g., carbon monoxide, carbon dioxide) and inadequate oxygen levels.

6.0 ACCIDENTAL RELEASE MEASURES

Remove or shut off all sources of ignition. Wear respirator and spray with water to disperse vapors. Increase ventilation if possible. Prevent spreading by diking, ditching, or absorbing on inert materials. Keep out of sewers and waterways.

7.0 HANDLING AND STORAGE

HANDLING: Use with adequate ventilation. Keep away from ignition sources (e.g., heat, sparks, or open flames). Ground and bond containers when transferring materials. Wash thoroughly after handling.

STORAGE: Store in flammable liquids storage area. Keep container closed. Store away from heat, ignition sources, and open flame in accordance with applicable regulations.

SPECIAL PRECAUTIONS: Keep out of sewers and waterways. Avoid strong oxidizers. Report spills to appropriate authorities. USE AS MOTOR FUEL ONLY.

8.0 EXPOSURE CONTROLS / PERSONAL PROTECTION

EYE: None required; however, use of eye protection is good industrial practice.

SKIN: Avoid prolonged or repeated skin contact. Wear protective clothing and gloves if prolonged or repeated contact is likely.

INHALATION: Use with adequate ventilation. Avoid breathing vapor and/or mist. If ventilation is inadequate, use NIOSH certified respirator that will protect against organic vapor and dust/mist.

ENGINEERING CONTROLS: Control airborne concentrations below the exposure guidelines.

EXPOSURE GUIDELINES:

Component	CAS#	Exposure Limits
Gasoline	8006-61-9	OSHA PEL: 300 ppm (1989); Not established. (1971) OSHA STEL: 500 ppm (1989); Not established. (1971) ACGIH TLV-TWA: 300 ppm ACGIH TLV-STEL: 500 ppm
Benzene	71-43-2	OSHA PEL: 1 ppm OSHA STEL: 5 ppm ACGIH TLV-TWA: 0.5 ppm (skin) ACGIH TLV-STEL: 2.5 ppm (skin) Mexico TWA: 10 ppm Mexico STEL: 25 ppm
Butane	106-97-8	OSHA PEL: 800 ppm (1989); Not established. (1971) ACGIH TLV-TWA: 800 ppm Mexico TWA: 800 ppm
Cyclohexane	110-82-7	OSHA PEL: 300 ppm (1989)(1971) ACGIH TLV-TWA: 300 ppm Mexico TWA: 300 ppm Mexico STEL: 375 ppm
Ethylbenzene	100-41-4	OSHA PEL: 100 ppm (1989)(1971) OSHA STEL: 125 ppm(1989); Not established. (1971) ACGIH TLV-TWA: 100 ppm ACGIH TLV-STEL: 125 ppm Mexico TWA: 100 ppm Mexico STEL: 125 ppm

Heptane	142-82-5	OSHA PEL: 400 ppm (1989); 500 ppm (1971) OSHA STEL: 500 ppm (1989); Not established. (1971) ACGIH TLV-TWA: 400 ppm ACGIH TLV-STEL: 500 ppm Mexico TWA: 400 ppm (skin) Mexico STEL: 500 ppm (skin)
Hexane	110-54-3	OSHA PEL: 50 ppm (1989); 500 ppm (1971) ACGIH TLV-TWA: 50 ppm (skin) Mexico TWA: 100 ppm
Pentane	109-66-0	OSHA PEL: 600 ppm (1989); 1000 ppm (1971) OSHA STEL: 750 ppm (1989); Not established. (1971) ACGIH TLV-TWA: 600 ppm Mexico TWA: 600 ppm Mexico STEL: 760 ppm
Toluene	108-88-3	OSHA PEL: 100 ppm (1989); 200 ppm (1971) OSHA STEL: 150 ppm (1989); Not established. (1971) OSHA Ceiling: 300 ppm (1971) ACGIH TLV-TWA: 50 ppm (skin) Mexico TWA: 100 ppm Mexico STEL: 150 ppm
Trimethylbenzene	95-63-6	OSHA PEL: 25 ppm (1989); Not established. (1971) ACGIH TLV-TWA: 25 ppm Mexico TWA: 25 ppm Mexico STEL: 35 ppm
Xylene	1330-20-7	OSHA PEL: 100 ppm (1989)(1971) OSHA STEL: 150 ppm (1989); Not established. (1971) ACGIH TLV-TWA: 100 ppm ACGIH TLV-STEL: 150 ppm Mexico TWA: 100 ppm (skin) Mexico STEL: 150 ppm (skin)

9.0 CHEMICAL AND PHYSICAL PROPERTIES

APPEARANCE AND ODOR: Clear. Liquid. Hydrocarbon odor.

pH: Not determined.

VAPOR PRESSURE: 7-15 lb RVP (ASTM D323)

VAPOR DENSITY: 3.0-4.0

BOILING POINT: 80.0-430.0°F (range)

MELTING POINT: Not determined.

SOLUBILITY IN WATER: Negligible, below 0.1%.

SPECIFIC GRAVITY (WATER=1): 0.75

10.0 STABILITY AND REACTIVITY

STABILITY: Burning can be started easily.

