APPENDIX F

Spill Report Forms

COURTICE POWER PARTNERS
BARTON-MALOW CANADA · KENAIDAN CONTRACTING Ltd.

SPILL REPORT FORM

Project Information

Job Name	Site Supervisor
Durham York Energy Centre	Rob Martin (Lexson)
Date of Occurrence	**Contractor Responsible for Spill**
June 24/13	Lomax

Material Spilled	Approx. Quantity	Location of Spill
Hydraulic Oil	2 Gallons	West of Pumphouse.

Description of Incident

Hydraulic line Broke causing oil spill. quickly contained area and cleaned up.

Root Cause Analysis

Hydraulic Hose Broke, due to wear and tear.

Method of Containment *(describe clean up measures used to contain the spill)*

spill kit. belonging to Lomax
excavation, 8 yards of soil were removed

MSDS Available: Yes ☑ No ☐ *NOTE - Please contact the Shop for refills of Spill Kit contents*

Environmental Impact None Soil removed from site by Millier Waste Management

Health & Safety Impact None

Property Damage Yes ☐ No ☑ *If Yes Describe:* _____

Items inSpill Kit Used? Yes ☑ No ☐

Cost Implications _____

Personnel *(list all site personnel involved in the containment and clean up of the spill)*

Name Mark Harris
Name Keven
Name Janice
Name Marcel
Name _____

Clean Up Details *(include a list of spill kit and or other contents used)*

removed all contaminated soil from site using a bin from Millier waste management.
absorbant pads, pillows

Method of Disposal *(describe disposal methods of contents used)*

Millier Waste Management, excavated contaminated soil

Comments and Recommendations

Report Prepared By: Mark Harris / Janice Campbell Date: June 24/13

COURTICE POWER PARTNERS
BARTON-MALOW CANADA · KENAIDAN CONTRACTING LTD.

SF5.2.14.2 Incident Report Form

Location & Type of Incident

Job Number/Name	Job Location *(Please include address, or main intersections, city and province)*		
11-588	Courtice, ON		
Project Supervisor	**Foreman/Lead Hand**	**Date of Occurrence**	**Time of Occurrence**
Jesse House	Paul Birch	June 28/13	2:20 ☐ AM ☑ PM
Who was incident reported to? *(Please list all names)*		**Date Incident Reported**	**Time Reported**
Jesse House, Scott Brazeau, Anthony Cipolla		June 28/13	2:25 ☐ AM ☑ PM

Type of Incident *(Please check all applicable)*

Fire/Explosion (5, 6, 7) ☐ | Equipment Damage (2, 5, 6, 7) ☑ | Other Property Damage (4, 5, 6) ☐ | Violence/Harassment ☐ *(not resulting in personal injury)*

Near Miss (6, 7) ☐ | Utility Damage (3, 5, 6) ☐ | Theft/Vandalism (4, 5, 6) ☐

Other (5, 6) ☐ *If Other, please specify* _____

The numbers listed following each type of accident, correspond to the sections of the form that must be completed in each case

Environmental Incident *(Please check if applicable)*

Erosion and Sedimentation Incident (6, 7) ☐ | Noise Emission/Complaint (6, 7) ☐ | Unauthorized /accidental damage to heritage item (6, 7) ☐

Workplace Harassment/Violence ☐ | Contaminated water discharge (5, 6, 7) ☐ | Unauthorized/accidental vegetation removal or harm (6, 7) ☐

Please note: For Spills including fuel, oil, waste material etc. use form SFS5.3.16 Spill report Form

Other ☒ *please specify* Oil Spill (See attached Spill Report)

The numbers listed following each type of accident, correspond to the sections of the form that must be completed in each case

Section # 2 - Equipment Damage (If completing this section a copy of this form must be forwarded to Equipment Manager)

Operator's Name	Operator's License/Certificate # *(if applicable)*	Estimated cost of damage
Marcel Gagnon		?

Describe damage to equipment/tool

damage to weld on radiator of the ACC transformer

CPP Operator working on behalf of Lexsan Electrical.

Section # 3 - Utility Damage (If completing this section a copy of this form must be forwarded to Health & Safety Manager, V.P. of Field Operations & V.P. of Contracts)

Type of Utility Damaged	Were utility locates obtained?	*If yes, please complete the following*	
	Yes ☐ No ☐	Name of Courtice Power Partners employee who attended the locate:	Date Locate Completed

Locate Number	Was the applicable Utility Company Notified of damage?	*If yes, please complete the following:* Time of Notification	Time Arrived	Duration of Repair
	Yes ☐ No ☐	☐ AM ☐ PM	☐ AM ☐ PM	

Section # 4 - Miscellaneous Damage (If completing this section a copy of this form must be forwarded to the Controller)

Please provide a list or description of materials property that was damaged/stolen/vandalized/other

ACC Transformer

Section # 5 - Emergency Services

Were Emergency Services Contacted? Yes ☐ NO ☒ If Yes, please identify which services were dispatched to site MOE ☒ Police ☐ Fire ☐ MOL ☐

Report Completed By (Name/Title/Badge No.) _____ Report No. _____

Contact No. ( ) _____ Name of MOL Inspector _____ Contact No. ( ) _____

Section # 6 - Description of Incident

Please give a detailed description of the incident, and provide a diagram in space provided *(answer the following questions, what, where, when, who, how)*

Delivery truck arrived to site at 2:00pm. The transformers were being unloaded by the fork lift. Weight of transformer was just over 11,000 lbs. Capacity of forklift is 12,000 lbs. There was wood blocking under transformer. He test lifted the load twice to test & there were no concerns. Rain was very heavy at the time. The plan was to clear the load of the truck then lower it to the ground. As the lift stopped, the liquid in the transformer shifted the momentum causing the entire load to shift. He tried to lower it to the ground before it fell and it hit the edge of the truck.

Incident Diagram *(please provide estimated distances, where applicable)*

See attached Photos

Please list the names of all those involved in incident		
Name	**Employer**	**Telephone Number**
Paul Birch	Lexsan Electrical	( )
Name	**Employer**	**Telephone Number**
		( )
Name	**Employer**	**Telephone Number**
		( )
Please list any witnesses to incident		
Name	**Employer**	**Telephone Number**
		( )
Name	**Employer**	**Telephone Number**
		( )
Name	**Employer**	**Telephone Number**
		( )

Please use the Witness Statement Form to record witnesses statements regarding the injury

Section # 7 - Root Cause Analysis

ased on the preliminary investigation conducted, please check off all contributing factors to the occurrence and provide an explanation for each factor. **NOTE** - Each factor includes examples of possible contributors facilitate completion of your analysis.

Contributing Factor	YES	NO	Possible Contributors
People	☒	☐	Lack of training, instruction or knowledge of a particular tool, material and/or process • Lack of Supervision • operator unfamiliarity/error • misconduct • result of another person's actions/inactions • workplace violence/harrassment
Explanation			
Poor planning due to the last minute arrival, arrived on a rainy Friday afternoon of a long weekend.			
Equipment	☐	☐	Inadequate guards/barriers • damage or defective equipment in use • incorrect tool use • maufacturer defect • safe guards removed or made ineffective • no inspection or maintenance conducted
Explanation			
Materials	☐	☐	Wrong type of material in use • improper handling/storage/shipment of materials • improperly labelled • damaged material
Explanation			
Environment	☒	☐	Surface conditions (slippery/wet/unstable) • overcrowded work area • poor air quality (lack of ventilation) • poor lighting • extreme temperatures • noise • poor housekeeping • dust
Explanation			
Rain had been heavy at times causing poor visibility.			
Process	☐	☐	Lack of procedure/process • improper flow in process • unforeseen hazard created by current process in use • non-conformance to procedural requirements • Incomplete Job Safety Analysis* **(attach copy of JSA completed to the report)*
Explanation			

What measures have been/are going to be implemented to prevent a reoccurrence?

