



Technical Standards and Safety Authority  
www.tssa.org

14th Floor - Centre Tower  
3300 Bloor Street West  
Toronto Ontario M8X 2X4  
Fax: 416.231.4903  
Customer Service: 1.877.692.8772

**Level 1 Risk and Safety Management Plan (RSMP)**  
*Technical Standards and Safety Act*  
Propane Storage and Handling Regulation

This Level 1 RSMP applies to:   
 • a facility with a total propane storage capacity of 5,000 USWG or less; or  
 • a facility with a fixed propane storage capacity of exactly 5,000 USWG and no more than 500 USWG of portable propane storage capacity on site

<p>Failure to fully complete this form may result in rejection. Making a false statement may result in a fine or prosecution under the <i>Technical Standards and Safety Act</i></p>	<p>For Office Use Only</p> <div style="background-color: black; width: 100px; height: 100px; margin: 0 auto;"></div>
<p>Licence Number: <input type="text" value="76637073"/></p> <p>Check applicable type of propane operations:</p> <p><input checked="" type="checkbox"/> Cylinder    <input type="checkbox"/> Motor Fill    <input type="checkbox"/> Filling Plant    <input type="checkbox"/> Card/Keylock</p> <p>Submit along with this completed application a Facility Site Plan and a Map of the Surrounding Area</p>	

**SECTION A: GENERAL INFORMATION**

The Undersigned applies to TSSA for a review for an RSMP under Ontario's *Technical Standards and Safety Act*, Propane Storage and Handling Regulation.

Company Name		Ontario Corporation No., if applicable	
A <input type="text" value="Costco Wholesale (Canada) Ltd"/>			
Operator Name (if different from above)			
<input type="text" value="Tyler Sorokan (Agent/Warehouse Manager)"/>			
Telephone No	Fax No	E-mail	
<input type="text" value="1-800-463-3783"/>	<input type="text" value="N/A"/>	<input type="text" value="service@costco.ca"/>	
B Street No    Street Name / 911 Number / Address, if applicable			
<input type="text" value="415"/>		<input type="text" value="West Hunt Club Road"/>	
Town / City or Township / County		Province	Postal Code
<input type="text" value="Ottawa"/>		<input type="text" value="Ontario"/>	<input type="text" value="K2E 1C5"/>
Mailing address if different from above.			
C Street No    Street Name / 911 Number / Address, if applicable			
<input type="text"/>		<input type="text"/>	
Town / City or Township / County		Province	Postal Code
<input type="text"/>		<input type="text"/>	<input type="text"/>

Information on Container Refill Centre or Filling Plant			
Location of facility			
D Street No    Street Name / 911 Number / Address, if applicable		Nearest Major Intersection	
<input type="text" value="19182"/>		<input type="text" value="Yonge Street"/>	
<input type="text" value="Yonge Street"/>		<input type="text" value="Yonge Street &amp; Green Lane"/>	
Town / City or Township / County		Province	Postal Code
<input type="text" value="Newmarket"/>		<input type="text" value="Ontario"/>	<input type="text" value="L9N 0J3"/>

Named Licence Holder	
<input type="text" value="Tyler Sorokan (Agent/Warehouse Manager) on behalf of Costco Wholesale (Canada) Ltd"/>	
Name of a Senior Management person as defined in the regulation holding the Record of Training (ROT)	ROT type
<input type="text" value="Robert Moyer"/>	<input type="text" value="100-08-77281"/>
Municipality (or municipalities if the facility or its hazard distance touches multiple borders)	
<input type="text" value="Town of East Gwillimbury"/>	
Hours of operation	<div style="background-color: black; width: 100%; height: 50px;"></div>

This document is valid until the next licence renewal date. You are required by law to notify TSSA of any change of information.

Declaration: I am aware that it is an offence to give false information in this document and I hereby declare that the information I have given here is true and complete.

Print name	Signature	Date (dd-mm-yyyy)
Name of Licence Holder: <input type="text" value="Tyler Sorokan (Agent/Warehouse Manager) on behalf of Costco"/>		<input type="text" value="12/2/11"/>
Name of Senior Management person as defined in the Regulation holding the Record of Training: <input type="text" value="Robert Moyer"/>		



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**Level 1 Risk and Safety Management Plan (RSMP)**  
**Technical Standards and Safety Act**  
**Propane Storage and Handling Regulation**

**SECTION A: GENERAL INFORMATION (cont'd)**

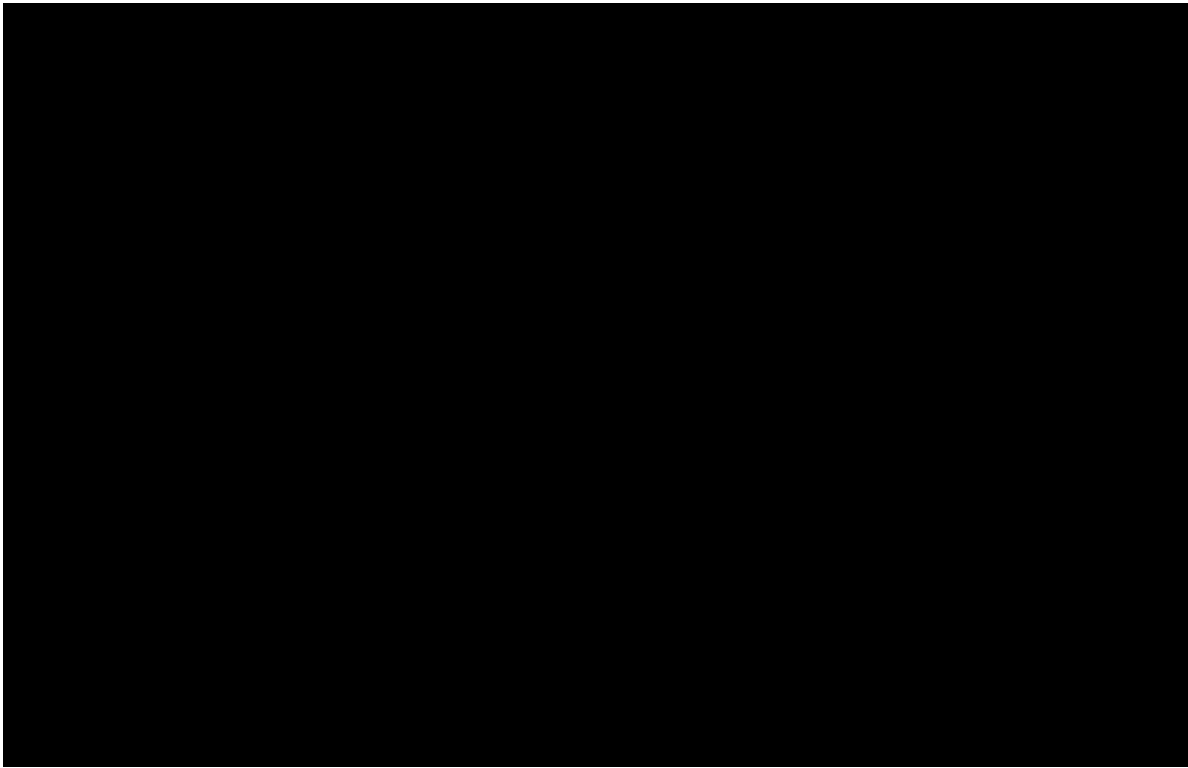
Indicate the year the facility was established: 2002      Indicate the year of any significant modifications, as defined in s.1, O Reg 211/01, since establishment: 2010 - Light was installed by Superior propane

Identify the psig rating and serial number for each fixed propane storage tank on site.

	PSIG	Serial Number
Tank 1	<u>250</u>	<u>1121-0</u>
Tank 2:	_____	_____
Tank 3:	_____	_____

Enter capacity of propane in USWG, fixed, portable, and mobile, and provide detailed inventory that includes the number of tank/vessel for each type (fixed, portable, and mobile) and the capacity of each tank/vessel, on a separate document.

Fixed: 2000 USWG      Portable: 524 USWG      Mobile: 0 USWG



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Name of person completing this form (please print) <u>Tyler Sorokan</u>		Official Title <u>Warehouse Manager</u>
Signature 		Telephone No. <u>905-399-5695</u>
		Date (dd-mm-yyyy) <u>2/12/12</u>



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**Level 1 Risk and Safety Management Plan (RSMP)**  
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**SECTION A: GENERAL INFORMATION (cont'd)**  
Activity Information

<b>Name of Propane Supplier(s)</b>		For Office Use - Party No.	
Superior Propane - Ontario Regional Operations Centre		[REDACTED]	
<b>Street No</b>	<b>Street Name / 911 Number / Address, if applicable</b>		
251	Woodlawn Road West Unit 217		
<b>Town / City or Township / Country</b>		<b>Province</b>	<b>Postal Code</b>
Guelph		Ontario	N1H 8J1
<b>Telephone No.</b>	<b>Fax No.</b>	<b>Contact Name</b>	
1-877-873-7467	519-836-7766	Mike Mullins	
<b>E-mail</b>			
mullinsm@superiorpropane.com			

<b>Name of Propane Transporter.</b> If same as above, please check box. <input type="checkbox"/>		For Office Use - Party No.	
Superior Propane - Whitby		[REDACTED]	
<b>Street No</b>	<b>Street Name / 911 Number / Address, if applicable</b>		
505	Victoria St E		
<b>Town / City or Township / Country</b>		<b>Province</b>	<b>Postal Code</b>
Whitby		Ontario	L1N 5S4
<b>Telephone No.</b>	<b>Fax No.</b>	<b>Contact Name</b>	
289-356-5985	N/A	Pierre Mousseau	
<b>E-mail</b>			
pierre_mousseau@superiorpropane.com			

<b>Off-site Cylinder and/or Mobile Storage</b>	<b>Capacity stored off-site, in USWG</b>	<b>For Office Use - Party No.</b>
None		
<b>Street No</b>	<b>Street Name / 911 Number / Address, if applicable</b>	
<b>Town / City or Township / Country</b>		<b>Postal Code</b>
<b>Telephone No.</b>	<b>Fax No.</b>	<b>Contact Name</b>

Note: Customer storage is not considered off-site storage.