CONDITIONS TO AVOID: Keep away from ignition sources (e.g. heat, sparks, and open flames).

MATERIALS TO AVOID: Avoid chlorine, fluorine, and other strong oxidizers.

HAZARDOUS DECOMPOSITION: None identified.

HAZARDOUS POLYMERIZATION: Will not occur.

11.0 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA:

EYE IRRITATION: This product had a primary eye irritation score (PEIS) of 0/110.0 (rabbit)

SKIN IRRITATION: This product had a primary skin irritation score (PDIS) of 1.1/8.0 (rabbit)

DERMAL LD50: greater than 5 ml/kg (rabbit).

ORAL LD50: 18.8 ml/kg (rat).

INHALATION LC50: 20.7 mg/l (rat)

OTHER TOXICITY DATA: Excess exposure to vapors may produce headaches, dizziness, nausea, drowsiness, irritation of eyes, nose and throat and central nervous system depression. Aspiration of this material into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this product. Inhalation of unleaded gasoline vapors did not produce birth defects in laboratory animals. Ingestion of this material can cause gastrointestinal irritation and diarrhea.

In a long-term inhalation study of whole unleaded gasoline vapors, exposure-related kidney damage and kidney tumors were observed in male rats. Similar kidney effects were not seen in female rats or in mice. At the highest exposure level (2056 ppm), female mice had an increased incidence of liver tumors. Results from subsequent scientific studies have shown that a broad variety of chemicals cause these kidney effects only in the male rat. Further studies have discovered the means by which

the physiology of the male rat uniquely predispose it to these effects. Consequently, the Risk Assessment Forum of the Environmental Protection Agency has recognized that these responses are not predictive of a human health hazard. The liver tumors that were increased in the high-dose female mice are likewise of questionable significance because of their high spontaneous occurrence even without chemical exposure and because the rate of their occurrence is accelerated by a broad spectrum of chemicals not commonly considered to be carcinogens (e.g., phenobarbital). Thus, the significance of the mouse liver tumor response in terms of human health is questionable.

Gasoline is a complex mixture of hydrocarbons and contains benzene (typically no more than 2 volume%), toluene, and xylene. Chronic exposure to high levels of benzene has been shown to cause cancer (leukemia) in humans and other adverse blood effects (anemia). Benzene is considered a human carcinogen by IARC, NTP and OSHA. Over exposure to xylene and toluene can cause irritation to the upper respiratory tract, headache and narcosis. Some liver damage and lung inflammation were seen in chronic studies on xylene in guinea pigs but not in rats.

Solvent "sniffing" (abuse) or intentional overexposure to vapors can produce serious central nervous system effects, including unconsciousness, and possibly death.

12.0 ECOLOGICAL INFORMATION

Ecological testing has not been conducted on this material by BP Amoco.

13.0 DISPOSAL INFORMATION

Residues and spilled material are hazardous waste due to ignitability. Disposal must be in accordance with applicable federal, state, or local regulations. Enclosed-controlled incineration is recommended unless directed otherwise by applicable ordinances.

The container for this product can present explosion or fire hazards, even when emptied! To avoid risk of injury, do not cut, puncture, or weld on or near this container. Since the emptied containers retain product residue, follow label warnings even after container is emptied.

14.0 TRANSPORTATION INFORMATION

U.S. DEPT OF TRANSPORTATION

Shipping Name	Gasoline
Hazard Class	3
Identification Number	UN1203
Packing Group	II

INTERNATIONAL INFORMATION:

Sea (IMO/IMDG)

Shipping Name Gasoline
Class 3.1
Packing Group II
UN Number UN1203

Air (ICAO/IATA)

Shipping Name Gasoline , UN1203
Class 3
Packing Group II

European Road/Rail (ADR/RID)

Shipping Name Not determined.

Canadian Transportation of Dangerous Goods

Shipping Name Gasoline
Hazard Class 3
UN Number UN1203
Packing Group II

15.0 REGULATORY INFORMATION

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR Part 302.4): This product is exempt from the CERCLA reporting requirements under 40 CFR Part 302.4. However, if spilled into waters of the United States, it may be reportable under 33 CFR Part 153 if it produces a sheen.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR Part 355): This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA TITLE III SECTIONS 311/312 HAZARDOUS CATEGORIZATION (40 CFR Part 370): This product is defined as hazardous by OSHA under 29 CFR Part 1910.1200(d). Hazardous categories for this product are: Acute = yes; Chronic = yes; Fire = yes; Pressure = no; Reactive = no.

SARA TITLE III SECTION 313 (40 CFR Part 372): This product contains the following substance(s), which is on the Toxic Chemicals List in 40 CFR Part 372:

Component/CAS Number	Weight Percent
Benzene 71-43-2	3
Trimethylbenzene 95-63-6	3
Cyclohexane 110-82-7	1
Ethylbenzene 100-41-4	2
Xylene 1330-20-7	10
Hexane 110-54-3	10
Toluene 108-88-3	12

U.S. INVENTORY (TSCA): Listed on inventory.