Take time to plan task thoroughly no matter the timelines.

Work Refusal

As a result of the incident has a worker(s) refused to return to the work area and/or pre-incident job duties? Yes ☐ No ☒

If yes, please report this occurrence as required by procedure C5.2.20 Work Refusal. A copy of this incident report should be forwarded along with the notification.

Name of person completing incident report		Date
Janice Campbell		July 3/13
Please print	*Signature*	

Please note that all documents/statements/reports pertaining to the incident must be attached to this report when filed. All incident reports must be submitted to the HR Department.

WESCO DISTRIBUTION℠

DATE Thurs July 4/2013

PAGE 1 OF 1

Incident on Friday June 28/2013

- Transformers arrived @ 2pm on Friday afternoon. Very rainy conditions.
- 2 Lexsa employees spotting for a Kenaide employee on a telehandler.
- The pick was made off the truck, Then placed on the truck again to reposition + get a better lift.
- checked load + machine seemed ok with load.
- proceeded to back up + start to lower
- as lowering load load started to shift/slip Lift operator was able to lower to prevent a drop, but hit side of truck on way down.
- top pipe of rod section clipped side of truck puncturing a hole.
- mineral oil was leaking + immediately we tried to contain with spill kits
- the referee reported the incident

Paul Rich
Lexsa.

COURTICE POWER PARTNERS
BARTON-MALOW CANADA · KENAIDAN CONTRACTING LTD.

SPILL REPORT FORM

Project Information

Job Name	Site Supervisor
Durham York Energy Centre	Jesse House
Date of Occurrence	**Contractor Responsible for Spill**
June 26/13	Kenaidan Contracting / Leksan Electrical
Material Spilled / **Approx. Quantity**	**Location of Spill**
Mineral Oil / < 1 gallon	Inside Parking Lot

Description of Incident

See incident report attached.

Root Cause Analysis

Method of Containment *(describe clean up measures used to contain the spill)*

Absorbant pads, socks were used to contain the oil. Berms were built around the catch basin and near the equipment.
Badger Lighting was called in to remove all contaminated soil, water and excess oil.

MSDS Available: Yes ☐ No ☐ *NOTE - Please contact the Shop for refills of Spill Kit contents*

Environmental Impact _____

Health & Safety Impact None

Property Damage Yes ☒ No ☐ *If Yes Describe:* See attached Incident Report

Items inSpill Kit Used? Yes ☑ No ☐

Cost Implications _____

Personnel *(list all site personnel involved in the containment and clean up of the spill)*

Name Marcel Gagnon

Name Scott Brazeau

Name _____

Name _____

Name _____

Clean Up Details *(include a list of spill kit and or other contents used)*

absorbant pads, pillows, socks

Method of Disposal *(describe disposal methods of contents used)*

A vac truck was brought in to remove all contaminated soils, pads, pillows, socks, etc.

Comments and Recommendations

MOL Reference - 2340-994UZ8

Report Prepared By: Janice Campbell **Date:** July 3/13

SAFETY DATA SHEET

Health, Environment & Safety Data sheet

---

1. Identification of the Substance/Preparation and the Company/Undertaking

Product Name:	Nytro 10GBN
Application:	Insulating Oil, naphthenic
Supplier:	Nynas USA, Inc 1800 W Loop Soouth Suite 11150 Houston TX 77027-3291 Texas , USA
Telephone No.:	+1-713 586 3838
Fax:	+1-713 586 3835
Technical Contact:	+46-8-520 65 000

---

2. Composition/Information of Ingredients

Chemical Name:	Hydrotreated Light Naphthenic Distillate
CAS No.:	64742-53-6 100%
OSHA:	This product is covered by the OSHA Hazard Communication Rule 29, CFR 1910.1200.
DMSO exractables:	< 3%

---

3. Hazards identification

Physical and Chemical limited. The hazardous properties of this product are considered to be

Hazards:

Human Health:	Prolonged or repeated skin contact may cause redness, itching, irritation and oil acne.
Inhalation:	Inhalation of vapors and/or mists might irritate respiratory tract.
Target organs:	This material may cause damage to skin.
Environment:	Risk for contamination of earth, soil and water. The product will remain for long time in the environment.

4. First Aid Measures

Inhalation:	Move into fresh air and keep at rest. In case of persistent coughing or irritation in throat after inhalation of oil mists: seek medical attention.
Skin contact:	Remove immediately contaminated clothing and wash skin with soap and plenty of water.In case of rashes, wounds or other skin disorders, seek medical attention and show this instruction.
Eye contact:	Flush immediately with plenty of water for up to 15 minutes.Remove contact lenses and keep eyelids open. If irritation persists, seek medical attention and show this instruction.
Ingestion:	Clean mouth with water. Obtain medical advice if a large amount has been swallowed. Do not induce vomiting.

5. Fire-fighting Measures

Suitable extinguishing media:	Extinguish preferably with dry chemical, carbon dioxide (CO_2), foam. or Waterspray / mist may be used.
Extinguishing media	Water jet, unless used by authorized people.(Stain risk caused

by
which must not be used for safety reasons: combustion).

Protective equipment for general fire fighters: Selection of respiratory protection for fire fighting : follow the fire precautions indicated by the workplace.

---

6. Accidental Release Measures

Personal precautions: Suitable protection equipment should be used. In case of large spillage, the cleaning procedure should be carried out using suitable protective clothing such as overall, gloves and boots.
Remove contaminated clothes as soon as possible.
Smaller spillage can be wiped up with paper cloths, using protective gloves.

Environmental pre-cautions: Prevent spills to enter and spread to drains, sewers, water courses, and soil. Contact local safety authorities.

Methods for cleaning up: Absorb leaking product with sand, earth or other suitable inert material and collect.Waste disposal according to section13.

Physical and chemical hazard: At elevated temperatures flammable vapors and decomposition products will be released.Risk for slippery floors if spilled out.

---

7. Handling and Storage

Handling: Avoid prolonged and repeated contact with oil, particularly used oil.
Always remove oil with soap and water or skin cleaning agent, never use organic solvents. Do not use oil-contaminated clothing or shoes, and do not put rags moistened with oil into pockets.
Handle in accordance with good industrial hygiene and safety practices.

Technical measures: Use work methods that minimize oil mist production.Avoid temperatures above the flashpoint.

Technical precautions: When working with heated oil, mechanical ventilation may be required.

Storage: Store in tightly closed original container and at ambient temperature or with lowest necessary heating as handling requires. Empty containers may contain residues that can ignite with explosive force.Do not pressurize, cut, weld, braze solder, drill, grind or expose empty container to any flames,sparks heat or other potential sources of ignition.

---

8. Exposure Controls/Personal Protection

Control parameters: Exposure via the air and normal handling.

Engineering measures: Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and oil mist. Provide access to washing facilities including soap.Skin cleanser and fatty cream.