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<b>Name of person completing this form (please print)</b>	<b>Official Title</b>
Tyler Sorokan	Warehouse Manager
<b>Signature</b>	<b>Telephone No</b>
	905-399-5695
	<b>Date (dd-mm-yyyy)</b>
	2/16/12





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**SECTION B: EMERGENCY AND PREPAREDNESS RESPONSE PLAN (cont'd)**

1. Contacts for Emergency Response

<b>1. Facility Contact Personnel - Key Contact</b>		<b>5. Facility 24-Hour Contact Person</b>	
Name Patrick Hillier	For Office Use - Party No.	Name Tyler Sorokan	For Office Use - Party No.
Official Title Tire Centre Manager		Official Title Warehouse Manager	
Telephone No. 905-954-4738	Fax No. 905-954-4750	Cell No. 905-399-5695	Fax No. 905-954-4750
E-mail W510tsm@costco.com		E-mail w510mgr@costco.com	
Role and responsibilities in emergency Coordinate site response		Role and responsibilities in emergency Coordinate site response	
<b>2. Facility Contact Personnel - Alternate Contact</b>		<b>6. Name of Facility Manager</b>	
Name Tony Graftam	For Office Use - Party No.	Name Brian Quigley	For Office Use - Party No.
Official Title Tire Sales Lead		Official Title Assistant Warehouse Manager	
Telephone No. 905-954-4738	Fax No. 905-954-4750	Telephone No. 905-954-4733	Fax No. 905-954-4750
E-mail w510ts01@costco.com		E-mail w510mgr3@costco.com	
Role and responsibilities in emergency Coordinate site response if agent unavailable.		Role and responsibilities in emergency Coordinate site response	
<b>3. Local Fire Services - Key Contact</b>		<b>7. Propane Supplier Key Contact Person</b>	
Name Ken Beckett	For Office Use - Party No.	Name Superior Propane Hotline	For Office Use - Party No.
Official Title Fire Chief		Official Title	
Telephone No. 905-853-8842 x1100	Fax No. 905-853-8664	Telephone No. 1-877-873-7467	Fax No.
E-mail kbeckett@eastgwillimbury.ca		E-mail	
Role and responsibilities in emergency Coordinate/advise on Central York Fire Service response. Liaise with police.		Role and responsibilities in emergency Identify and dispatch Superior Propane and or LPERGC emergency response personnel as required.	
<b>4. Local Fire Services - Alternate Contact</b>		<b>8. Municipal Contact</b>	
Name Brad Morrissey	For Office Use - Party No.	Name Kathleen Foster	For Office Use - Party No.
Official Title Fire Prevention Officer		Official Title Municipal Clerk	
Telephone No. 905-853-8842 x1102	Fax No. 905-853-8664	Telephone No. 905-478-4282 x 3821	Fax No. N/A
E-mail bmorrissey@eastgwillimbury.ca		E-mail kfoster@eastgwillimbury.ca	
Role and responsibilities in emergency Alternate - Coordinate/advise on Fire Service Response. Liaise with police.		Municipality East Gwillimbury	

**Declaration: I am aware that it is an offence to give false information in this document and I hereby declare that the information I have given here is true and complete.**

Name of person completing this form (please print) Tyler Sorokan	Official Title Warehouse Manager
Signature <i>Tyler Sorokan</i>	Telephone No. 905-399-5695
	Date (dd-mm-yyyy) 16-05-2012





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**SECTION B: EMERGENCY AND PREPAREDNESS RESPONSE PLAN (cont'd)**

**2. Additional Safety Measures**

Describe any other measures in place at the facility that exceed the minimum Code and Standards requirements

Emergency Shut Off push button to shut down pump and close solenoid valve upstream of dispensing hoses  
Sprinkler System in the fire ship and sales area

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Name of person completing this form (please print)		Official Title	
Tyler Sorokan		Warehouse Manager	
Signature		Telephone No	Date (dd-mm-yyyy)
		905-399-6895	2/16/12



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**SECTION B: EMERGENCY AND PREPAREDNESS RESPONSE PLAN (cont'd)**

**3. Record of Emergency Training Provided - For most recent 12-month period.**

**Training on Emergency Response Plan and Procedures provided to facility key contacts.**

Training Date (dd-mm-yyyy) 2010	Print Name of Training Provider: Costco - Standard Costco Safety Training
	Print Name of Instructor
Training Date (dd-mm-yyyy)	Print Name of Training Provider
	Print Name of Instructor
Training Date (dd-mm-yyyy)	Print Name of Training Provider:
	Print Name of Instructor

**Training on the facility's Emergency Management Procedures provided to staff.**

Training Date (dd-mm-yyyy) 2010	Print Name of Training Provider: Costco - Standard Costco Safety Training
	Print Name of Instructor
Training Date (dd-mm-yyyy)	Print Name of Training Provider
	Print Name of Instructor
Training Date (dd-mm-yyyy)	Print Name of Training Provider
	Print Name of Instructor

**On-site specific training provided to certificate holders / persons with Records of Training.**

Training Date (dd-mm-yyyy) 23-03-2010	Print Name of Training Provider: FSN Training	Please Note: a ROT is valid for 3 years
	Print Name of Instructor: Jack Trayling	
Training Date (dd-mm-yyyy)	Print Name of Training Provider:	
	Print Name of Instructor	
Training Date (dd-mm-yyyy)	Print Name of Training Provider:	
	Print Name of Instructor	

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Name of person completing this form (please print) Tyler Sorokan		Official Title Warehouse Manager	
Signature 		Telephone No 905-399-5595	Date (dd-mm-yyyy) 2/16/12



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**SECTION B: EMERGENCY AND PREPAREDNESS RESPONSE PLAN (cont'd)**

**4. Emergency Training Plan for Coming Year**

**Training on Emergency Response Plan and Procedures provided to facility key contacts.**

Target Date (dd-mm-yyyy) 2011	Print Name of Training Provider: Costco - Standard Costco Safety Training	
	Print Name of Instructor:	
Target Date (dd-mm-yyyy) 1Q 2012	Print Name of Training Provider: Superior Propane or Other	Please Note: the industry did not have a course
	Print Name of Instructor: to be arranged	in place last year. The CPA just released the
Target Date (dd-mm-yyyy)	Print Name of Training Provider	course in December 2011 and Costco agents
	Print Name of Instructor:	will be completing it in the 1Q of 2012

**Training on the facility's Emergency Management Procedures provided to staff.**

Target Date (dd-mm-yyyy) 1Q 2012	Print Name of Training Provider: Key Site Contact to train staff	
	Print Name of Instructor:	
Target Date (dd-mm-yyyy)	Print Name of Training Provider:	
	Print Name of Instructor:	
Target Date (dd-mm-yyyy)	Print Name of Training Provider:	
	Print Name of Instructor:	

**On-site specific training provided to certificate holders / persons with Records of Training.**

Target Date (dd-mm-yyyy) 17-05-2011	Print Name of Training Provider: FSN Training	
	Print Name of Instructor: Jack Trayling	
Target Date (dd-mm-yyyy) TBA	Print Name of Training Provider: Superior Propane or Other	Please Note: a ROT is valid for 3 years
	Print Name of Instructor: to be arranged as required	
Target Date (dd-mm-yyyy)	Print Name of Training Provider:	
	Print Name of Instructor:	

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Name of person completing this form (please print) Tyler Sorokan	Official Title Warehouse Manager
Signature 	Telephone No 905-399-5695
	Date (dd-mm-yyyy) 2/16/12





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**SECTION B: EMERGENCY AND PREPAREDNESS RESPONSE PLAN (cont'd)**

The licence holder will complete Section B in consultation with the local Fire Services.

**5. Emergency Response Communications Plan**

**Warnings and Actions**

Describe who gives warnings to whom, and how and when the warning will be given (including public notification as appropriate).

The operator or alternate will contact emergency services by calling 911 and will provide warnings outlined in the attached Propane Emergency Response

Procedures' card (to be posted on site and part of the employee training). If it is safe to do so this could involve verbally advising neighbors to evacuate

The owner/operator may also contact Superior Propane via the emergency number identified in the ERP

Describe what action is to be taken and by whom when a warning is issued (including details of a meeting place in a safe identified area and activating the evacuation plan, if necessary).

The owner/operator or alternate should first follow the actions in the ERP provided herein. Staged evacuation: if the release of propane cannot be stopped by

cutting electrical power may be required. The initial muster location will be at the Green Lane Centre sign at the entrance to the site off Green Lane

Subsequent evacuation instructions potentially up to the Hazard Distance to be provided by municipal emergency responders. Residences and

businesses beyond the site boundary to be notified by municipal emergency responders

**Communication with Emergency Response Authorities**

Describe when and how the licence holder will give early warning to emergency response authorities (including a process to ensure that a call is placed to 911).

When the system is operational, a ROT person will be on duty and be in the propane tank area. They key contact or alternate will be implementing ER actions

including notifying emergency responders. Calling 911 will occur immediately after any attempts to shut down the system

When the system is not in operation, the ISC valve (main isolation valve) is closed and the propane system is unattended but shutdown. Any incidents

involving the propane tank during such times will require the intervention of random nearby individuals or staff

Describe provisions for fire department entry when there are no operations or staffing at the propane site

The propane tank system is located in a wide open area that is easily accessible from Green Lane

Describe how the licence holder will ensure continual flow of updated information to authorities

The critical information required from the licence holder is information on how to shut down the system and the fill level in the tank (if known)

Fill level is relevant from a time to BLEVE perspective (a nearby empty tank will BLEVE sooner than a full tank if there is fire impingement on the tank)

This information will be provided to the authorities by Tyler Sorokan either verbally if on-site or by phone if after hours

How long will it take the facility liaison person to respond to the site

It would take Tyler Sorokan approximately 45 minutes to arrive on site after receiving the emergency call

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Name of person completing this form (please print)		Official Title
Tyler Sorokan		Warehouse Manager
Signature	Telephone No	Date (dd-mm-yyyy)
	905-399-5695	2/16/12



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**SECTION B: EMERGENCY AND PREPAREDNESS RESPONSE PLAN (cont'd)**

The licence holder will complete Section B in consultation with the local Fire Services.

**6. Building and Site Security and Procedures**

	Yes	No
1 Does the propane location have controlled access to limit unnecessary risk and entry (lock out procedures)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2 Is there adequate night lighting at the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3 Are procedures in place that ensure access routes, aisles, storage area, filling areas and the grounds are kept clear from unwanted materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4 Are there procedures that capture and record the daily inspection of hoses and inspection requirements for filling systems and mechanical devices used in the transfer of propane?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5 Does the facility have procedures that include a process to isolate and purge any overfilled propane cylinders?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6 Are weighing systems validated for accuracy?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7 Are storage areas clearly marked with the vessels' capacity status (i.e. filled, empty, purged and other hazardous materials)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8 Are quality assurance procedures in place to ensure that all valves are closed after the propane cylinders are filled?(e.g. QCC valves)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9 Is the schedule of maintenance and testing activities retained on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**7. Water Supply**

The propane licence holder should work with the local fire department to determine water supply capabilities that are available based on the propane facility's location

	Yes	No
1 Is a pressurized water system available at the propane facility site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2 Can the municipal fire department pump 375 GPM (1420 LPM) of water at this location?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3 What is the unobstructed distance to the closest water supply that could be used for firefighting activities? (distance in metres only)	50 m	
4 What is the unobstructed distance to the closest approved water supply with year round access if there are no hydrants? (distance in metres only)	n/a	

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Name of person completing this form (please print) Tyler Sorokan	Official Title Warehouse Manager	
Signature 	Telephone No 905-398-5695	Date (dd-mm-yyyy) 2/16/12

January 31, 2012

Chief Ian Laing  
Fire Chief  
Central York Fire Service  
984 Gorham St.  
Newmarket, ON L3Y 1L8

Dear Chief Laing;

As you are aware, the new Ontario Regulation 211X01 requires all propane handlers in Ontario to complete a Risk and Safety Management Plan (RSMP).