OSHA HAZARD COMMUNICATION STANDARD: Flammable liquid. Irritant. Contains components listed by ACGIH. Contains components listed by OSHA. Contains a carcinogenic component.

WHMIS Controlled Product Classification: B2, D2A, D2B.

EC INVENTORY (EINECS/ELINCS): Not determined.

JAPAN INVENTORY (MITI): Not determined.

AUSTRALIA INVENTORY (AICS): Not determined.

KOREA INVENTORY (ECL): Not determined.

CANADA INVENTORY (DSL): Not determined.

PHILIPPINE INVENTORY (PICCS): Not determined.

16.0 OTHER INFORMATION

This material contains an ingredient/ingredients present on the following State Right-To-Know lists:

-Florida- -Massachusetts- -New Jersey- -Pennsylvania- -California- -Minnesota-

This product contains an ingredient/ingredients known to the state of California to cause cancer and/or reproductive toxicity.

Prepared by:

Environment, Health and Safety Department

Issued: July 16, 1999

This Material Safety Data Sheet conforms to the requirements of ANSI Z400.1.

NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

MATERIAL SAFETY DATA SHEET

SECTION I: IDENTIFICATION OF PRODUCT

COMPANY:	**Diversity Technologies Corp.**	DATE:	Jan. 3, 2006
	8750 – 53rd Ave.	PHONE:	604-940-6050
	Edmonton, AB T6E 5G2	FAX:	604-940-6080
PRODUCT NAME:	**550X POLYMER**		
PRODUCT USE:	Drilling mud additive.		
CHEMICAL FAMILY:	Anionic water soluble polymer	CAS#:	Not available

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION:	Not a controlled product under WHMIS
WORKPLACE HAZARD:	Treat as a nuisance dust.

TRANSPORTATION OF DANGEROUS GOODS (TDG)

PROPER SHIPPING NAME:	Not regulated under TDG
TDG CLASSIFICATION:	Not applicable
UN NUMBER (PIN):	Not applicable
PACKING GROUP:	Not applicable

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	CAS NUMBER	LD_{50} Oral-Rat	LC_{50} Inhal-Rat	ACGIH-TLV

Contains no WHMIS controlled ingredients.

SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY:	[ ]EYE CONTACT [ ]SKIN [ ]INHALATION [ ]INGESTION
EYE CONTACT:	May cause slight irritation and/or redness.
SKIN CONTACT:	May cause slight irritation some cases.
INGESTION:	No effects expected.
INHALATION:	May cause irritation of the respiratory tract, including sneezing and coughing.
CARCINOGENICITY:	No information available.
TERATOGENICITY:	No information available.
REPRODUCTIVE TOXICITY:	No information available.

MUTAGENICITY:	No information available.
SYNERGISTIC PRODUCTS:	No information available.

SECTION IV: FIRST AID MEASURES

SKIN CONTACT:	Wash thoroughly with soap and water. If irritation develops or persists, obtain medical attention. Wash contaminated clothing prior to reuse.
EYE CONTACT:	Flush with gently flowing warm water until irritation subsides. If irritation persists, obtain medical attention.
INGESTION:	This product is not considered toxic based on studies on lab animals. Do not induce vomiting. Give 2-3 glasses of water. If symptoms occur, obtain medical attention.
INHALATION:	Move to fresh air. Apply oxygen or artificial respiration as required. If breathing difficulties or distress continues obtain medical attention.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOUR:	White granular powder; no odour	
SPECIFIC GRAVITY:	Not available	
BOILING POINT (°C):	Not available	
MELTING POINT (°C):	Not available	
SOLUBILITY IN WATER:	Soluble	pH: 4-9 (@ 5 g/L)
PERCENT VOLATILE BY VOLUME:	Not available	
EVAPORATION RATE:	Not available	
VAPOUR PRESSURE (mmHg):	Not available	
VAPOUR DENSITY (air = 1):	Not available	
BULK DENSITY:	Not available	

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	Not applicable
FLAMMABLE LIMITS:	Not applicable
EXTINGUISHING MEDIA:	Carbon dioxide, dry chemical, foam, in preference to a water spray.
SPECIAL FIRE FIGHTING PROCEDURES:	Self contained breathing apparatus required for fire fighting personnel. Move containers from fire area if possible.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	As with most organic powders, flammable dust clouds may be formed in air. Avoid creating dust. Avoid sources of ignition. Product is extremely slippery when wet.