Chemical name:	Exposure limits:	Type/Notes:	References:
Oil mist, mineral	5 mg/m^3	TWA	OSHA
Oil mist, mineral	5 mg/m^3	TWA	ACGIH (2003)

•Respiratory protection: In case of inadequate ventilation or risk of inhalation of oil mist suitable mask with combination filter, type A2P2 can be used.

•Hand protection: Wear oil-resistant protective gloves.Suitable gloves are neoprene, nitrile- or acrylnitrilebutadiene rubber,or PVC. Frequent change is advisable.

•Eye protection:	Risk of splashes: Wear safety goggles / safe shield.
•Skin and body protection:	Wear protective clothing or apron when there is a risk of skin contact.
Hygienic measures:	Wash hands after contact. Wash contaminated clothing before reuse.

9. Physical and Chemical Properties

Appearance:	Viscous yellow liquid.
Color:	<0.5 ASTM, pale light yellow
Odor:	Odorless / light petroleum
Melting point/pour point:	-24°F
Initial boiling point:	>482°F
Density at 59°F:	887 kg/m^3 (Water = 1000 kg/m^3)
Flash point,PM:	> 294.8°F
Auto ignition temp.:	>518°F
Solubility in water:	Not soluble.
Solubility in organic solvents:	Soluble
Decomposition temp.:	>536F°
Vapor pressure at 212°F:	160 Pascal
Calculated partition coefficient n-octanol/ water, log P_{ow}:	>6
Viscosity at 104°F:	9.0 cSt
DMSO extractible compounds according to IP 346:	< 3%
pH:	not relevant

10. Stability and Reactivity

Stability:	Stable at normal temperature conditions. Will decompose at temperatures exceeding 518°F.
Avoid:	Excessive heating and highly oxidizing agents.
Hazardous decomposition products:	Flammable gases which might also be noxious. With air present, there is a risk for auto ignition at temperatures >518°F.

11. **Toxicological Information**

The harmful effects may increase in used oil.

Acute toxicity:

Inhalation:	Inhalation of oil mist or vapors formed during heating of the product may irritated the respiratory system and provoke coughing.
Skin contact:	Degreasing. Prolonged or frequent contact may cause redness, itching, irritation, eczema/chaps and oil acne.
Ingestion:	May cause irritate and cause malaise.Studies available indicate oral LD_{50} s of >5 000 mg/kg which is considered as low acute toxicity.
Eye contact:	Splashes may irritate.
Specific effects:	Prolonged or repeated contact with **used** oil may cause serious skin diseases such as dermatitis and skin cancer. This product contains no ingredient listed on the NTP, OSHA or IARC carcinogen lists.

12. **Ecological Information**

Mobility:	Low, due to low water solubility. The product is not miscible with water and will spread on the water surface. The product is non-volatile.
Degradability:	The product is expected to be slowly biodegradable.

Bioaccumulative potential:	Bioaccumulation: Log P_{ow} = >3.9->6.0. The size of the hydrocarbon molecules reduces the risk of bioaccumulation.
Ecotoxicity:	LC_{50} (fish) >1 000 mg/l. Low toxicity to fish.
Other adverse effects:	None known.

13. Disposal Considerations

Dispose of waste and residues according to agreement with local authorities.

14. Transport Information

This product is not covered by international regulation on the transport of dangerous goods (IMDG,
IATA, ADR/RID).

15. Regulatory Information

TSCA : all chemicals included in the product are TSCA listed.

Distillates (petroleum), hydrotreated naphthenic, CAS-No. 64742-52-5:

NFPA Rating: Health: 0 Fire: 1 Reactivity: 0 Other: -

Specific provisions:	National specific regulation may apply.
National regulation:	The following list have been checked:
	Threshold Limit Values (2003), ACGIH, by the American Conference
	on Governmental Industrial Hygienists.
	The code of Federal Regulation, Title 29, part 1910. Occupational
	safety and Health Standards, Air contaminants.
	U.S. Department of health an human services: 2002- Report on Carcinogens-10th Ed.
	International Agency for Research on Cancer (IARC): IARC Monographs on the Evaluation of Carcinogenic Risks to

Humans.
Lyon: IARC, Word Health Organization, 1972-2000.
The Code of Federal Regulation, Title 40, Part 261.33.
Identification
and listing of hazardous waste.
The Code of Federal Regulation, Title 40, Part 302.4.
Designation,
reportable quantities, and Notification.
The Code of Federal Regulation, Title 40, Part 68.130.
Chemical
accident Prevention Provisions.

---

16. **Other Information**

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

Handling of used oils:
Protect health - avoid prolonged and repeated skin contact. Wash with soap and water.
Protect the environment - do not pollute drains, water courses or the soil. contact your local authority for any used oil disposal instructions.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed as a guidance for safe handling, use,processing, storage, transportation, disposal, and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material in combination with any other materials or in any process, unless specified in the text.

Designation: D 3487 – 88

Standard Specification for Mineral Insulating Oil Used in Electrical Apparatus[1]

This standard is issued under the fixed designation D 3487; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the Department of Defense. Consult the DoD Index of Specifications and Standards for the specific year of issue which has been adopted by the Department of Defense.

1. Scope

1.1 This specification covers new mineral insulating oil of petroleum origin for use as an insulating and cooling medium in new and existing power and distribution electrical apparatus, such as, transformers, regulators, reactors, circuit breakers, switchgear, and attendant equipment.

1.2 This specification is intended to define a mineral insulating oil that is functionally interchangeable and miscible with existing oils, is compatible with existing apparatus and with appropriate field maintenance,[2] and will satisfactorily maintain its functional characteristics in its application in electrical equipment. This specification applies only to new insulating oil as received prior to any processing.

2. Referenced Documents

2.1 *ASTM Standards:*

D 88 Test Method for Saybolt Viscosity[3]

D 92 Test Method for Flash and Fire Points by Cleveland Open Cup[3]

D 97 Test Method for Pour Point of Petroleum Oils[4]

D 445 Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and the Calculation of Dynamic Viscosity)[4]

D 611 Test Methods for Aniline Point and Mixed Aniline Point of Petroleum Products and Hydrocarbon Solvents[4a]

D 877 Test Method for Dielectric Breakdown Voltage of Insulating Liquids Using Disk Electrodes[4]

D 923 Methods of Sampling Electrical Insulating Liquids[3]

D 924 Test Method for A-C Loss Characteristics and Relative Permittivity (Dielectric Constant) of Electrical Insulating Liquids[3]

D 971 Test Method for Interfacial Tension of Oil Against Water by the Ring Method[4]

D 974 Test Method for Acid and Base Number by Color-Indicator Titration[4]

D 1275 Test Method for Corrosive Sulfur in Electrical Insulating Oils[4]

D 1298 Test Method for Density, Relative Density (Specific Gravity), or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method[4]

D 1473 Test Method for 2,6-Ditertiary-Butyl Para-Cresol in Electrical Insulating Oils[3a]

D 1500 Test Method for ASTM Color of Petroleum Products (ASTM Color Scale)[4]

D 1524 Method for Visual Examination of Used Electrical Insulating Oils of Petroleum Origin in the Field[3]

D 1533 Test Methods for Water in Insulating Liquids (Karl Fischer Reaction Method)[3]

D 1816 Test Method for Dielectric Breakdown Voltage of Insulating Oils of Petroleum Origin Using VDE Electrodes[3]