This RSMP is required by the Technical Standards and Safety Authority (TSSA) in order to renew a propane license.

Part of the process includes that the local Fire Department review the RSMP.

Therefore, we kindly ask you to review this RSMP for Costco Wholesale Ltd., located at 18182 Yonge Street in Newmarket.

Please complete page 11, with your comments and recommendations, sign, and return to:

Jason W. Smith, CFEI  
*Fuel Regulatory & Technical Consultant*  
2377 Hwy. #2, Unit 120, Suite 456  
Bowmanville, ON L1C 5E2

Phone: (705) 761-9306  
Email: [j\\_w\\_smith20@hotmail.com](mailto:j_w_smith20@hotmail.com)

Thank you in advance for your attention to this matter.

Sincerely,



Kelly Almey  
Process Safety Coordinator, Superior Propane  
Telephone: (905) 285-2480 x5549

Enclosure: 1





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**SECTION B: EMERGENCY AND PREPAREDNESS RESPONSE PLAN (cont'd)**

The licence holder will complete Section B in consultation with the local Fire Services.

**6. Licence holder and local Fire Services Review**

**To be completed by the Local Fire Services**

Has the local fire service had an opportunity to review the Emergency Response and Preparedness Plan? Yes  No

If not, please explain (e.g. no fire services)

Fire services comments, if any

**To be completed by the Licence Holder**

In response to the above comments, the following action(s) is required

The licence holder will respond to the Local Fire Services comments by \_\_\_\_\_

(dd-mm-yyyy)

**LOCAL FIRE SERVICES**

The undersigned has reviewed Section B of the Risk and Safety Management Plan Fire Services.

Print name <b>BRAO MORRISSEY</b> <small>Local Fire Services Name</small>	Signature 	Date (dd-mm-yyyy) <b>28/05/2012</b>
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Name of person completing this form (please print) Tyler Sorckan	Official Title Warehouse Manager
Signature 	Telephone No 905-399-6695
Date (dd-mm-yyyy) <b>2/16/12</b>	



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**SECTION C: SUBMISSIONS**

Applicant must include a Facility Site Plan and Map of Surrounding Area

**Facility Site Plan.**

The licence holder will submit a copy of the original facility site plan updated with the following information:

1. The storage location of fixed, portable, and mobile vessels.
2. The maximum volume, types and storage location of hazardous materials.
3. Location of permanent structures on site.
4. Access and egress points and location of barriers.
5. Location of fire and emergency equipment (e.g., sprinkler systems, extinguishers, suppression systems) on site and location of fire hydrant or water supply where available.
6. Location of emergency shut off/shut down switches/valves.

**Map of Surrounding Area.**

The licence holder will submit a scaled aerial map of the surrounding area showing the following information:

7. The capacity and placement of the single largest propane storage vessel, including its setback from the front, rear and side property lines.
8. GPS co-ordinates of the single largest vessel.
9. Visual indication of the single largest fixed vessel and a circle made using the distance in Table 1 as the radius from the single largest fixed vessel.
10. Clear indication of the municipality or municipalities present within the circle.
11. Visual indication of property line information.
12. The location and name of roads within or abutting the site.
13. Key note to the drawing indicating the facility's municipal address, municipal lot number(s) and concession lines as applicable, and the date the map was prepared.
14. Address and contact information for each municipality (municipal clerk or secretary-treasurers of planning board). (Refer to page 5.)
15. Complete "Required Mapping Information from Updated Site Plan" in table below .

**Required Mapping Information from Updated Site Plan**

Date Map Prepared (dd-mm-yyyy) 03-01-2012	Capacity of single largest propane storage vessel (USWG) 2000 USWG
Tank setback coordinates. Indicate placement on the map.	
Front: 152 m	Right side property line: 133 m
Rear: 102 m	Left side property line: 70 m
GPS coordinates of single largest vessel: Lat. 44.0705 Long. -79.4896	

**Declaration: I am aware that it is an offence to give false information in this document and I hereby declare that the information I have given here is true and complete.**

Name of person completing this form (please print) Kelly Almey	Official Title Process Safety Coordinator, Superior Propane	
Signature 	Telephone No. 905-285-2480 x 5549	Date (dd-mm-yyyy) 17-02-2012



Technical Standards and Safety Authority  
www.tssa.org

14th Floor - Centre Tower  
3300 Bloor Street West  
Toronto Ontario M8X 2X4  
Fax: 416.231.4903  
Customer Service: 1.877.682.8772

**Level 1 Risk and Safety Management Plan (RSMP)**  
*Technical Standards and Safety Act*  
Propane Storage and Handling Regulation

**SECTION C: SUBMISSIONS (cont'd)**

Applicant must include a Facility Site Plan and Map of Surrounding Area

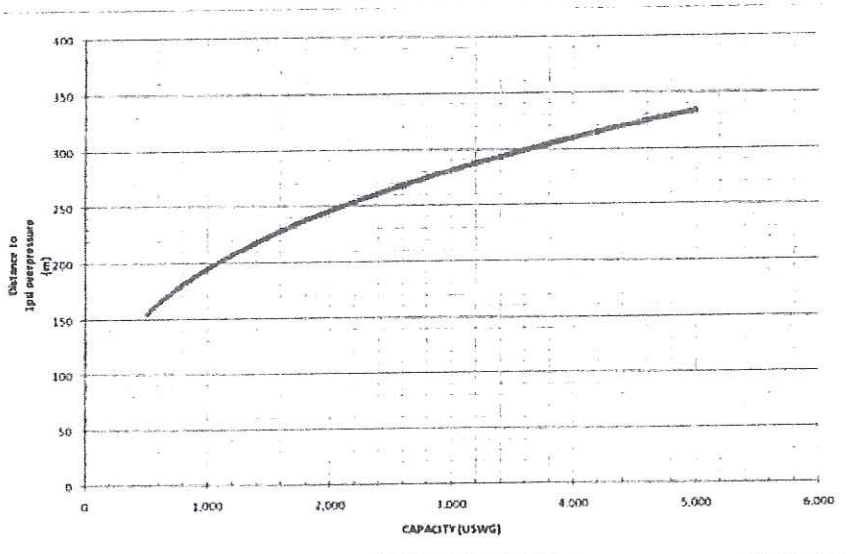
Table 1: Distance Table

Water Capacity (litres)	Nominal Water Capacity (USWG)	Distance to 1 psi overpressure (m)
1,890	500	155
3,780	1,000	195
4,920	1,300	213
6,620	1,750	235
7,130	1,885	241
7,560	2,000	246
18,900	5,000	333

**Formula:**  $D = 16.94 \times (1.524 \times C)^{1/3}$   
 D = Distance to overpressure of 1 psi (meters)  
 C = Tank Total Capacity in USWG

**Parameters:** Density of Propane is 0.5033 kg per litre @ 15 C  
 Assume all vessels are 80% full  
 1 gallon [US, liquid] = 0.003785411784 cubic meter  
 1 cubic metre = 264.17 USWG

Hazard Distance Chart (EPA-TNT model)



**Declaration: I am aware that it is an offence to give false information in this document and I hereby declare that the information I have given here is true and complete.**

Name of person completing this form (please print) Nothing completed on this page	Official Title	
Signature <i>[Handwritten Signature]</i>	Telephone No.	Date (dd-mm-yyyy) <i>2/16/12</i>





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**Level 1 Risk and Safety Management Plan (RSMP)**  
*Technical Standards and Safety Act*  
Propane Storage and Handling Regulation

**SECTION C: SUBMISSIONS (cont'd)**

Applicant must include a Facility Site Plan and Map of Surrounding Area

As an accompaniment to the Map of Surrounding Area, provide the following information about buildings and features present within the circle in Table 2

**Table 2: Buildings and Features**

Buildings and Features Present within the Circle on the Map of the Surrounding Area AND Name and Address of Closest Building or Feature	* Number of Buildings and Features (mark with an "X")				Distance from Tank to Closest Building or Feature
	0	1	2-10	11+	
Industrial buildings or parks or golf courses Name: None within hazard distance Address: _____ City: _____ Province _____ Postal Code _____	X				0 m
Residential building units specifically permanent single family dwellings, condominiums, and apartments. Name: _____ Address: _____ City: _____				X	100 m
Commercial building units specifically retail, restaurants, entertainment, theatres, and sporting complexes Name: Various Restaurants and retail Theatres (Michaels Reitmans Pet Smart The Brick Stitches) Address: Green Lane Centre City: Newmarket Province ON Postal Code _____				X	25-250 m
Commercial building units - continuous occupancy specifically hotels, campgrounds, and resorts. Name: None within hazard distance Address: _____ City: _____ Province _____ Postal Code _____	X				0 m
Sensitive institutions specifically hospitals, schools and day cares, nursing and retirement homes, mental health insbtutions, and prisons Name: None within hazard distance Address: _____ City: _____ Province _____ Postal Code _____	X				0 m
Emergency responders specifically fire stations, ambulance stations, and police stations. Name: None within hazard distance Address: _____ City: _____ Province _____ Postal Code _____	X				0 m

\* For multi-unit buildings, count each unit as "1".