SECTION VII: REACTIVITY DATA

STABILITY:	STABLE [XX] UNSTABLE [ ]
INCOMPATIBILITY (CONDITIONS TO AVOID):	Avoid contact with strong oxidizers. Avoid wet, damp or humid conditions, extremes of temperature, and ignition sources.
HAZARDOUS DECOMPOSITION PRODUCTS:	Oxides of carbon and nitrogen, various hydrocarbons, and/or ammonia upon combustion
HAZARDOUS POLYMERIZATION:	WILL NOT OCCUR [XX] MAY OCCUR [ ]

SECTION VIII: PREVENTATIVE MEASURES

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:	Use approved dust mask in absence of adequate ventilation. Use approved respirators with dust cartridges if TLV is exceeded.
VENTILATION:	Use in well-ventilated area, or use local exhaust ventilation, process enclosure or other engineering controls to maintain dust level below TLV.
PROTECTIVE GLOVES:	Use gloves, if needed, to avoid prolonged or repeated skin contact.
EYE PROTECTION:	Use safety glasses or goggles.
OTHER PROTECTIVE EQUIPMENT (Specify):	As necessary to prevent contact. Ensure eyewash station and emergency shower are available.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid prolonged or repeated breathing of dust and contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Cleanse skin thoroughly after contact, before breaks and meals and at end of work period. Product is readily removed from skin by washing thoroughly with soap and water. Store in a cool, dry location away from incompatibles. Store in original container.

STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED

Use appropriate safety equipment. Sweep up dry material and flush spill area with water. Collect uncontaminated material for repackaging. Collect contaminated material in approved containers for disposal. Scrub spill area with dry absorbent and then flush residue with water to eliminate slip hazard. Absorb spills of dilute solutions with inert absorbent. Collect in approved containers for disposal. The product or its solutions should not be allowed to enter waterways without treatment. Spilled solutions can create a hazard because of their slippery nature.

WASTE DISPOSAL METHOD

Dispose in accordance with federal, provincial and local regulations. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal. It may be possible to dispose of spills of non-hazardous materials in a landfill; check with local operator.

SECTION IX: PREPARATION

THE INFORMATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH,
BUT NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE.

DATE ISSUED:	January 3, 2006	BY:	Product safety committee
SUPERSEDES:	January 2005	PHONE:	780-440-4923

MATERIAL SAFETY DATA SHEET

SECTION I: IDENTIFICATION OF PRODUCT

COMPANY:	**Diversity Technologies Corp.**	DATE:	Dec. 19, 2005
	8750 – 53rd Ave.	PHONE:	604-940-6050
	Edmonton, AB T6E 5G2	FAX:	604-940-6080

PRODUCT NAME: **BIG BEAR ROD GREASE**

PRODUCT USE:	Anti-seize compound		
CHEMICAL FAMILY:	Mixture	CAS #:	Mixture

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION:	Not WHMIS regulated.
WORKPLACE HAZARD:	Not hazardous under normal conditions of use.

TRANSPORTATION OF DANGEROUS GOODS (TDG)

PROPER SHIPPING NAME:	Not TDG regulated.
TDG CLASSIFICATION:	Not applicable.
UN NUMBER (PIN):	Not applicable.
PACKING GROUP:	Not applicable.

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	% (w/w)	CAS NUMBER	LD_{50} Oral-Rat	LC_{50} Inhal-Rat	ACGIH-TLV
Mineral oil	70-80	64742-52-5	Not available	Not available	Not available
Barium soap	20-30	68201-19-4	Not available	Not available	Not available

SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY:	[XX] EYE CONTACT [XX] SKIN [ ] INHALATION [XX] INGESTION
EYE CONTACT:	May cause slight transient irritation.
SKIN CONTACT:	May cause slight transient irritation.
INGESTION:	No effects known.
INHALATION:	Not a likely source of contact during normal use.
CARCINOGENICITY:	None of the ingredients in the compound are listed by NTP, IARC or OSHA as being carcinogenic.
TERATOGENICITY:	No information available.

REPRODUCTIVE TOXICITY:	No information available.
MUTAGENICITY:	No ingredients listed as mutagenic.
SYNERGISTIC PRODUCTS:	No information available.

SECTION IV: FIRST AID MEASURES

SKIN CONTACT:	Remove by wiping, or with a waterless hand cleaner. Wash with soap and water. Remove and launder contaminated clothing before re-use.
EYE CONTACT:	Immediately flush with gently flowing warm water until all residual material is removed. Remove contact lenses if present. Hold eyelids open to ensure thorough flushing. If irritation persists, obtain medical attention.
INGESTION:	Do not induce vomiting. Rinse mouth. Obtain immediate medical attention. Never give anything by mouth to an unconscious or convulsing victim.
INHALATION:	Move to fresh air. Apply oxygen or artificial respiration as required. If breathing difficulties or distress continues, obtain medical attention.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOUR:	Brown paste; bland odour	
SPECIFIC GRAVITY:	0.90 @ 16°C	
BOILING POINT (°C):	371	
MELTING POINT (°C):	204	
SOLUBILITY IN WATER:	Insoluble	pH: Not available
PERCENT VOLATILE BY VOLUME:	Not available	
EVAPORATION RATE:	Not available	
VAPOUR PRESSURE :	Not available	
VAPOUR DENSITY (air = 1):	Not available	
BULK DENSITY:	Not applicable	

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	188°C
FLAMMABLE LIMITS:	Not available
EXTINGIUSHING MEDIA:	Dry chemical, CO_2, foam or water spray.
SPECIAL FIRE FIGHTING PROCEDURES:	Self-contained breathing apparatus required for fire fighting personnel. Remove containers from fire area, or cool with water spray, if possible.