D 1903 Test Method for Coefficient of Thermal Expansion of Electrical Insulating Liquids of Petroleum Origin, and Askarels[3]

D 2112 Test Method for Oxidation Stability of Inhibited Mineral Insulating Oil by Rotating Bomb[3]

D 2300 Test Method for Gassing of Insulating Oils Under Electrical Stress and Ionization (Modified Pirelli Method)[3]

D 2440 Test Method for Oxidation Stability of Mineral Insulating Oil[3]

D 2668 Test Method for 2,6-Ditertiary-Butyl Para-Cresol and 2,6-Ditertiary-Butyl Phenol in Electrical Insulating Oil by Infrared Absorption[3]

D 2717 Test Method for Thermal Conductivity of Liquids[5]

D 2766 Test Method for Specific Heat of Liquids and Solids[6]

D 3300 Test Method for Dielectric Breakdown Voltage of Insulating Oils of Petroleum Origin Under Impulse Conditions[3]

D 4059 Method for Analysis of Polychlorinated Biphenyls in Insulating Liquids by Gas Chromatography[3]

3. Definitions

3.1 *Type I Mineral Oil*—an oil for apparatus where normal oxidation resistance is required. Some oils may require the addition of a suitable oxidation inhibitor to achieve this.

3.2 *Type II Mineral Oil*—an oil for apparatus where

[1] This specification is under the jurisdiction of ASTM Committee D-27 on Electrical Insulating Liquids and Gases and is the direct responsibility of Subcommittee D27.01 on Mineral Oils.

Current edition approved May 12, 1988. Published August 1988. Originally published as D 3487 – 76. Last previous edition D 3487 – 82a.

[2] Refer to American National Standard C59.131. Guide for Acceptance and Maintenance of Insulating Oil in Equipment (IEEE Standard 64). Available from the American National Standards Institute, 1430 Broadway, New York, NY 10018.

[3] *Annual Book of ASTM Standards*, Vol 10.03.

[3a] Discontinued; see *1987 Annual Book of ASTM Standards*, Vol 10.03.

[4] *Annual Book of ASTM Standards*, Vols 10.03 and 05.01.

[4a] *Annual Book of ASTM Standards*, Vols 05.01, 06.03, and 10.03.

[5] *Annual Book of ASTM Standards*, Vols 05.02 and 14.01.

[6] *Annual Book of ASTM Standards*, Vol 05.02.

TABLE 1 Property Requirements

Property	Limit		ASTM Test Method
	Type I	Type II	
Physical:			
Aniline point, °C	(63–84)[A]	(63–84)[A]	D 611
Color, max	0.5	0.5	D 1500
Flash point, min, °C	145	145	D 92
Interfacial tension at 25°C, min, dynes/cm	40	40	D 971
Pour point, max, °C	−40[B]	−40[B]	D 97
Specific gravity, 15°C/15°C max	0.91	0.91	D 1298
Viscosity, max, cSt (SUS) at:			
100°C	3.0 (36)[C]	3.0 (36)[C]	D 445 or D 88
40°C	12.0 (66)[C]	12.0 (66)[C]	
0°C	76.0 (350)	76.0 (350)	
Visual examination	clear and bright	clear and bright	D 1524
Electrical:			
Dielectric breakdown voltage at 60 Hz:			
Disk electrodes, min, kV	30	30	D 877
VDE electrodes, min, kV 0.040-in. (1.02-mm) gap	28[D]	28[D]	D 1816
0.080-in. (2.03-mm) gap	56[D]	56[D]	
Dielectric breakdown voltage, impulse conditions			
25°C, min, kV, needle negative to sphere grounded, 1-in. (25.4-mm) gap	145[A,E]	145[A,E]	
Gassing tendency,[F,G] max, µL/min	+15	+15	D 2300 (Procedure A)
	+30	+30	D 2300 (Procedure B)
Dissipation factor (or power factor), at 60 Hz max, %:			D 924
25°C	0.05	0.05	
100°C	0.30	0.30	
Chemical:			
Oxidation stability (acid-sludge test)			D 2440
72 h:			
% sludge, max, by mass	0.15	0.1[A]	
Total acid number, max, mg KOH/g	0.5	0.3[A]	
164 h:			
% sludge, max, by mass	0.3	0.2[A]	
Total acid number, max, mg KOH/g	0.6	0.4[A]	
Oxidation stability (rotating bomb test), min, minutes	—	195	D 2112
Oxidation inhibitor content, max, % by mass	0.08	0.3	D 1473 or D 2668[H]
Corrosive sulfur	noncorrosive		D 1275
Water, max, ppm	35	35	D 1533
Neutralization number, total acid number, max, mg KOH/g	0.03	0.03	D 974
PCB content, ppm	not detectable	not detectable	D 4059

[A] The value shown represents current knowledge. Work is in progress to reaffirm the validity of this value.

[B] In certain sections of the United States and Canada, it is common practice to specify a lower or higher pour point, depending upon climatic conditions.

[C] At the temperatures previously used for insulating oil viscosity determinations, these values correspond to 3.1 cSt (36.5 SUS) at 210°F (98.9°C) and to 13.0 cSt (70 SUS) at 100°F (37.8°C).

[D] These limits by Method D 1816 are applicable only to new oil which has been filtered, dehydrated, and degassed (see Appendix, X2.2.3).

[E] Currently available oils vary in impulse strength. Some users prefer oil of a 145 kV minimum for certain applications, while others accept oil with impulse strength as low as 130 kV for other applications.

[F] Specification requires that insulating oils meet the gassing tendency limits as measured by Method D 2300 either Procedure A or B. The specification does not require that insulating oils meet gassing tendency limits as measured by both Method D 2300 Procedures A and B.

[G] In the gassing tendency test in Method D 2300 Procedures A and B, the test temperature should be 80°C with a test voltage of 12 kV for Procedure A and a test voltage of 10 kV for Procedure B.

[H] Both 2,6-ditertiary-butyl para-cresol and 2,6-ditertiary butylphenol have been found to be suitable oxidation inhibitors for use in oils meeting this specification.

Preliminary studies indicate Method D 2668 is suitable for determining concentration of either inhibitor or their mixture. Method D 1473 is suitable for determining concentration of 2,6-ditertiary-butyl para-cresol, but its applicability to 2,6-ditertiary butylphenol is still under investigation.

greater oxidation resistance is required. This is usually achieved with the addition of a suitable oxidation inhibitor.

NOTE 1—During processing of inhibited mineral oil under vacuum and elevated temperatures, partial loss of inhibitor and volatile portions of mineral oil may occur. The common inhibitors, 2,6-ditertiary-butyl para-cresol and 2,6-ditertiary-butyl phenol, are more volatile than transformer oil. If processing conditions are too severe, oxidation stability of the oil may be decreased due to loss of inhibitor. The selectivity for removal of moisture and air in preference to loss of inhibitor and oil is improved by use of a low processing temperature.

Conditions that have been found satisfactory for most inhibited mineral oil processing are:

Temperature, °C	Minimum Pressure	
	Pa	Torr, Approximate
40	5	0.04
50	10	0.075
60	20	0.15
70	40	0.3
80	100	0.75
90	400	3.0
100	1000	7.5

If temperatures higher than those recommended for the operating pressure are used, the oil should be tested for inhibitor content and inhibitor added as necessary to return inhibitor content to its initial value. Attempts to dry apparatus containing appreciable amounts of free water may result in a significant loss of inhibitor even at the conditions recommended above.