**Declaration: I am aware that it is an offence to give false information in this document and I hereby declare that the information I have given here is true and complete.**

Name of person completing this form (please print) Tyler Sorokan	Official Title Warehouse Manager	Date (dd-mm-yyyy) 2/16/12
Signature 	Telephone No 905-399-5695	



Technical Standards and Safety Authority  
www.tssa.org

14th Floor - Centre Tower  
3300 Bloor Street West  
Toronto Ontario M8X 2X4  
Fax: 416.231.4903  
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**Level 1 Risk and Safety Management Plan (RSMP)**  
*Technical Standards and Safety Act*  
Propane Storage and Handling Regulation

**SECTION C: SUBMISSIONS (cont'd)**

Applicant must include a Facility Site Plan and Map of Surrounding Area

Portable Storage Additional Information Sheet

Cylinder Size	Capacity in USWG	Quantity	Total Volume in USWG
# 420	123.9		
# 100	29.5		
# 40	11.75		
# 33.3	9.62		
# 30	8.8	12	106
# 20	5.8	72	418
# 10	2.9		
# 5	1.5		
<b>Total Cylinder Capacity 524 USWG</b>			

Tanks Stored On-site Not Connected for Use

Tank Size in USWG	Quantity	Total Volume in USWG
2000 USWG	1	2000 USWG
<b>Total Tank Capacity 2000 USWG</b>		

<b>Total Cylinder Capacity</b>	524 USWG
<b>Total Tank Capacity</b>	2000 USWG
<b>Total Portable Capacity</b>	0

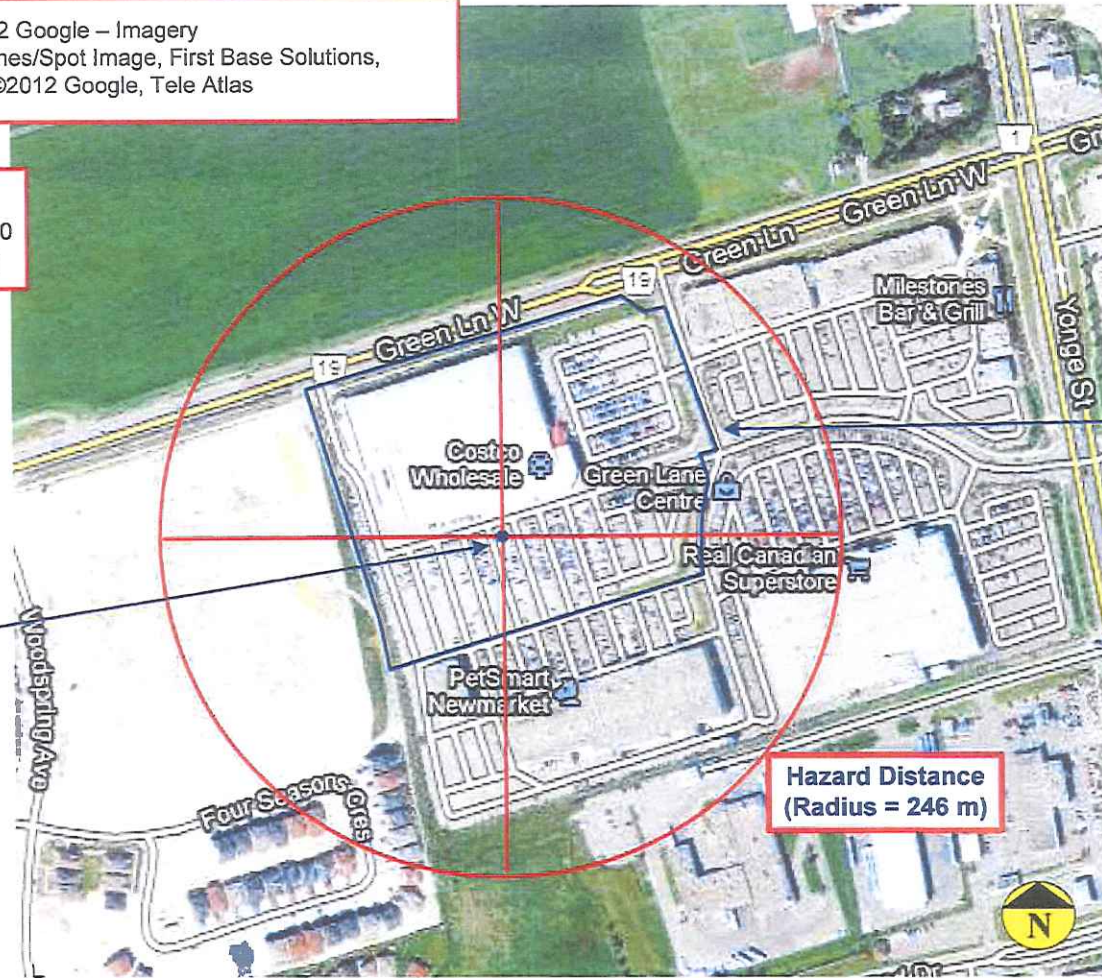
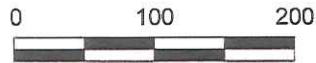
**Declaration: I am aware that it is an offence to give false information in this document and I hereby declare that the information I have given here is true and complete.**

Name of person completing this form (please print) Tyler Sorokan		Official Title Warehouse Manager	
Signature 		Telephone No. 905-399-5695	Date (dd-mm-yyyy) 2/16/12



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 ©2012 Digital Globe, Cnes/Spot Image, First Base Solutions,  
 Map data ©2012 Google, Tele Atlas

Scale (m):



2000 USWG  
 Propane Tank

Site Boundary

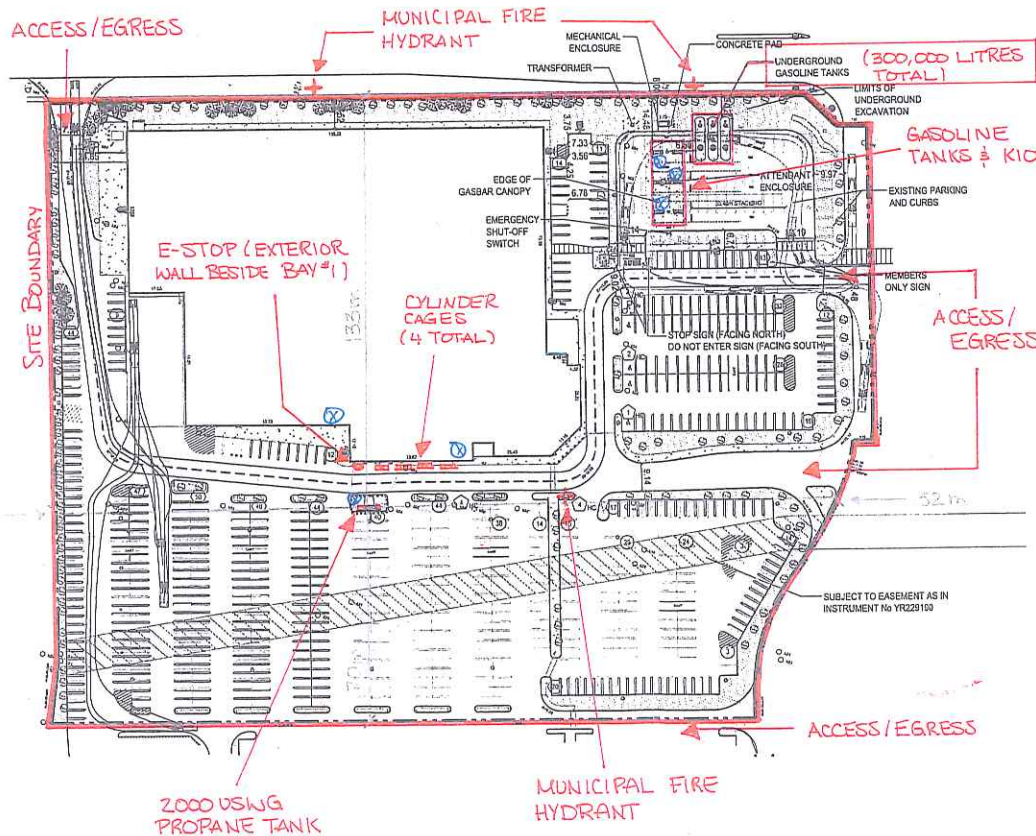
Hazard Distance  
 (Radius = 246 m)

<p><b>Setback Distances to Site Boundary</b></p> <p>North : 133 m    West: 102 m          South: 70 m    East: 152 m</p>	<p><b>Municipality (ies) within the 1 psi overpressure circle</b></p> <p>East Gwillumbury</p>	<p><b>Map of Surrounding Area</b></p>
<p><b>Capacity of Propane Storage Tank</b></p> <p>Capacity of Propane Storage Tank = 2000 USWG</p>	<p><b>Municipal Contact:</b></p> <p>Kathleen Foster          Municipal Clerk          Municipality of East Gwillumbury          Tel: 905-478-4282 x 3821          email: kfoster@eastgwillumbury.ca</p>	
<p><b>GPS Co-ordinates of Propane Storage Tank</b></p> <p>GPS Co-ordinates = 44.0705, -79.4896</p>		<p>Drawn by: L. Oliverio    Date: January 3, 2012          Mun. Contact Revised by: K.Almeij    Date: May 16 2012</p>
<p><b>Circular Distance to 1 psi overpressure</b></p> <p>Denoted by circle centred on tank; radial distance = 246 m</p>		





**COSTCO - NEWMARKET**  
 18182 YONGE STREET, EAST GWILLIMBURY,  
 ON, L9N 0J3



**LEGEND**

- STOP SIGN (PER SHEET 1) DO NOT ENTER SIGN (PER SHEET 2)
- MEMBERS ONLY (PER SHEET 2)
- SHEET 1: STOP SIGN
- SHEET 2: DO NOT ENTER
- SHEET 3: MEMBERS ONLY
- SHEET 4: NO PARKING
- SHEET 5: NO LIGHT
- CONCRETE PAVED
- ASPHALT PAVED
- FIRE ROUTE
- EXISTING ESCALANT
- EXISTING LANDSCAPE
- FIRE HYDRANT
- LIGHT STANDARD

**Costco**  
 WHOLESALE CLUBS OF CANADA  
 EAST GWILLIMBURY, ONTARIO  
 NEW GASBAR  
**COSTCO WHOLESALE CORPORATION**  
 900 LAKE DRIVE  
 ISHAMVILLE, ONTARIO L9N 0J3  
 T: 416.213.8700  
 COSTCO.COM



**PROJECT DATA**  
 PROJECT ADDRESS: 18182 YONGE STREET  
 EAST GWILLIMBURY, ONTARIO  
 PART OF LOT 100, CONVEYANCE 1,  
 WEST OF YONGE STREET  
 TOWN OF EAST GWILLIMBURY  
 REGIONAL MUNICIPALITY OF YORK  
 COSTCO SITE AREA: 51,767.2m<sup>2</sup> (6.10ha) / 557,216P (12,754)  
 ZONING: COMMERCIAL REGIONAL, CR ZONE  
 TOWN OF EAST GWILLIMBURY  
 JURISDICTION: THIS DRAWING IS BASED ON A FILE  
 BOUNDARY: FROM MASH GEOMATICS ONTARIO  
 INFORMATION: LIMITED, ONTARIO LAND SURVEYORS,  
 DATED APRIL 17, 2008.