UNUSUAL FIRE AND EXPLOSION HAZARDS:	This product may burn under fire conditions.

SECTION VII: REACTIVITY DATA

STABILITY:	STABLE [XX] UNSTABLE [ ]
INCOMPATIBILITY (CONDITIONS TO AVOID):	Strong oxidizers. Avoid heat, sparks and open flames.
CONDITIONS OF REACTIVITY:	Contact with incompatibles or ignition sources.
HAZARDOUS DECOMPOSITION PRODUCTS:	May release CO_x, smoke and irritating vapours when heated to decomposition.
HAZARDOUS POLYMERIZATION:	WILL NOT OCCUR [XX] MAY OCCUR [ ]

SECTION VIII: PREVENTATIVE MEASURES

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:	Not required under normal conditions of use.
VENTILATION:	Not required under normal conditions of use.
PROTECTIVE GLOVES:	Suggest neoprene or viton.
EYE PROTECTION:	Safety glasses with side-shields if required.
OTHER PROTECTIVE EQUIPMENT (Specify):	Protective clothing as required to prevent contact. Ensure eyewash station and emergency shower are available.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid contact with skin and eyes. Avoid ingestion. Wash thoroughly before eating, drinking or smoking. Store in cool, dry area away from incompatibles and sources of ignition. Use caution when opening unvented containers. Use in well ventilated area. Store unused material in original container.

STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED

Use appropriate safety equipment. Eliminate ignition sources. Scoop up excess, then wipe down the affected area and pick up residual with diatomaceous earth to prevent slipping hazard. Place contaminated material and clean up materials in approved containers for disposal.

WASTE DISPOSAL METHOD

Dispose/incinerate in accordance with federal, provincial and local regulations. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal. Dispose of, or recycle, empty containers in accordance with local regulations.

SECTION IX: PREPARATION

THE INFORMATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH,
BUT NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE.

DATE ISSUED:	December 20, 2005	BY:	Product safety committee
SUPERSEDES:	March 31, 2003	PHONE:	780-440-4923

MSDS # CALCIUM CHLORIDE-94%

PRODUCT INFORMATION

CHEMICAL NAME: Calcium Chloride

SYNONYM(S): High Test Fines, High Test Powder, High Test Beads,

CHEMICAL FAMILY: Inorganic salt

Product use: Calcium chloride is used to dehydrate natural gas with high sulfur content, gas from remote or offshore wells, or from wells with low flow rates.

MOLECULAR FORMULA: $CaCl_2$

SHIPPING NAME: Calcium Chloride

PIN - UN NUMBER: Not controlled

WHMIS: D2B

MANUFACTURER: The Dow Chemical Company Ltd.
P.O box 1012
Sarnia, Ontario
N7T 7K7
DOW Emergency Number: 780-998-8282 (Ft Saskatchewan, Alberta)
519-339-3711 (Sarnia, Ontario)
450-652-1000 (Varennes, Quebec)

SUPPLIER: Panther Industries Inc.
Box 628
Davidson, Sask. S0G 1A0

EMERGENCY TELEPHONE NUMBER: (306)567-2814

HAZARDOUS INGREDIENTS

INGREDIENTS:	WEIGHT %	C.A.S. REGISTRY NUMBER:
Calcium Chloride	94-97%	10043-52-4

OTHER INGREDIENTS

INGREDIENTS:	WEIGHT%	C.A.S. REGISTRY NUMBER:
Strontium Chloride	0-1%	10476-85-4
Sodium Chloride	1-2%	07647-14-5
Potassium Chloride	2-3%	07447-40-7
Water		07732-18-5

PHYSICAL DATA

PHYSICAL STATE: Solid.

PH: data to indicate the product is basic

ODOUR AND APPEARANCE: Odourless white to off white pellets.

ODOUR THRESHOLD: Not applicable

VAPOUR PRESSURE: <0.005 mmHg, at 20 ^{o}C.

VAPOUR DENSITY: Not applicable

BOILING POINT: 1670^{o}C

SOLUBILITY IN WATER: Very soluble

MELTING POINT: Approx. 772^{o}C, 1424^{o}F

SPECIFIC GRAVITY: 2.2

FIRE AND EXPLOSION DATA

CONDITIONS OF FLAMMABILITY: Not applicable.

MEANS OF EXTINGUISHING: This material does not burn. If exposed to fire from another

source, use suitable extinguishing agent for that fire.

FLASH POINT: Not applicable.

UPPER FLAMMABLE LIMIT: Not applicable.

LOWER FLAMMABLE LIMIT: Not applicable.

SPECIAL FIRE FIGHTING PROCEDURES: Keep people away. Isolate fire area and deny unnecessary entry. Firefighters should wear positive-pressure self-contained breathing apparatus (SCBA) and full protective fire fighting clothing (included fire fighting helmet, coat, pants, boots, and gloves.)

EXPLOSION HAZARDS: **Hydrogen chloride is a hazardous combustion product at temperatures in excess of 1600 degrees Celsius.**

REACTIVITY DATA

STABILITY: Stable. Hygroscopic.