3.3 *additives*—chemical substances that are added to mineral insulating oil to achieve required functional properties.

3.4 *properties*—those properties of the mineral insulating oil which are required for the design, manufacture, and operation of the apparatus. These properties are listed in Section 5.

4. Sampling and Testing

4.1 Take all oil samples in accordance with Methods D 923.

4.2 Make each test in accordance with the latest revision of the ASTM test method specified in Section 5.

4.3 The oil shall meet the requirements of Section 5 at the unloading point.

NOTE 2—Because of the different needs of the various users, items relating to packaging, labeling, and inspection are considered to be subject to buyer-seller agreement.

NOTE 3—In addition to all other tests listed herein, it is sound engineering practice for the apparatus manufacturer to perform an evaluation of new types of insulating oils in insulation systems, prototype structures, or full-scale apparatus, or any combination thereof, to assure suitable service life.

4.4 Make known to the user the generic type and amount of any additive used, for assessing any potential detrimental reaction with other materials in contact with the oil.

5. Property Requirements

5.1 Mineral insulating oil conforming to this specification shall meet the property limits given in Table 1. The significance of these properties is discussed in Appendix X2.

APPENDIXES

(Nonmandatory Information)

X1. SUPPLEMENTARY DESIGN INFORMATION

X1.1 The following values are typical for presently used mineral insulating oils. For oils derived from paraffinic or mixed-base crudes, the apparatus designer needs to know that these properties have not changed.

Property	Typical Values	ASTM Test Method
Coefficient of expansion, /°C from 25 to 100°C	0.0007 to 0.0008	D 1903
Dielectric constant, 25°C	2.2 to 2.3	D 924
Specific heat, cal/g, 20°C	0.44	D 2766
Thermal conductivity, cal/cm·s·°C, from 20 to 100°C	$(0.30 \text{ to } 0.40) \times 10^{-3}$	D 2717

X2. SIGNIFICANCE OF PROPERTIES OF MINERAL INSULATING OIL

X2.1 Physical Properties

X2.1.1 *Aniline Point*—The aniline point of a mineral insulating oil indicates the solvency of the oil for materials that are in contact with the oil. It may relate to the impulse and gassing characteristics of the oil.

X2.1.2 *Color*—A low color number is an essential requirement for inspection of assembled apparatus in the tank. An increase in the color number during service is an indicator of deterioration of the mineral insulating oil.

X2.1.3 *Flash Point*—The safe operation of the apparatus requires an adequately high flash point.

X2.1.4 *Interfacial Tension*—A high value for new mineral insulating oil indicates the absence of undesirable polar contaminants. This test is frequently applied to service-aged oils as an indicator of the degree of deterioration.

X2.1.5 *Pour Point*—The pour point of mineral insulating oil is the lowest temperature at which the oil will just flow and many of the factors cited under viscosity apply. The pour point of −40°C may be obtained by the use of suitable distillates, refining processes, the use of appropriate long life additives, or any combination thereof. If a pour point additive is used, it is necessary to make known the amount and chemical composition.

X2.1.6 *Specific Gravity*—The specific gravity of a mineral insulating oil influences the heat transfer rates and may be pertinent in determining suitability for use in specific applications. In extremely cold climates, specific gravity has been used to determine whether ice, resulting from freezing of water in oil-filled apparatus, will float on the oil and possibly result in flashover of conductors extending above the oil level. See, for example, "The Significance of the Density of Transformer Oils."[7]

X2.1.7 *Viscosity*—Viscosity influences the heat transfer and, consequently, the temperature rise of apparatus. At low temperatures, the resulting higher viscosity influences the speed of moving parts, such as those in power circuit breakers, switchgear, load tapchanger mechanisms, pumps, and regulators. Viscosity controls mineral insulating oil processing conditions, such as dehydration, degassification and filtration, and oil impregnation rates. High viscosity may adversely affect the starting up of apparatus in cold climates (for example, spare transformers and replacements).

[7] Mulhall, V. R., "The Significance of the Density of Transformer Oils," *IEEE Transactions on Electrical Insulation*, Vol 15, No. 6, December 1980, pp. 498–499.

X2.1.8 *Visual Examination*—A simple visual inspection of mineral insulating oil may indicate the absence or presence of undesirable contaminants. If such contaminants are present, more definitive testing is recommended to assess their effect on other functional properties.

X2.2 Electrical Properties

X2.2.1 *Dielectric Breakdown Voltage, 60 Hz*—The dielectric breakdown voltage of a mineral insulating oil indicates its ability to resist electrical breakdown at power frequencies in electrical apparatus.

X2.2.1.1 *Dielectric Breakdown—Disk Electrodes*—The test utilizing disk electrodes is useful in assessing the quality of the mineral insulating oil as received in tank cars, tank trucks, or drums. It is not sensitive enough to determine if an oil meets the minimum acceptable breakdown strength needed for processed oil used in some equipment.

X2.2.1.2 *Dielectric Breakdown—VDE Electrodes*—The VDE method (D 1816), because of its sensitivity to contaminants, is used to determine if a processed oil meets the minimum acceptable breakdown strength of new oils, as required in apparatus. To obtain the limits shown in Section 5, oil must be filtered, dehydrated, and degassed. (As a guide for the user of this test procedure, acceptable processing should yield an oil that is essentially free of particulate matter, and with moisture and gas content levels of the order of 15 ppm and 0.5 % by volume, respectively.) This test is not applicable to new unprocessed oil.

X2.2.2 *Dielectric Breakdown Voltage–Impulse*—The impulse strength of oil is critical in electrical apparatus. The impulse breakdown voltage of an oil indicates its ability to resist electrical breakdown under transient voltage stresses (lightning and switching surges). The functional property is sensitive to both polarity and electrode geometry.

X2.2.3 *Dissipation Factor*—Dissipation factor (power factor) is a measure of the dielectric losses in an oil. A low dissipation factor indicates low dielectric losses and a low level of soluble contaminants.

X2.3 Chemical Properties

X2.3.1 *Oxidation Inhibitor Content*—Oxidation inhibitor added to mineral insulating oil retards the formation of oil sludge and acidity under oxidative conditions. It is important to know if an oxidation inhibitor has been added to the oil and the amount. 2,6-Ditertiary-butyl para-cresol and 2,6-ditertiary butylphenol have been found suitable for use in mineral insulating oils complying with this specification. It is anticipated that other oxidation inhibitors will be accepted.

X2.3.2 *Corrosive Sulfur*—The absence of elemental sulfur and thermally unstable sulfur-bearing compounds is necessary to prevent the corrosion of certain metals such as copper and silver in contact with the mineral insulating oil.

X2.3.3 *Water Content*—A low water content of mineral insulating oil is necessary to achieve adequate electrical strength and low dielectric loss characteristics, to maximize the insulation system life, and to minimize metal corrosion.

X2.3.4 *Neutralization Number*—A low total acid content of a mineral insulating oil is necessary to minimize electrical conduction and metal corrosion and to maximize the life of the insulation system.

X2.3.5 *Oxidation Stability*—The development of oil sludge and acidity resulting from oxidation during storage, processing, and long service life should be held to a minimum. This minimizes electrical conduction and metal corrosion, maximizes insulation system life and electrical breakdown strength, and ensures satisfactory heat transfer. The limiting values in accordance with Section 5, as determined by Methods D 2112 and D 2440, best achieve these objectives.