EXISTING BUILDING DATA		AREA
BUILDING AREA	113,846m <sup>2</sup>	133.230P
THE CENTRE	482,1m <sup>2</sup>	5.290P
TOTAL BUILDING GROSS FLOOR AREA	12,717.2m <sup>2</sup>	137.433P
PROPOSED BUILDING DATA		AREA
BUILDING AREA	12,226.6m <sup>2</sup>	132.232P
FIRE CENTRE	482,1m <sup>2</sup>	5.290P
TOTAL BUILDING GROSS FLOOR AREA	12,708.7m <sup>2</sup>	137.522P
MECHANICAL ENCLOSURE	7.8m <sup>2</sup>	0.01P
CANOPY	256.6m <sup>2</sup>	2.814P
EXISTING SITE DATA		AREA
LOT COVERAGE	24.7%	(12,707.2m <sup>2</sup> )
LANDSCAPED OPEN SPACE	14.7%	(7,617.0m <sup>2</sup> )
PAVED PARKING AREA	16.6%	(8,522.5m <sup>2</sup> )
PROPOSED SITE DATA		AREA
LOT COVERAGE	20.2%	(10,238.2m <sup>2</sup> )
LANDSCAPED OPEN SPACE	14.0%	(7,228.2m <sup>2</sup> )
PAVED PARKING AREA	14.2%	(7,300.8m <sup>2</sup> )

EXISTING PARKING DATA		PARKING SPACES
PARKING REQUIRED FOR RETAIL WAREHOUSE		628
NUMBER OF PARKING SPACES PROVIDED (2.5M-WIDE)	0	0
NUMBER OF PARKING SPACES PROVIDED (2.75M-WIDE)	0	0
NUMBER OF ACCESSIBLE PARKING SPACES PROVIDED	0	0
NETA CSDO# PARKING SPACES PROVIDED	0	0
NO. OF SPACES PROVIDED PER 100 S.A. OF GROSS BUILDING AREA	0	0
PROPOSED PARKING DATA		PARKING SPACES
PARKING REQUIRED FOR RETAIL WAREHOUSE	628	628
PARKING REQUIRED FOR GASBAR	133	133
TOTAL PARKING REQUIRED	761	761
PROPOSED NUMBER OF PARKING SPACES PROVIDED (2.5M-WIDE)	0	0
PROPOSED NUMBER OF PARKING SPACES PROVIDED (2.75M-WIDE)	0	0
PROPOSED NUMBER OF ACCESSIBLE PARKING SPACES PROVIDED	0	0
NETA CSDO# PARKING SPACES PROVIDED	0	0
NO. OF SPACES PROVIDED PER 100 S.A. OF GROSS BUILDING AREA	0	0

ISSUED FOR APPROVAL, NOT FOR CONSTRUCTION

ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED

**CONTEXT LAYOUT PLAN**

**CONSULTANT**  
  
 100 Commercial Valley Drive W  
 Thornhill, ON, L3T 6A1  
 Tel: 905.652.1100  
 Fax: 905.652.7270  
 www.mmm.ca

DESIGNED: JPA  
 DRAWN: C.S.J.  
 SCALE: 1:1,500  
 CHECKED: C.J.-B.  
 DATE: APRIL 27, 2011  
 PROJECT NUMBER: 14.09216.001.P01  
 SHEET NUMBER: SP-10

- NOTES:**
1. ANY FUTURE GASBAR EXPANSION WILL BE SUBJECT TO A FUTURE APPLICATION
  2. APPROXIMATELY 30 SPACES PROVIDED FOR VEHICLE STACKING IN GASBAR AREA.

FIRE EXTINGUISHERS



14.09216.001.P01 - Gasbar - Newmarket (East-Gwillimbury) - Environment - SP-10.dwg  
 2011-04-27 10:00 AM  
 User: jpa

# PROPANE EMERGENCY RESPONSE PROCEDURES

## EMERGENCY CONTACT NUMBERS (OR CALL 911)

Fire Department:	911
Police Department:	911
Superior Propane:	1-877-873-7467

Contact the Fire Department and the Police Department immediately if a propane emergency situation arises. Use a telephone outside the area affected by the leak.

### PROPANE LEAKAGE WITH FIRE

### PROPANE LEAKAGE WITHOUT FIRE

#### FIRST CONTROL THE LEAK, THEN PUT OUT THE FIRE

1. Clear people from the immediate area.
2. Clear people from buildings, away from the propane tank, if applicable, and if it is safe to do so.
3. Do not extinguish fire unless fuel feeding the fire can be shut off.
4. Shut off power to dispenser and pump motor if it is safe to do so.
  - Via Emergency Stop (if available), or
  - Via Power Supply breaker
5. Close tank valve to stop flow of propane, if it is safe to do so.
6. Apply water to tank and piping exposed to heat.
7. Apply water to the vapour space of the tank to keep the tank cool. If there is insufficient water to keep the tank cool, evacuate the area.

1. Clear people from the immediate area.
2. Clear people from buildings, away from the propane tank, if applicable, and if it is safe to do so.
3. Stay upwind from the vapour (wind at your back).
4. Shut off power to dispenser and pump motor if it is safe to do so.
  - Via Emergency Stop (if available), or
  - Via Power Supply breaker
5. Remove sources of ignition.
6. Close tank valve to stop flow of propane, if it is safe to do so.
7. Disperse gas with water spray and stay behind water spray for protection in case of ignition.

**Superior**  
Propane



**Propane Dispenser Operating Procedures**

Prepared by:



Ken Gillis  
Safety and Technical  
Specialist (Ontario Region)

Prepared by:



Marcello Oliverio  
Chief Engineer – Process  
Safety Management

Reviewed by:



John McCormack  
National Regulatory  
Specialist

**Superior** Our  
**Propane** Energy  
Serving  
You

This document contains generic operating procedures for propane dispensing facilities. It fulfills the requirements of the Level 1 RSMP.

Procedures for the activities identified below are contained in the appendices that follow:

- (Appendix A) Daily Start-up Procedure for Operating the Propane Transfer Facility.
- (Appendix B) Testing the Emergency Stop System
- (Appendix C) Filling Propane Cylinders by Weight
- (Appendix D) Transfer Facility (Dispenser) Procedure for Filling a Motor Fuel Tank
- (Appendix E) Handling of an Overfilled Cylinder



**Propane Dispenser Operating Procedures**

**Appendix A**

**Daily Start-up Procedure for Operating the Propane Transfer Facility**

**Prerequisites:**

- Review and be familiar with the PTI – 100 – 01 Propane Pump Attendant Training Program.
- Have the necessary Record of Training (ROT).

**Stepwise Procedure:**

(To be documented daily)

If you are not familiar with the terms or requirements of this procedure contact your supervisor.

Before opening the tank and cylinder cabinets:

1. Check the area to ensure that the access routes and area surrounding the propane tank(s) are clear and that there are no unwanted materials.
2. Check that there are no ignition sources within 3 metres (10 feet) of the filling area.
3. Dress properly for dispensing propane. Wear long sleeves, long pants, neoprene gloves, safety eyewear, and safety footwear. Do not wear nylon jackets or coats.
4. Walk around the area to visually identify potential hazards, to listen for audible leaks, and to detect the scent of propane odours. If a leak is suspected do not open the cabinet, contact your supervisor.
5. Ensure all operating and warning signs are clear and legible.
6. Check the tank level for sufficient propane levels.
7. Remove any garbage especially flammables/combustibles from the dispensing area.
8. Open the tank cabinet and inspect for any indications of propane leaks. If a leak is suspected contact your supervisor. Do not operate the dispenser.

## **Propane Dispenser Operating Procedures**

### Opening Primary Tank Valves:

1. Slowly open the tank ISC liquid supply by using the handle or cable attachment. Open other manual valves necessary to operate the dispenser pump. Again watch and listen for leaks.
2. Interlock the ISC control handle with the door. Ensure that the door cannot be closed while the ISC valve is open (code requirement). If the door is not interlocked as required, contact your supervisor.
3. Your site may have an E-Stop system that shuts down the motor and electric solenoids in the event of an emergency. This system should be tested weekly.
4. Visually check the hoses, nozzles and other mechanical devices. Do not operate the system if anything appears abnormal.
5. Record daily start-up procedure and propane level in tank.
6. You are now ready to operate the dispenser facility.
7. Close door (and ISC valve) when the system is unattended.

**Propane Dispenser Operating Procedures**

**Appendix B**

**Testing the Emergency Stop System (Once per Week)**

**Prerequisites:**

- Review and be familiar with the PTI – 100 – 01 Propane Pump Attendant Training Program.
- Have the necessary Record of Training (ROT).

**Stepwise Procedure:**

(To be documented weekly)

If you are not familiar with the terms or requirements of this procedure contact your supervisor.

1. Open all valves in the tank cabinet.
2. Ensure that all fill nozzles are closed and secured.
3. Start the pump and leave it pumping for the test. Do not operate the pump longer than required to complete this test.
4. Immediately push the E-stop button.
5. Pump power and solenoids should close.
6. If all solenoids and the pump do not close, contact your supervisor. Do not operate the system.
7. Document the test once completed.



**Propane Dispenser Operating Procedures**

**Appendix C**

**Filling Propane Cylinders by Weight**

**Prerequisites:**

- Review and be familiar with the PTI – 100 – 01 Propane Pump Attendant Training Program.
- Have the necessary Record of Training (ROT).

**Stepwise Procedure:**

If you are not familiar with the terms or requirements of this procedure contact your supervisor.

**Before filling any cylinder, the cylinder must receive a pre-fill visual examination or inspection.**

1. Check the inspection date stamped on the cylinder shell or collar. Make sure it's within the last 10 years.
2. Make sure the Dangerous Goods shoulder label is on the cylinder. If the cylinder is going to a workplace, it must also have a WHMIS label on the cylinder.
3. Look for corrosion, especially on the bottom of the cylinder. Check that no area on the cylinder is badly corroded or deeply pitted.
4. Look for dents. If they are large, deep, have sharp angles or include a weld, do not fill the cylinder.
5. Look for cuts, gouges, or digs that can reduce the thickness of the cylinder walls and weaken them.
6. Make sure the collar is protecting the cylinder service valve. Check that the welds securing the collar to the cylinder are not broken.
7. Make sure the footing is not bent and that it supports the cylinder in an upright, stable position. Check that the welds securing the footing to the cylinder are not cracked or broken.
8. If a cylinder is bulged or deformed from contact with fire, or if the paint has been scorched, the cylinder must be taken out of service.

## Propane Dispenser Operating Procedures

### Before starting to fill

Check that there are no ignition sources within 3 metres (10 feet) of the filling area.