HAZARDOUS POLYMERIZATION: Will not occur

HAZARDOUS DECOMPOSITION PRODUCTS: Does no decompose.

CONDITIONS TO AVOID: None known.

INCOMPATIBILITY: Corrosive to some metals. Corrosive when wet. Flammable hydrogen may be generated from contact with metals such as zinc or sodium. Avoid contact with sulfuric acid. Heat is generated when mixed with water. Spattering or boiling can occur.

HEALTH HAZARD DATA

INHALATION: Vapors are unlikely due to physical properties. Dust may cause irritation to upper respiratory tract. **Calcium Chloride has an LD_{50} of 1940 mg/kg oral mouse**

SKIN CONTACT: Short single exposure not likely to cause significant skin irritation. Prolonged or repeated exposure may cause skin irritation, even a burn. May cause more severe response if skin is damp or if material is confined to skin. May cause more severe response is skin is abraded (scratched or cut). When dissolving, the heat produced may cause more intense effects as well as thermal burns. Not classified as corrosive according to DOT. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

EYE CONTACT: Dusts may cause severe irritation with corneal injury, pellets may cause slight eye irritation. Effects may be slow to heal. When dissolving, the heat produced may cause more intense effects as well as thermal burns.

INGESTION: Single dose oral toxicity is considered to be low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury. Ingestion may cause gastrointestinal irritation or ulceration.

Toxicological data: Effects of chronic exposure: These effects are; Repeated exposure may cause irritation or even a burn to the skin, eyes and nasal cavity.

IRRITANCY: Slight.

MUTAGENICITY: Negative

SENSITIZATION TO PRODUCT: Not available.

REPRODUCTIVE TOXICITY: Not available.

ANIMAL TOXICITY DATA:

LD50 - 967-1668 mg/kg oral, rat.
>5000 mg/kg skin, rabbits

FIRST AID PROCEDURES

INHALATION: Remove to fresh air if effects occur. Consult a physician.

EYE CONTACT: Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

SKIN CONTACT: Wash off in flowing water or shower.

INGESTION: If swallowed, seek medical attention. Give 2-4 glasses of water or milk and don’t induce vomiting unless directed to do so by medical personnel.

NOTE TO PHYSICIAN: If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

PREVENTATIVE MEASURES

RESPIRATORY PROTECTION: In dusty atmospheres, use an approved dust respirator. Atmospheric levels should be maintained below the exposure guideline.

EXPOSURE GUIDELINES: Calcium chloride: Dow IHG is 10 mg/m3
Sodium chloride: Dow IHG is 10 mg/m3
Potassium chloride: Dow IHG is 10 mg/m3

EYE AND FACE PROTECTION: Use safety glasses. For dusty operations or when handling solutions of the material, wear chemical goggles.

SKIN PROTECTION: When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material. Selection of specific items such as faceshield, gloves, boots, apron or full-body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water and launder clothing before reuse. If hands are cut or scratched, use gloves impervious to this material even for brief exposures.

STORAGE REQUIREMENTS: Keep containers tightly closed when not in use. Store in a dry place. Protect from atmospheric moisture.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

HANDLING: Heat developed during diluting or dissolving is very high. Use cool water when diluting or dissolving (temperature less than 80F, 27C)

ENVIRONMENTAL PROTECTION DATA

PROCEDURES TO BE FOLLOWED IN CASE OF A LEAK OR SPILL: Contain spill. Shovel and sweep up spill and place in a suitable and properly labelled container. Flush residue with large amounts of water. Keep contaminated water from entering sewers and water courses.

WASTE DISPOSAL: All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations.

AQUATIC TOXICITY: Material is practically non-toxic to aquatic organisms on an acute bases (LC50/EC50 > 100 mg/L in most sensitive species).

PREPARATION INFORMATION

MSDS PREPARED BY: Technical Department
Panther Industries Inc.
Davidson, Sask.
Ph. (306) 567-2814

DATE PREPARED/REVISED: Feb 17 2004

DATE PRINTED: Feb 17 2004

REFERENCES:
1. Patty's Industrial Hygiene and Toxicology 3rd Ed.1981 by Clayton & Clayton John Wiley & Sons, New York.
2. Manufacturer's MSDS.

MATERIAL SAFETY DATA SHEET

SECTION I: IDENTIFICATION OF PRODUCT

COMPANY:	**Diversity Technologies Corp.**	DATE:	Dec. 19, 2005
	8750 – 53rd Ave.	PHONE:	604-940-6050
	Edmonton, AB T6E 5G2	FAX:	604-940-6080

PRODUCT NAME: **LINSEED SOAP**

PRODUCT USE: Lubricant.
CHEMICAL FAMILY: Mixture CAS#: Mixture

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION: Not WHMIS controlled.
WORKPLACE HAZARD: Not applicable

TRANSPORTATION OF DANGEROUS GOODS (TDG)

PROPER SHIPPING NAME: Not regulated under TDG
TDG CLASSIFICATION: Not applicable
UN NUMBER (PIN): Not applicable
PACKING GROUP: Not applicable

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	CAS NUMBER	LD_{50} Oral-Rat	LC_{50} Inhal-Mouse	ACGIH-TLV

Contains no WHMIS controlled ingredients.

SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY: [XX] EYE CONTACT [ ] SKIN [ ] INHALATION [ ] INGESTION
EYE CONTACT: May cause slight irritation.
SKIN CONTACT: May cause slight irritation.
INGESTION: Not considered toxic.
INHALATION: Not a likely source of contact during normal use.
CARCINOGENICITY: No information available.
TERATOGENICITY: No information available.
REPRODUCTIVE TOXICITY: No information available.
MUTAGENICITY: No information available.

SYNERGISTIC PRODUCTS:	No information available.

SECTION IV: FIRST AID MEASURES

SKIN CONTACT:	Wipe away excess. Wash thoroughly with soap and water. Launder contaminated clothing before re-use. If irritation persists, obtain medical attention.
EYE CONTACT:	Immediately flush with gently flowing warm water until material is removed and irritation ceases. If irritation persists, obtain medical attention.
INGESTION:	If conscious give 1 to 2 glasses of water and induce vomiting; keep head below hips to prevent aspiration of vomitus. Obtain medical attention. Never give anything by mouth to an unconscious or convulsing victim.
INHALATION:	Move to fresh air. Apply oxygen or artificial respiration if required. If breathing difficulties, or distress, continue obtain medical attention.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOUR:	Brown paste; slight odour	
SPECIFIC GRAVITY:	Not applicable	
BOILING POINT (°C):	100	
MELTING POINT (°C):	0	
SOLUBILITY IN WATER:	Soluble	pH: 9.5 – 11.0
PERCENT VOLATILE BY VOLUME:	Not applicable	
EVAPORATION RATE:	Not applicable	
VAPOUR PRESSURE (mmHg):	Not applicable	
VAPOUR DENSITY (air = 1):	Not applicable	
BULK DENSITY	Not applicable	

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	Not flammable
FLAMMABLE LIMITS:	Not applicable
EXTINGUISHING MEDIA:	Use media suitable for packaging and surrounding materials.
SPECIAL FIRE FIGHTING PROCEDURES:	Self-contained breathing apparatus required for fire fighting personnel.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None known.

SECTION VII: REACTIVITY DATA

STABILITY:	STABLE [XX]	UNSTABLE [ ]
INCOMPATIBILITY (CONDITIONS TO AVOID):	None known.	
CONDITIONS OF REACTIVITY:	None known.	
HAZARDOUS DECOMPOSITION PRODUCTS:	Not determined.	
HAZARDOUS POLYMERIZATION:	WILL NOT OCCUR [XX]	MAY OCCUR [ ]

SECTION VIII: PREVENTATIVE MEASURES

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:	Not applicable.
VENTILATION:	Not applicable.
PROTECTIVE GLOVES:	Personal preference.
EYE PROTECTION:	Safety glasses with side-shields recommended.
OTHER PROTECTIVE EQUIPMENT (Specify):	Wear clothing adequate to protect against exposure. Ensure eye-wash station and emergency shower are available.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Wash thoroughly after handling. Avoid contact with eyes, skin or clothing. No specific storage requirements.

STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED

Use appropriate safety equipment. Scoop up excess material. Collect uncontaminated material for repackaging. Collect contaminated material in approved containers for disposal. Wipe up remaining spill with absorbent compound to prevent slipping hazard.

WASTE DISPOSAL METHOD

Dispose in accordance with federal, provincial and local regulations. This material can be land filled in most areas; check with local operator. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal.

SECTION IX: PREPARATION

THE INFORMATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH,
BUT NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE.

DATE ISSUED:	December 19, 2005	BY:	Product safety committee
SUPERSEDES:	March 31, 2003	PHONE:	780-440-4923

BIO TECHNICS LIMITED
Upper Mill, Inverbervie, Aberdeenshire, Scotland UK DD10 0SP
Telephone +44 (0) 1561 361515 Fax +44 (0) 1561 361011
Email info@biotechnics.co.uk
www.simplybio.com

MATERIAL SAFETY DATA SHEET
PRODUCT
OT8

1. DESCRIPTION / PROPERTIES (nature, reactivity):

A unique biological cleaner designed to remove residues of oils, greases and other hydrocarbon products by enhanced bacterial degradation. Aqueous suspension of selected natural bacteria, nutrients and cleaning agents. Cleans off hydrocarbon residues by bacterial oxidation to carbon dioxide and water, with no adverse environmental impact or harmful residues. Application rate is approximately 0.5 – 2.5 square metres per litre depending on surface porosity.

2. COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENT	CAS NO	EINECS	% CONCENTRATION	HAZARD	RISK PHRASES	WEL
Orange terpene	8028-48-6	232-433-8	10 → 30%	X_n	R10,38,65,52/53	-
Dipropylene glycol mono methyl ether	34590-94-8	252-104-2	0 → 5%	-		WEL
Isopropylamine dodecyl benzene sulphonate	26264-05-1	247-556-2	5 → 10%	X_i	R41, 38	-
Alcohol ethoxylate	*	*	0 → 5%	X_n	R22, 41	-

* Proprietary status pending

3. HAZARD INDENTIFICATION

a) **Fire/Explosion Hazard (stability, flammability, combustion products):**
Product is not classified as combustible or flammable.

b) **Health Hazard (inhalation, ingestion, contact with skin or eyes):**
Irritating to skin and eyes. Avoid contact with skin and in particular, with the eyes. Low risk from inhalation but avoid excessive inhalation of vapour e.g. on heating etc. Low order of acute oral toxicity but do not ingest.

c) **Environmental Hazard:**
Not classified as hazardous to the environment.

4. FIRST AID MEASURES

INHALATION - Low risk in normal usage. Remove to fresh air. Rest and keep warm. If symptoms of distress persist seek medical attention.

SKIN CONTACT - Wash affected area thoroughly with clean water. Remove contaminated clothing and launder before re-use.

EYE CONTACT - Irrigate with plenty of clean water. Obtain medical advice.

INGESTION - Do not swallow, wash out mouth with water. If swallowed drink water and obtain medical attention. Do not induce vomiting.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:
If involved in a fire, use extinguishing media appropriate to the source of the fire.
Protection for fire fighters:
Wear self-contained breathing apparatus. Wear protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:
Mark out contaminated area with signs and prevent access to unauthorised personnel.
Environmental Precautions:
Prevent discharge of large quantities to drain or water courses.
Clean up Procedures:
Disperse small spillages with large excess of water. Large spillages - contain, absorb and pick up, place in sealed containers for disposal via licensed contractor. Wash down traces with excess of water.

7. HANDLING AND STORAGE

Handling:
After handling wash hands and face with soap and water.
Storage:
May be stored for periods over six months in plastic containers as supplied. Avoid temperatures above 45 ^{o}C and protect from frost.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

WEL (2-methoxymethylethoxy)propanol 8hr TWA 50ppm / 308mg/m^3 (EH40 2005)
Under normal conditions of use this limit is unlikely to be exceeded.

Engineering Controls:	Provide eyewash station. Ensure good natural ventilation.
Personal Protection:	**Hand:** Use protective gloves made of neoprene or nitrile.
	Eyes: Wear safety glasses.

9. PHYSICAL AND CHEMICAL PROPERTIES

Density at 20^{o}C	:	0.95 – 0.97
Vapour Pressure at 20^{o}C	:	Essentially Water Vapour
Solubility in Water	:	Disperses
pH	:	6.0 - 7.5
Flash Point	:	N/A

10. STABILITY AND REACTIVITY

Stability: Stable.
Materials to avoid: No known adverse reactions.
Hazardous decomposition products: No typical hazardous decomposition products known .

11. TOXICOLOGICAL INFORMATION

Health Effects:

Respiratory:	Not likely to occur.
Skin:	Irritating to skin on prolonged or repeated skin contact.
Eyes:	Irritating to eyes.
Ingestion:	Low acute toxicity. May cause irritation to mucous membranes in mouth, throat, stomach and intestinal canal.

Toxicological Data:

For individual components:

Component	Acute Toxicity
Dipropylene glycol mono methyl ether	LD50 oral (rat): 5000mg/kg
Orange terpenes	LD50 oral (rat): 4400mg/kg
Isopropylamine dodecyl benzene sulphonate	LD50 oral (rat): >2000mg/kg
Alcohol ethoxylate	Oral: 200< LD50<2000mg./kg Dermal: LD50>2000mg/kg Inhalation: LC50>5mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity:

For individual components:

Component	Acute Toxicity
Orange terpenes	EC50 Daphnia magna 48h 12.3mg/L
Alcohol ethoxylate	Fish: 1< LC50<10mg./L Daphnia: 1< LC50<10mg./L Algae: 1< LC50<10mg./L

Degradability:

All components are readily biodegradable.

Bioaccumulation:

No bioaccumulation is expected. The product is biodegradable and water-soluble.

13. DISPOSAL CONSIDERATION

Disperse small spillages with large excess of water. Return unwanted material to the supplier.

14. TRANSPORT INFORMATION

Not classified as hazardous for transport.

15. REGULATORY INFORMATION

Irritant X_i

R36/38 Irritating to skin and eyes.

S02 Keep out of the reach of children.
S26 In case of contact with the eyes rinse immediately with plenty of water and seek medical advice.
S37 Wear suitable gloves.

Regulatory Information:

UK Regulatory References: The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002.
EH40/2005 Workplace Exposure Limits 2005.

EC Directives: Dangerous Preparations Directive (1999/45/EC).
Safety Data Sheets Directive (2001/58/EC).

Approved Code of Practice: The Compilation of Safety Data Sheets.

16. OTHER INFORMATION

PLEASE NOTE:

The above information is based on the present state of our knowledge at the time of publication. It is given in good faith, no warranty is implied with respect to quality or specification of product. The user must satisfy himself that the product is entirely suitable.

Signature: _____ **Date: 9th August 2005**