X2.3.6 *Gassing*—The gassing tendency of a mineral insulating oil is a measure of the rate of absorption or desorption of hydrogen into or out of the oil under prescribed laboratory conditions. It reflects, but does not measure, aromaticity of the oil. Most oil-filled transformers are blanketed with nitrogen or oxygen-depleted air. The gassing tendency of oil under nitrogen does not directly relate to its gassing tendency under hydrogen. No quantitative relationship has been established between the gassing tendency of an oil, as indicated by the results of Method D 2300, and the performance or life of that oil in service.

X2.3.7 *PCB Content*—United States regulations specify procedures to be followed for the use and disposal of electrical apparatus and electrical insulating fluids containing PCB (polychlorinated biphenyls). The procedure to be used for a particular apparatus or lot of insulating fluid is determined from its PCB content. New mineral insulating oil of the type covered by this specification should not contain any detectable PCB. A nondetectable PCB concentration measured by Method D 4059 provides documentation to permit the insulating oil and apparatus containing it to be used without the labeling, recordkeeping, and disposal restrictions required of PCB-containing materials.

COURTICE POWER PARTNERS
BARTON-MALOW CANADA · KENAIDAN CONTRACTING Ltd

SPILL REPORT FORM

Project Information

Job Name	Site Supervisor
Durham - York Energy Centre	Greg Elms - W.S. Nicholls
Date of Occurrence	**Contractor Responsible for Spill**
Tuesday. July 9 / 13.	W.S. Nicholls

Material Spilled	Approx. Quantity	Location of Spill
Hydraulic Fluid.	1 litre	West side of Boiler Building

Description of Incident

A hydraulic line on a articulating boom lift let go, releasing a small amount of hydraulic oil on the ground.

Root Cause Analysis

Mechanical Failure of pressurized hydraulic line.

Method of Containment *(describe clean up measures used to contain the spill)*

Absorbant pads.

MSDS Available: Yes ☑ No ☐ *NOTE - Please contact the Shop for refills of Spill Kit contents*

Environmental Impact: Minimal

Health & Safety Impact: Low

Property Damage: Yes ☐ No ☑ *If Yes Describe:*

Items inSpill Kit Used? Yes ☑ No ☐

Cost Implications: 0

Personnel *(list all site personnel involved in the containment and clean up of the spill)*

Name: Jason Duggan - B/M.

Name: Greg Elms - B/M.

Name: Dave Houston - B/M.

Name:

Name:

Clean Up Details *(include a list of spill kit and or other contents used)*

Absorbant Pads.

Method of Disposal *(describe disposal methods of contents used)*

Comments and Recommendations

Report Prepared By: Daynell Rose Date: July 12/13

Material Safety Data Sheet

1. Product and company identification

Product name	Paradene AW 32
MSDS #	459059
Code	459059-CA01
Product use	Hydraulic fluid For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Manufacturer	Castrol Industrial North America, Inc. 150 W. Warrenville Road Naperville, IL 60563
Supplier	Wakefield Canada, Limited 3620 Lakeshore Blvd West Toronto, Ontario, Canada M8W 1P2 Castrol Industrial North America, Inc. 150 W. Warrenville Road Naperville, IL 60563 Product Information: +1-877-641-1600
EMERGENCY SPILL INFORMATION:	1 (613) 996-6666 CANUTEC (Canada)

2. Hazards identification

Physical state	Liquid.
Color	Amber. [Light]
Emergency overview	CAUTION !
	MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
	Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Routes of entry	Dermal contact. Eye contact. Inhalation.
Potential health effects	
Eyes	May cause eye irritation.
Skin	May cause skin irritation.
Inhalation	May cause respiratory tract irritation.
Ingestion	Ingestion may cause gastrointestinal irritation and diarrhea.

See toxicological information (Section 11)

3. Composition/information on ingredients

Ingredient name	CAS #	%
Base oil - highly refined	Varies	95 - 100

4. First aid measures

Eye contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Skin contact

Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.

Notes to physician

Treatment should in general be symptomatic and directed to relieving any effects.

Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discolored and extremely painful with extensive subcutaneous necrosis. Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimize tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

5. Fire-fighting measures

Flash point

Closed cup: 200°C (392°F) [Pensky-Martens.]

Fire/explosion hazards

In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable

Use an extinguishing agent suitable for the surrounding fire.

Not suitable

Do not use water jet.

Fire-fighting procedures

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products

Combustion products may include the following:
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)

Protective clothing (fire)

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions

No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling

Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Storage

Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	**ACGIH (United States).** TWA: 5 mg/m³ 8 hour(s). Form: Mineral oil, mist **OSHA (United States).** TWA: 5 mg/m³ 8 hour(s). Form: Mineral oil, mist

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Control Measures

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

Eyes

Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

Skin and body

Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory

Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

Hands

The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

9. Physical and chemical properties

Physical state	Liquid.
Color	Amber. [Light]
Odor	Not available.
Odor threshold	Not available.
Flash point	Closed cup: 200°C (392°F) [Pensky-Martens.]
Specific gravity	Not available.
Density	872 kg/m³ (0.872 g/cm³) at 15.6°C
pH	Not available.
Viscosity	Kinematic: 32 mm²/s (32 cSt) at 40°C
Boiling point / Range	Not available.
Melting point / Range	Not available.

Vapor pressure	Not available.
Vapor density	Not available.
Evaporation rate	Not available.
Solubility	insoluble in water.
gK_{ow}	Not available.

10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Potential chronic health effects

Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.
Reproductive effects	No known significant effects or critical hazards.
Medical conditions aggravated by over-exposure	None known.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

13. Disposal considerations

Waste information

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

WHMIS (Canada) Not controlled under WHMIS (Canada).

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

Other regulations

Canada inventory	All components are listed or exempted.
United States inventory (TSCA 8b)	All components are listed or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.
Australia inventory (AICS)	All components are listed or exempted.
China inventory (IECSC)	All components are listed or exempted.
Japan inventory (ENCS)	All components are listed or exempted.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.

16. Other information

Label requirements CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

History

Date of issue 03/30/2012.

Date of previous issue No previous validation.

Prepared by Product Stewardship

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

COURTICE POWER PARTNERS
BARTON-MALOW CANADA · KENAIDAN CONTRACTING LTD.

SPILL REPORT FORM

Project Information

Job Name		Site Supervisor
Durham York Energy Centre		Rick Benns
Date of Occurrence		**Contractor Responsible for Spill**
Friday July 19th 2013		W.S. Nicholls
Material Spilled	**Approx. Quantity**	**Location of Spill**
Hydraulic Oil	3 litres	A.P.C. - Ground Floor - Concrete Slab.

Description of Incident

Workers were working from the man basket of a articulating boom lift. While lowering the man basket there was a hydraulic leak from inside the shroud cover.

Root Cause Analysis

Mechanical Failure - Ruptured Line (Hydraulic)

Method of Containment *(describe clean up measures used to contain the spill)*

Absorbant Pads. Wiped down the spill area and the boom lift.

MSDS Available: Yes ☑ No ☐ *NOTE - Please contact the Shop for refills of Spill Kit contents*

Environmental Impact: Minimal

Health & Safety Impact: No H&S impact.