Dress properly for dispensing propane. Wear long sleeves, long pants, neoprene gloves, safety eyewear and safety footwear. Do not wear nylon jackets or coats.

### To fill a propane cylinder by weight:

1. Place the cylinder on the scale and weigh the cylinder before filling. If the weight of the cylinder exceeds the stamped tare weight on the cylinder, there may be some propane left in the cylinder.
2. Mark the weight down as Weight "in". Subtract the tare weight of the cylinder from the weight "in" to determine how much propane is left in the cylinder.
3. Inform the customer how much propane is in the cylinder, how much will be added, and what the cost will be.
4. Set the scale for the proper weight of the cylinder when filled. The filling weight is the:
  - Tare weight of the cylinder plus
  - the weight of the propane (42% of the stamped water capacity plus
  - the weight of the filling hose and nozzle.
5. Connect the filling nozzle to the cylinder service valve. Make sure the cylinder is placed on the centre of the scale platform.
6. Open the cylinder service valve, open the filling hose nozzle, and start the pump.
7. Check the cylinder service valve threads and valve stem for leaks using a commercial leak detection solution or a 50/50 mixture of soap and water. Expanding bubbles indicate a leak. If a leak is detected, stop the filling process until the leak is repaired.
8. Watch the scale beam closely. As soon as the beam starts to rise, close the filler hose nozzle. Turn off the pump.
9. Close the cylinder valve. To bleed off the small amount of propane between the filler hose nozzle and the cylinder service valve, slowly unscrew the filler hose nozzle from the cylinder service valve. Disconnect the filling hose nozzle from the cylinder service valve.

## Propane Dispenser Operating Procedures

10. Close all valves after cylinder is filled.

11. Move the scale beam indicator until the beam "floats". Read the finished weight from the scale beam and record this as the weight "out".

If the cylinder is overfilled, the excess propane liquid must be removed before the cylinder is returned to the customer. Follow company procedure to safely remove the excess propane liquid.

If the cylinder weighs less that it should, follow the cylinder filling procedure to add more propane, or invoice the Customer for the amount of propane you put into the cylinder.

**Note:** the OPD may prevent filling the cylinder to 42% of its water capacity

<b>MEASUREMENT CANADA LIMIT OF ERROR ALLOWABLE: 0.5%</b>	
<b>9.1kg cylinder = 45.5 grams</b>	<b>20lb cylinder = 1.6 ounces</b>
<b>13.6kg cylinder = 68.2 grams</b>	<b>30lb cylinder = 2.4 ounces</b>
<b>45.5kg cylinder = 227.3 grams</b>	<b>100lb cylinder = 8.0 ounces</b>

Customers must be told how much propane was put into their cylinder. The amount of propane that you tell the Customer is in the cylinder must be within the 0.5% error limit set by Measurement Canada as shown in the above table.

To arrive at the amount of propane put into the cylinder, simply subtract the "IN" weight from the "OUT" weight you recorded. The difference is the amount of the propane put into the cylinder

Follow the Company's invoicing procedures to invoice the Customer for the amount of propane put in the cylinder

The invoice should indicate:

- The minimum charge, if applicable, or cost of propane; and
- The amount of propane delivered



## **Propane Dispenser Operating Procedures**

### Appendix D

## Transfer Facility (Dispenser) Procedure for Filling a Motor Fuel Tank

### Prerequisites

Review and be familiar with the PTI – 100 – 01 Propane Pump Attendant Training Program.

Have necessary Record of Training (ROT).

### Stepwise Procedure:

If you are not familiar with terms or requirements of this procedure contact your supervisor.

1. Before filling, make sure the vehicle has a provincially accepted decal in place. This label may be located on the front windshield, rear window or side window. A vehicle with no label, or an expired label, cannot be legally filled with propane.
2. The filling area is a restricted zone. Make sure there are no ignition sources within 3 meters (10 feet) of the filling connection. This means **NO SMOKING, NO OPEN FLAMES, NO VEHICLES LEFT RUNNING, and NO PILOT LIGHTS LEFT ON**, such as those in travel trailers, RV's, catering trucks and cargo vans.
3. Remove the dust cap from the liquid filler valve on the vehicle tank. Check that the "O" ring or gasket in the filler valve is in place and clean.
4. Remove the transfer hose and nozzle from the holder at the dispenser and connect the nozzle to the vehicle filler valve. Tighten firmly by hand. Check for leaks.
5. Open the fixed liquid level gauge (spit valve) to allow an audible hiss as the propane vapour is released.
6. Start the pump, which will automatically reset the meter to zero. Depending on the dispenser system, begin filling by either (a) squeezing the nozzle trigger, or (b) setting the nozzle trigger latch and pushing in the deadman switch. Keep the nozzle trigger or deadman switch engaged during the entire filling process.
7. When a white fog is flowing steadily from the fixed liquid level gauge (spit valve), the tank is considered full.
8. Release the nozzle trigger or deadman switch immediately. Do not be tempted to round up either the volume or dollar amount.

**Propane Dispenser Operating Procedures**

9. Close the fixed liquid level gauge (spit valve) either with fingers or a spit valve wrench. Tighten enough to provide a positive seal. **DO NOT OVER TIGHTEN.**
10. Turn off the pump.
11. Disconnect the filler hose nozzle from the filler valve.
12. Return the filler nozzle to the dispenser holder.
13. Check the filler valve at the vehicle to ensure it's not leaking.
14. Replace the dust cap on the vehicle filler valve

**Propane Dispenser Operating Procedures**

**Appendix E**

**Handling of an Overfilled Cylinder**

**Prerequisites**

Review and be familiar with the PTI – 100 – 01 Propane Pump Attendant Training Program.

Have necessary Record of Training (ROT).

**Stepwise Procedure:**

If you are not familiar with terms or requirements of this procedure contact your supervisor.

If you suspect that a cylinder has been overfilled, do the following:

1. Tag the cylinder, identifying the time and date it was filled.
2. Carefully place the cylinder in the cylinder cage.
3. Call Superior Propane @ 1-877-873-7467 and report what has happened.

**DO NOT RETURN THE FILLED CYLINDER TO THE CUSTOMER**



**SECTION 1 – PRODUCT INFORMATION**

Product Name:	Propane	Supplier:	Superior Propane A Division of Superior Plus LP 1111 - 49th Avenue N.E. Calgary, AB T2E 8V2 Business: (403) 730-7500
Trade Name:	LPG (Liquefied Petroleum Gas), LP-Gas		
Chemical Formula:	C <sub>3</sub> H <sub>8</sub>		
WHMIS Classification:	Class A – Compressed Gas Class B, Division 1 – Flammable Gas	24-Hour Emergency Contact:	Canutec (613) 996-6666

Application and Use: Propane is commonly used as a fuel for heating, cooking, automobiles, forklift trucks, crop drying and welding and cutting operations. Propane is used in industry as a refrigerant, solvent and as a chemical feedstock.

**SECTION 2 – HAZARDOUS INGREDIENTS**

Propane	74-98-6	90% - 99%	Not Applicable
Propylene	115-07-1	0% - 5%	Not Applicable
Ethane	74-84-0	0% - 5%	Not Applicable
Butane and heavier hydro carbons	106-97-8	0% - 2.5%	Not Applicable

Occupational Exposure Limit:

Based upon animal test data, the acute toxicity of this product is expected to be inhalation: 4 hour LC50 = 280,000 ppm (Rat)

Note: Composition is typical for HD-5 Propane per The Canadian General Standard Board CGSB 3.14 National Standard of Canada. Exact composition will vary from shipment to shipment.

**SECTION 3 – CHEMICAL AND PHYSICAL DATA**

Form:	Liquid and vapour while stored under pressure	pH:	Not available
Boiling Point:	-42°C @ 1 atm	Solubility in Water:	Slight, 6.1% by volume @ 17.8°C
Freezing Point:	-188°C	Specific Gravity:	0.51 (water = 1)
Evaporation Rate:	Rapid (Gas at normal ambient conditions)	Appearance/Odour:	Colourless liquid and vapour while stored under pressure. Colourless and odourless gas in natural state at any concentration. Commercial propane has an odourant added, ethyl mercaptan, which has an odour similar to boiling cabbage.
Vapour Pressure:	1435 kPa (maximum) @ 37.8°C	Odour Threshold:	4800 ppm
Vapour Density:	1.52 (Air = 1)		
Coefficient of Water/Oil Distribution:	Not available		

With proper handling, transportation and storage, adding a chemical odourant such as ethyl mercaptan has proven to be a very effective warning device, but all odourants have certain limitations. The effectiveness of the odourant may be diminished by a person's sense of smell, by competing odours and by oxidation which may cause a potentially dangerous situation.

**SECTION 4 – FIRE OR EXPLOSION HAZARD**

Flash Point: -103.4°C

Method: Closed cup

Flammable Limits: Lower 2.4%, Upper 9.5%

Auto Ignition Temperature: 432°C

Hazardous Combustion Products: Carbon monoxide can be produced when primary air and secondary air are deficient while combustion is taking place.

Fire and Explosive Hazards: Explosive air -vapour allowed to leak to atmosphere.

Sensitivity to Impact: No

Sensitivity to Static Discharge: Yes

Fire Extinguishing Precautions: Use water spray to cool exposed cylinders or tanks. Do not extinguish fire unless the source of the escaping gas that is fueling the fire can be turned off. Fire can be extinguished with carbon dioxide and/or dry chemical (BC). Container metal shells require cooling with water to prevent flame impingement and the weakening of metal. If sufficient water is not available to protect the container shell from weakening, the area will be required to be evacuated. If gas has not ignited, liquid or vapour may be dispersed by water spray or flooding.

Special Fire Fighting Equipment: Protective clothing, hose monitors, fog nozzles, self-contained breathing apparatus.

**SECTION 5 – REACTIVITY DATA**

Stability: Stable

Conditions To Avoid: Keep separate from oxidizing agents. Gas explodes spontaneously when mixed with chloride dioxide.

Incompatibility: Remove sources of ignition and observe distance requirements for storage tanks from combustible material, drains and openings to building.

MSDS-Propane-32003-2 (01/11)

Hazardous Decomposition Products: Deficient primary and secondary air can produce carbon monoxide.

Hazardous Polymerization: Will not occur.

## SECTION 6 – TOXICOLOGICAL PROPERTIES OF MATERIAL

Routes of Entry: Skin Contact, Eye Contact, Inhalation

**Inhalation:** Simple asphyxiant. No effect at concentrations of 10,000 ppm (peak exposures). Higher concentrations may cause central nervous system disorder and/or damage. Lack of oxygen may cause dizziness, loss of coordination, weakness, fatigue, euphoria, mental confusion, blurred vision, convulsions, breathing failure, coma and death. Breathing high vapour concentrations (saturated vapours) for a few minutes may be fatal. Saturated vapours may be encountered in confined spaces and/or under conditions of poor ventilation. Avoid breathing vapours or mist.

**Skin and Eye Contact:** Exposure to vapourizing liquid may cause frostbite (cold burns) and permanent eye damage.

**Ingestion:** Not considered to be a hazard.

**Acute Exposure:** Contact with Liquefied Petroleum Gas may cause frostbite or cold burns. Propane acts as a simple asphyxiant as oxygen content in air is displaced by the propane. At increasing concentration levels, propane may cause dizziness, headaches, loss of coordination, fatigue, unconsciousness and death.

**Chronic Exposure:** No reported effects from long term low level exposure.

**Sensitization to Product:** Not known to be a sensitizer.

**Occupational Exposure Limits:** American Conference of Governmental Industrial Hygienists (ACGIH) lists as a simple asphyxiant.

**ACGIH TLV:** 1000 ppm

**Carcinogenicity, Reproductive Toxicity, Teratogenicity, Mutagenicity:** No effects reported.

**Other Toxicological Effects:** None

## SECTION 7 – PREVENTATIVE MEASURES

**Eyes:** Safety glasses or chemical goggles are recommended when transferring product.

**Skin:** Insulated gloves required if contact with liquid or liquid cooled equipment is expected. Wear gloves and long sleeves when transferring product.

**Inhalation:** Where concentration in air would reduce the oxygen level below 18% air or exceed occupational exposure limits in section 6, self-contained breathing apparatus is required.

**Ventilation:** Use in well-ventilated areas. Use with explosion proof mechanical ventilation in confined spaces or poorly ventilated areas.

## SECTION 8 – EMERGENCY AND FIRST AID PROCEDURES

**Eyes:** Should eye contact with liquid occur, flush eyes with lukewarm water for 15 minutes. Obtain immediate medical care.

**Skin:** In case of "Cold Burn" from contact with liquid, immediately place affected area in lukewarm water and keep at this temperature until circulation returns. If fingers or hands are frostbitten, have the victim hold his hand next to his body such as under the armpit. Obtain immediate medical care.

**Ingestion:** None considered necessary.

**Inhalation:** Remove person to fresh air. If breathing is difficult or has stopped, administer artificial respiration. Obtain immediate medical care.

**Spill or Leak:** Eliminate leak if possible. Eliminate source of ignition. Ensure cylinder is upright. Disperse vapours with hose streams using fog nozzles. Monitor low areas as propane is heavier than air and can settle into low areas. Remain upwind of leak. Keep people away. Prevent vapour and/or liquid from entering into sewers, basements or confined areas.

## SECTION 9 – TRANSPORTATION, HANDLING AND STORAGE

- Transport and store cylinders and tanks secured in an upright position in a ventilated space away from ignition sources (so the pressure relief valve is in contact with the vapour space of the cylinder or tank).
- Cylinders that are not in use must have the valves in the closed position and be equipped with a protective cap or guard.

- Do not store with oxidizing agents, oxygen, or chlorine cylinders.
- Empty cylinders and tanks may contain product residue. Do not pressurize, cut, heat or weld empty containers.
- Transport, handle and store according to applicable federal and provincial codes and regulations.

Transportation of Dangerous Goods (TDG)

TDG Classification: Flammable Gas 2.1

TDG Shipping Name: Liquefied Petroleum Gas (Propane)

PIN Number: UN1075

## SECTION 10 – PREPARATION INFORMATION

Prepared by: Superior Propane  
Health Safety and Environment Team

Telephone: (403) 730-7500  
Revision: January 17, 2011  
Supersedes: March 1, 2008

The information contained herein is believed to be accurate. It is provided independently of any sale of the product. It is not intended to constitute performance information concerning the product. No express warranty, implied warranty of merchantability or fitness for a particular purpose is made with respect to the product information contained herein.





**Shell Canada Limited  
Material Safety Data Sheet**

Effective Date: 2010-05-07  
Supersedes: 2007-05-25



Class B2 Flammable Liquid    Class D2A Carcinogenicity

**1. PRODUCT AND COMPANY IDENTIFICATION**

**PRODUCT:**                    **REGULAR UNLEADED GASOLINE**  
**SYNONYMS:**                Automotive Fuel  
    Petrol  
**PRODUCT USE:**            Fuel  
**PRODUCT CODE:**         211-001

**SUPPLIER**  
Shell Canada Limited (SCL)  
P.O. Box 100, Station M  
400-4th Ave. S.W.  
Calgary, AB Canada  
T2P 2H5

**TELEPHONE NUMBERS**  
Shell Emergency Number  
**CANUTEC 24 HOUR EMERGENCY NUMBER**  
For general information:

1-800-661-7378  
1-613-996-6666  
1-800-661-1600  
[www.shell.ca](http://www.shell.ca)

This MSDS was prepared by the Toxicology and Product Stewardship Section of Shell Canada Limited.  
\*An asterisk in the product name designates a trade-mark of Shell Brands International AG. Used under license.

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Component Name	CAS Number	% Range	WHMIS Controlled
Gasoline	86290-81-5	> 90	Yes
Benzene	71-43-2	< 1.5	Yes

See Section 8 for Occupational Exposure Guidelines.

**3. HAZARDS IDENTIFICATION**

**Physical Description:** Volatile Liquid    Colourless    Typical Gasoline Odour  
**Routes of Exposure:** Exposure will most likely occur through skin contact or inhalation.  
**Hazards:**

Vapour concentrations above the recommended exposure level are irritating to the eyes and respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.  
Flammable Liquid.  
Contains Benzene.  
May cause cancer.



Ingestion may result in vomiting. Avoid aspiration of vomitus into lungs as small quantities may result in aspiration pneumonitis.  
 May be absorbed by skin contact.  
 In rare cases may sensitize heart muscle causing heart arrhythmia.

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

For further information on health effects, see Section 11.

#### 4. FIRST AID MEASURES

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

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

**Ingestion:** DO NOT INDUCE VOMITING! OBTAIN MEDICAL ATTENTION IMMEDIATELY. Guard against aspiration into lungs by having the individual turn on to their left side. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Do not give anything by mouth to an unconscious person.

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

**Notes to Physician:** The main hazard following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis.

#### 5. FIRE FIGHTING MEASURES

**Extinguishing Media:** Dry Chemical  
 Carbon Dioxide  
 Foam  
 Water Fog

**Firefighting Instructions:** Flammable. Clear area of unprotected personnel. Do not use a direct stream of water as it may spread fire. Product will float and can be reignited on surface of water. Vapour forms a flammable/explosive mixture with air between upper and lower flammable limits. Avoid breathing vapours. Use water to cool fire exposed containers. Vapours may travel along ground and flashback along vapour trail may occur. Do not enter confined fire space without adequate protective clothing and an approved positive pressure self-contained breathing apparatus. Delayed lung damage can be experienced after exposure to combustion products, sometimes hours after the exposure.

**Hazardous Combustion Products:** Carbon dioxide, carbon monoxide and unidentified organic compounds may be formed upon combustion.

#### 6. ACCIDENTAL RELEASE MEASURES

Issue warning "Flammable". Eliminate all ignition sources. Isolate hazard area and restrict access. Handling

## REGULAR UNLEADED GASOLINE

211-001

Revision Number: 7

equipment must be grounded. Work upwind of spill if it is safe to do so. Avoid direct contact with material. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Dike and contain land spills; contain spills to water by booming. Use water fog to knock down vapours; contain runoff. Adsorb residue or small spills with adsorbent material and remove to non-leaking containers for disposal. Notify appropriate environmental agency(ies). After area has been cleaned up to the satisfaction of regulatory authorities, flush area with water to remove trace residue. Dispose of recovered material as noted under Disposal Considerations.

### 7. HANDLING AND STORAGE

- Handling:** Flammable. Fixed equipment as well as transfer containers and equipment should be grounded to prevent accumulation of static charge. Avoid breathing vapours and prolonged or repeated contact with skin. Vapours may accumulate and travel to distant ignition sources and flashback. Empty containers are hazardous, may contain flammable/explosive dusts, residues or vapours. Do not pressurize drum containers to empty them. Do not cut, drill, grind, weld or perform similar operations on or near containers. Provide adequate ventilation. Launder contaminated clothing prior to reuse. Wash with soap and water prior to eating, drinking, smoking, applying cosmetics or using toilet facilities.
- Storage:** Store in a cool, dry, well ventilated area, away from heat and ignition sources. Use explosion-proof ventilation to prevent vapour accumulation.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The following information, while appropriate for this product, is general in nature. The selection of personal protective equipment will vary depending on the conditions of use.

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

The exposure limits listed here are provided for guidance only. Consult local, provincial and territorial authorities for specific values.

Gasoline: 300 ppm (STEL: 500 ppm)

Benzene (skin) : 0.5 ppm (STEL: 2.5 ppm)

Benzene: Shell internal standard is 0.5 ppm or 1.6 mg/m<sup>3</sup> (8-12 hour time-weighted average limit), 2.5 ppm or 8 mg/m<sup>3</sup> (15-minute short term limit)

Skin Notation: Absorption through skin, eyes and mucous membranes may contribute significantly to the total exposure.

- Mechanical Ventilation:** Concentrations in air should be maintained below the occupational exposure limit if unprotected personnel are involved. Use explosion-proof ventilation as required to control vapour concentrations. Local ventilation recommended where general ventilation is ineffective in controlling airborne concentrations below the recommended occupational exposure limit. Make up air should always be supplied to balance air exhausted (either generally or locally). For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space entry procedure must be followed including ventilation and testing of tank atmosphere.

#### PERSONAL PROTECTIVE EQUIPMENT:

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



**Skin Protection:** Avoid contact with skin. Use protective clothing and gloves manufactured from nitrile. Safety showers should be available for emergency use.