Property Damage: Yes ☐ No ☒ *If Yes Describe:*

Items inSpill Kit Used? Yes ☒ No ☐ Absorbant Pads

Cost Implications: Ø

Personnel *(list all site personnel involved in the containment and clean up of the spill)*

Name: Rick Benns - Supervisor

Name: Larry Sullivan

Name: Tom Glavine

Name:

Name:

Clean Up Details *(include a list of spill kit and or other contents used)*

Absorbant Pads.

Method of Disposal *(describe disposal methods of contents used)*

Detox Environmental will remove the clean-up material

Comments and Recommendations

Stanmore - the equipment supply company were called and their mechanic is on site for repairs

Report Prepared By: Daynell Rowe Date: Friday July 19/13

Material Safety Data Sheet

Articulating Boom Lift

1. Product and company identification

Product name	Paradene AW 32
MSDS #	459059
Code	459059-CA01
Product use	Hydraulic fluid For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Manufacturer	Castrol Industrial North America, Inc. 150 W. Warrenville Road Naperville, IL 60563
Supplier	Wakefield Canada, Limited 3620 Lakeshore Blvd West Toronto, Ontario, Canada M8W 1P2 Castrol Industrial North America, Inc. 150 W. Warrenville Road Naperville, IL 60563 Product Information: +1-877-641-1600
EMERGENCY SPILL INFORMATION:	1 (613) 996-6666 CANUTEC (Canada)

2. Hazards identification

Physical state	Liquid.
Color	Amber. [Light]
Emergency overview	CAUTION ! MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Routes of entry	Dermal contact. Eye contact. Inhalation.
Potential health effects	
Eyes	May cause eye irritation.
Skin	May cause skin irritation.
Inhalation	May cause respiratory tract irritation.
Ingestion	Ingestion may cause gastrointestinal irritation and diarrhea.

See toxicological information (Section 11)

3. Composition/information on ingredients

Ingredient name	CAS #	%
Base oil - highly refined	Varies	95 - 100

4. First aid measures

Eye contact
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Skin contact
Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion
Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.

Notes to physician
Treatment should in general be symptomatic and directed to relieving any effects.

Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discolored and extremely painful with extensive subcutaneous necrosis.
Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimize tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

5. Fire-fighting measures

Flash point
Closed cup: 200°C (392°F) [Pensky-Martens.]

Fire/explosion hazards
In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable
Use an extinguishing agent suitable for the surrounding fire.

Not suitable
Do not use water jet.

Fire-fighting procedures
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products
Combustion products may include the following:
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)

Protective clothing (fire)
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions
No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Large spill
Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill
Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling	Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
Storage	Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	**ACGIH (United States).** TWA: 5 mg/m³ 8 hour(s). Form: Mineral oil, mist **OSHA (United States).** TWA: 5 mg/m³ 8 hour(s). Form: Mineral oil, mist

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Control Measures	Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

Eyes	Avoid contact with eyes. Safety glasses with side shields or chemical goggles.
Skin and body	Avoid contact with skin and clothing. Wear suitable protective clothing.
Respiratory	Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.
Hands	The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

9. Physical and chemical properties

Physical state	Liquid.
Color	Amber. [Light]
Odor	Not available.
Odor threshold	Not available.
Flash point	Closed cup: 200°C (392°F) [Pensky-Martens.]
Specific gravity	Not available.
Density	872 kg/m³ (0.872 g/cm³) at 15.6°C
pH	Not available.
Viscosity	Kinematic: 32 mm²/s (32 cSt) at 40°C
Boiling point / Range	Not available.
Melting point / Range	Not available.

Vapor pressure	Not available.
Vapor density	Not available.
Evaporation rate	Not available.
Solubility	insoluble in water.
$LogK_{ow}$	Not available.

10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Potential chronic health effects

Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.
Reproductive effects	No known significant effects or critical hazards.
Medical conditions aggravated by over-exposure	None known.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

13. Disposal considerations

Waste information

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

WHMIS (Canada) Not controlled under WHMIS (Canada).

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

Other regulations

Canada inventory	All components are listed or exempted.
United States inventory (TSCA 8b)	All components are listed or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.
Australia inventory (AICS)	All components are listed or exempted.
China inventory (IECSC)	All components are listed or exempted.
Japan inventory (ENCS)	All components are listed or exempted.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.

16. Other information

Label requirements CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

History

Date of issue 03/30/2012.

Date of previous issue No previous validation.

Prepared by Product Stewardship

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

COURTICE POWER PARTNERS
BARTON-MALOW CANADA · KENAIDAN CONTRACTING LTD.

SPILL REPORT FORM

Project Information

Job Name	Site Supervisor
DYEC	Jesse House
Date of Occurrence	**Contractor Responsible for Spill**
Wednesday Sept. 4 2013	KDM Erectors
Material Spilled / **Approx. Quantity**	**Location of Spill**
Oil / Engine 15w40 ~ 2L	Residue Bldg

Description of Incident

Machine with blown head gasket was being traded out for a new one. Oil spilled out of exhaust pipe

Root Cause Analysis

Blown head gasket

Method of Containment *(describe clean up measures used to contain the spill)*

Absorbal, snakes and rags. water pumped

MSDS Available: Yes ☐ No ☑ *NOTE - Please contact the Shop for refills of Spill Kit contents*

Environmental Impact: Contamination of water, possibley

Health & Safety Impact: None

Property Damage Yes ☑ No ☐ *If Yes Describe:* Concrete possibly stained

Items inSpill Kit Used? Yes ☑ No ☐

Cost Implications:

Personnel *(list all site personnel involved in the containment and clean up of the spill)*

Name: Cameron Meek

Name: Mike Marjison

Name: Marcel Gagnon

Name: Byron Estrada

Name:

Clean Up Details *(include a list of spill kit and or other contents used)*

absorbal, cloth snake, Cat litter, absorbent rags

Method of Disposal *(describe disposal methods of contents used)*

Contaminated Material will be disposed of by Safety Kleen.

Comments and Recommendations

Report Prepared By: Cameron Meek Date: Sept 4, 2013

Material Safety Data Sheet

DURON ™ -E 15W-40

PETRO-CANADA

1 . Product and company identification

Product name	: DURON ™ -E 15W-40
Code	: DE15, 420-065
Material uses	: DURON-E 15W-40 is a superior quality heavy duty diesel engine oil specifically designed for '07 EPA engine requirements along with improved performance benefits in legacy engines. Application includes modern low emission diesel engines with cooled exhaust gas recirculation and exhaust after treatment technology. It is suitable also for passenger car and light truck diesel engines, and spark ignition engines.
Manufacturer	: Petro-Canada Lubricants Inc. 2310 Lakeshore Road West Mississauga, Ontario Canada L5J 1K2
In case of emergency	: Suncor Energy: 403-296-3000 Canutec Transportation: 613-996-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).

2 . Hazards identification

Physical state	: Viscous liquid.
Odour	: Mild petroleum oil like.
WHMIS (Canada)	: Not controlled under WHMIS (Canada).
OSHA/HCS status	: While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.
Emergency overview	: No specific hazard.
Routes of entry	: Dermal contact. Eye contact. Inhalation. Ingestion.
Potential acute health effects	
Inhalation	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.
Skin	: Slightly irritating to the skin.
Eyes	: Slightly irritating to the eyes.
Potential chronic health effects	
Chronic effects	: No known significant effects or critical hazards.
Carcinogenicity	: Not listed as carcinogenic by OSHA, NTP or IARC.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.
Medical conditions aggravated by over-exposure	: Repeated skin exposure can produce local skin destruction or dermatitis. Repeated or prolonged contact with spray or mist may produce chronic eye irritation and severe skin irritation.

See toxicological information (Section 11)

3 . Composition/information on ingredients

Name	CAS number	%
Mixture of severely hydrotreated and hydrocracked base oil (petroleum).	Mixture	-

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

The base oil may be a mixture of the following CAS#s: 8042-47-5, 64742-46-7, 64742-47-8, 64742-53-6, 64742-54-7, 64742-55-8, 72623-84-8, 72623-85-9, 72623-86-0, 72623-87-1, 178603-64-0, 178603-65-1, 178603-66-2, 445411-73-4

4 . First-aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : May be combustible at high temperature.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Products of combustion : Carbon oxides (CO, CO2), sulphur oxides (SOx), calcium oxides (CaOx), aldehydes, smoke and irritating vapours as products of incomplete combustion.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special remarks on fire hazards : Low fire hazard. This material must be heated before ignition will occur.

Special remarks on explosion hazards : Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

6 . Accidental release measures

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

Ingredient	Exposure limits
Mixture of severely hydrotreated and hydrocracked base oil (petroleum).	**ACGIH TLV (United States). Notes: (Mineral oil)** TWA: 5 mg/m³, (Inhalable fraction) 8 hour(s).

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

8 . Exposure controls/personal protection

Respiratory	: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapour filter
Hands	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Recommended: neoprene, nitrile, polyvinyl alcohol (PVA), Viton®.
Eyes	: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
Skin	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state	: Viscous liquid.
Flash point	: Open cup: 228°C (442.4°F) [Cleveland.]
Auto-ignition temperature	: Fire Point: 243°C (469.4°F)
Flammable limits	: Not available.
Colour	: Light amber.
Odour	: Mild petroleum oil like.
Odour threshold	: Not available.
pH	: Not available.
Boiling/condensation point	: Not available.
Melting/freezing point	: Not available.
Relative density	: 0.8725 kg/L @ 15°C (59°F)
Vapour pressure	: Not available.
Vapour density	: Not available.
Volatility	: Not available.
Evaporation rate	: Not available.
Viscosity	: 118.2 cSt @ 40°C (104°F), 15.6 cSt @ 100°C (212°F), VI=139
Pour point	: -42°C (-44°F)
Solubility	: Insoluble in water.

10 . Stability and reactivity

Chemical stability	: The product is stable.
Hazardous polymerisation	: Under normal conditions of storage and use, hazardous polymerisation will not occur.
Materials to avoid	: Reactive with oxidising agents, acids, halogens and halogenated compounds.
Hazardous decomposition products	: May release COx, H2S, aldehydes, alkyl mercaptans, sulfides, methacrylate monomers, smoke and irritating vapours when heated to decomposition.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Mixture of severely hydrotreated and hydrocracked base oil (petroleum).	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	>5.2 mg/l	4 hours

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Mixture of severely hydrotreated and hydrocracked base oil (petroleum).	A4	-	-	-	-	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

13 . Disposal considerations

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
TDG Classification	Not regulated.	-	-	-		-
DOT Classification	Not available.	Not available.	Not available.	-		-

PG* : Packing group

15 . Regulatory information

United States

HCS Classification : Not regulated.

Canada

WHMIS (Canada) : Not controlled under WHMIS (Canada).

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

International regulations

Canada inventory : All components are listed or exempted.

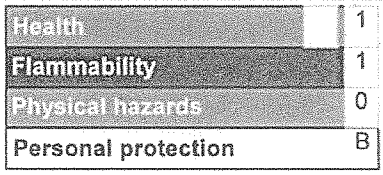
United States inventory (TSCA 8b) : All components are listed or exempted.

Europe inventory : At least one component is not listed in EINECS but all such components are listed in ELINCS.
Please contact your supplier for information on the inventory status of this material.

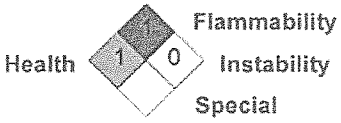
International lists : **China inventory (IECSC):** All components are listed or exempted.

16 . Other information

Hazardous Material Information System (U.S.A.) :



National Fire Protection Association (U.S.A.) :



References : Available upon request.
™ Trademark of Suncor Energy Inc. Used under licence.

Date of printing : 10/12/2011.

Date of issue : 12 October 2011

Date of previous issue : 9/30/2010.

Responsible name : Product Safety - DSR

▽ Indicates information that has changed from previously issued version.

16 . Other information

For Copy of (M)SDS : The Canadian Controlled Products Regulations (CPR) (Under the Hazardous Products Act, part of the WHMIS legislation) only apply to WHMIS Controlled (i.e., hazardous) products. Therefore, the CPR and the 3-year update rule specified therein do not apply to WHMIS Non-Controlled products. Although this is true, customarily Petro-Canada reviews and updates Non-Controlled product MSDS if a customer requests such an update. These Non-Controlled product updates are given a lower priority than Controlled products but are handled as soon as practicable. If you would like to verify if the MSDS you have is the most current, or you require any further information, please contact:

Internet: lubricants.petro-canada.ca/msds

Lubricants:
Western Canada, telephone: 1-800-661-1199; fax: 1-800-378-4518
Ontario & Central Canada, telephone: 1-800-268-5850; fax: 1-800-201-6285
Quebec & Eastern Canada, telephone: 1-800-576-1686; fax: 1-800-201-6285

For Product Safety Information: (905) 804-4752

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

COURTICE POWER PARTNERS
BARTON-MALOW CANADA · KENAIDAN CONTRACTING Ltd.

SPILL REPORT FORM

Project Information

Job Name		Site Supervisor
CPP		Jim Millette
Date of Occurrence		**Contractor Responsible for Spill**
Oct 17 2013		WS Nicolls
Material Spilled	**Approx. Quantity**	**Location of Spill**
Hydrolic oil	2 litres	North east corner ACC

Description of Incident

Hydrolic oil leak out of staiker valve assembly body back sicle, leaked during operation only

135 ft Genie Boom Lift

Root Cause Analysis

Aluminum body steel plug expand & contract diffrent rates, loosens and leaks. Explained by mechanic

Method of Containment *(describe clean up measures used to contain the spill)*

Catch bin with cat litter and absorbant socks
Leak fixed, material baged and stored

MSDS Available: Yes ☑ No ☐ *NOTE - Please contact the Shop for refills of Spill Kit contents*

Environmental Impact _____

Health & Safety Impact _____

Property Damage Yes ☐ No ☐ *If Yes Describe:* _____

Items inSpill Kit Used? Yes ☑ No ☐ _____

Cost Implications _____

Personnel *(list all site personnel involved in the containment and clean up of the spill)*

Name Gorel Everding

Name Joe Samuels

Name Shane Cannon

Name _____

Name _____

Clean Up Details *(include a list of spill kit and or other contents used)*

cat litter
absorbant socks
garbage bag

Method of Disposal *(describe disposal methods of contents used)*

Containment bin

Comments and Recommendations

Feild meintenace by rental company go inspect and check potential leak locations from history.

Report Prepared By: Gorel Everding GE Date: Oct 18 2013