**Respiratory Protection:** Avoid breathing vapour or mists. If exposure has the potential to exceed occupational exposure limits, use an appropriate NIOSH-approved respirator. For high airborne concentrations, use a NIOSH-approved supplied-air respirator, either self-contained or airline breathing apparatus, operated in positive pressure mode.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Volatile Liquid  
**Appearance:** Colourless  
**Odour:** Typical Gasoline Odour  
**Odour Threshold:** < 0.25 ppm  
**Freezing/Pour Point:** Not available  
**Boiling Point:** 35 - 220 °C  
**Density:** 720 - 760 kg/m<sup>3</sup> @ 15 °C  
**Vapour Density (Air = 1):** 3.5  
**Vapour Pressure (absolute):** < 107 kPa @ 38 °C  
**Specific Gravity (Water = 1):** 0.74  
**pH:** Not applicable  
**Flash Point:** TCC -30 °C  
**Lower Flammable Limit:** 1.4 % (vol.)  
**Upper Flammable Limit:** 7.6 % (vol.)  
**Autoignition Temperature:** 280 °C  
**Viscosity:** < 1 mm<sup>2</sup>/s @ 38 °C  
**Evaporation Rate (n-BuAc = 1):** Not available  
**Partition Coefficient (log K<sub>ow</sub>):** 2.3  
**Water Solubility:** Insoluble  
**Other Solvents:** Hydrocarbon Solvents  
**Formula:** C<sub>4</sub> - C<sub>11</sub>

## 10. STABILITY AND REACTIVITY

**Chemically Stable:** Yes  
**Hazardous Polymerization:** No  
**Sensitive to Mechanical Impact:** No  
**Sensitive to Static Discharge:** Yes  
**Incompatible Materials:** Avoid contact with strong oxidizing agents and acids.  
**Conditions of Reactivity:** Avoid excessive heat, open flames and all ignition sources.

## 11. TOXICOLOGICAL INFORMATION

Ingredient (or Product if not specified)	Toxicological Data
Gasoline	LD50 Oral Rat > 18 mL/kg LD50 Dermal Rabbit > 5 mL/kg
Benzene	LD50 Oral Rat 690 - 3400 mg/kg LC50 Inhalation Rat 13700 ppm for 4 hours LD50 Dermal Rabbit > 8260 mg/kg



<b>Routes of Exposure:</b>	Exposure will most likely occur through skin contact or inhalation.
<b>Formulation:</b>	No data is specifically available for this product and therefore this toxicological information is based on testing completed with the ingredients.
<b>Irritancy:</b>	Based on testing with similar materials, this product is not expected to be a primary skin irritant after exposure of short duration, would not be a skin sensitizer and would not be irritating to the eye.
<b>Acute Toxicity:</b>	Vapour concentrations above the recommended exposure level are irritating to the eyes and respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.
<b>Chronic Effects:</b>	Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Prolonged exposure to high vapour concentration can cause headache, dizziness, nausea, blurred vision and central nervous system depression. Prolonged and repeated exposure may cause serious injury to blood forming organs, resulting in anemia and similar conditions. Myelodysplastic syndrome (MDS) has been observed in people exposed to very high levels (50 to 300 ppm) of benzene over a long period of time in the workplace. The relevance of these results to lower levels of exposure is not known.
<b>Carcinogenicity and Mutagenicity:</b>	According to the International Agency for Research on Cancer (IARC) this product is considered to be possibly carcinogenic to humans. This product contains benzene. Carcinogenic hazard. Repeated exposure to benzene concentrations greater than the recommended TLV/TWA may reduce the cellular components of peripheral blood and bone marrow. Epidemiological studies indicate that long term inhalation of benzene vapour can cause leukaemia in man. Benzene has also produced chromosomal aberrations in peripheral blood lymphocytes. May cause heritable genetic damage.

## 12. ECOLOGICAL INFORMATION

Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches.

<b>Biodegradability:</b>	Inherently biodegradable. Rapid volatilization.
<b>Bioaccumulation:</b>	Potential for bioaccumulation.
<b>Partition Coefficient (log K<sub>ow</sub>):</b>	2.3
<b>Aquatic Toxicity:</b>	Product is expected to be toxic to aquatic organisms.

Ingredient:	Toxicological Data
Gasoline	LL50 (WAF method) Rainbow Trout (96hr) 1 - 10 mg/L. EL50 (WAF method) Daphnia Magna (48hr) 1 - 10 mg/L. EL50 - growth rate (WAF method) Algae (72hr) 1 - 10 mg/L.
Benzene	LL50 Rainbow Trout (96hr) 1 - 10 mg/L. EL50 Daphnia Magna (48hr) 10 - 100 mg/L. EL50 - growth rate Algae (72hr) 10 - 100 mg/L.

**Definition(s):** LL and EL are the lethal loading concentration and effective loading concentration respectively. The concentration represents the amount of substance added to the system to obtain a toxic concentration. They replace the traditional LC and EC for low solubility substances.

WAF is the water accommodated fraction. A slightly soluble hydrocarbon is stirred

into water and the insoluble portions are removed. The remaining solution is the water accommodated fraction.

### 13. DISPOSAL CONSIDERATIONS

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

### 14. TRANSPORT INFORMATION

#### Canadian Road and Rail Shipping Classification:

UN Number	UN1203
Proper Shipping Name	GASOLINE
Hazard Class	Class 3 Flammable Liquids
Packing Group	PG II
Additional Information	Marine Pollutant
Shipping Description	GASOLINE Class 3 UN1203 PG II Marine Pollutant

### 15. REGULATORY INFORMATION

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

<b>WHMIS Class:</b>	Class B2 Flammable Liquid Class D2A Carcinogenicity
<b>DSL/NDSL Status:</b>	This product, or all components, are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act. This product and/or all components are listed on the U.S. EPA TSCA Inventory.
<b>Other Regulatory Status:</b>	The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

### 16. OTHER INFORMATION

#### LABEL STATEMENTS

<b>Hazard Statement :</b>	Flammable Liquid. Contains Benzene. May cause cancer.
<b>Handling Statement:</b>	Eliminate all ignition sources. Wear suitable gloves and eye protection. Bond and ground transfer containers and equipment to avoid static accumulation. Avoid prolonged exposure to vapours. Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.
<b>First Aid Statement :</b>	Wash contaminated skin with soap and water. Flush eyes with water.

**REGULAR UNLEADED GASOLINE**

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**If overcome by vapours remove to fresh air.  
Do not induce vomiting.  
Obtain medical attention.**

**Revisions:**

**This MSDS has been reviewed and updated. Section 4 Section 5 Section 7 Section  
8 Section 11 Section 15**





**Shell Canada Limited**  
**Material Safety Data Sheet**

Effective Date: 2010-05-07  
 Supersedes: 2007-05-25



Class B2 Flammable Liquid    Class D2A Carcinogenicity

**1. PRODUCT AND COMPANY IDENTIFICATION**

**PRODUCT:**                    **REGULAR UNLEADED GASOLINE**  
**SYNONYMS:**                Automotive Fuel  
                                       Petrol  
**PRODUCT USE:**            Fuel  
**PRODUCT CODE:**         211-001

**SUPPLIER**  
 Shell Canada Limited (SCL)  
 P.O. Box 100, Station M  
 400-4th Ave. S.W.  
 Calgary, AB Canada  
 T2P 2H5

**TELEPHONE NUMBERS**  
 Shell Emergency Number  
**CANUTEC 24 HOUR EMERGENCY NUMBER**  
 For general information:

1-800-661-7378  
 1-613-996-6666  
 1-800-661-1600  
[www.shell.ca](http://www.shell.ca)

This MSDS was prepared by the Toxicology and Product Stewardship Section of Shell Canada Limited.  
 \*An asterisk in the product name designates a trade-mark of Shell Brands International AG. Used under license.

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Component Name	CAS Number	% Range	WHMIS Controlled
Gasoline	86290-81-5	> 90	Yes
Benzene	71-43-2	< 1.5	Yes

See Section 8 for Occupational Exposure Guidelines.

**3. HAZARDS IDENTIFICATION**

**Physical Description:** Volatile Liquid    Colourless    Typical Gasoline Odour  
**Routes of Exposure:** Exposure will most likely occur through skin contact or inhalation.  
**Hazards:**

Vapour concentrations above the recommended exposure level are irritating to the eyes and respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.

Flammable Liquid.  
 Contains Benzene.  
 May cause cancer.

Ingestion may result in vomiting. Avoid aspiration of vomitus into lungs as small quantities may result in aspiration pneumonitis.  
 May be absorbed by skin contact.  
 In rare cases may sensitize heart muscle causing heart arrhythmia.

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

For further information on health effects, see Section 11.

#### 4. FIRST AID MEASURES

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

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

**Ingestion:** DO NOT INDUCE VOMITING! OBTAIN MEDICAL ATTENTION IMMEDIATELY.  
 Guard against aspiration into lungs by having the individual turn on to their left side. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Do not give anything by mouth to an unconscious person.

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

**Notes to Physician:** The main hazard following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis.

#### 5. FIRE FIGHTING MEASURES

**Extinguishing Media:** Dry Chemical  
 Carbon Dioxide  
 Foam  
 Water Fog

**Firefighting Instructions:** Flammable. Clear area of unprotected personnel. Do not use a direct stream of water as it may spread fire. Product will float and can be reignited on surface of water. Vapour forms a flammable/explosive mixture with air between upper and lower flammable limits. Avoid breathing vapours. Use water to cool fire exposed containers. Vapours may travel along ground and flashback along vapour trail may occur. Do not enter confined fire space without adequate protective clothing and an approved positive pressure self-contained breathing apparatus. Delayed lung damage can be experienced after exposure to combustion products, sometimes hours after the exposure.

**Hazardous Combustion Products:** Carbon dioxide, carbon monoxide and unidentified organic compounds may be formed upon combustion.

#### 6. ACCIDENTAL RELEASE MEASURES

Issue warning "Flammable". Eliminate all ignition sources. Isolate hazard area and restrict access. Handling



equipment must be grounded. Work upwind of spill if it is safe to do so. Avoid direct contact with material. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Dike and contain land spills; contain spills to water by booming. Use water fog to knock down vapours; contain runoff. Adsorb residue or small spills with adsorbent material and remove to non-leaking containers for disposal. Notify appropriate environmental agency(ies). After area has been cleaned up to the satisfaction of regulatory authorities, flush area with water to remove trace residue. Dispose of recovered material as noted under Disposal Considerations.

## 7. HANDLING AND STORAGE

- Handling:** Flammable. Fixed equipment as well as transfer containers and equipment should be grounded to prevent accumulation of static charge. Avoid breathing vapours and prolonged or repeated contact with skin. Vapours may accumulate and travel to distant ignition sources and flashback. Empty containers are hazardous, may contain flammable/explosive dusts, residues or vapours. Do not pressurize drum containers to empty them. Do not cut, drill, grind, weld or perform similar operations on or near containers. Provide adequate ventilation. Launder contaminated clothing prior to reuse. Wash with soap and water prior to eating, drinking, smoking, applying cosmetics or using toilet facilities.
- Storage:** Store in a cool, dry, well ventilated area, away from heat and ignition sources. Use explosion-proof ventilation to prevent vapour accumulation.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The following information, while appropriate for this product, is general in nature. The selection of personal protective equipment will vary depending on the conditions of use.

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

The exposure limits listed here are provided for guidance only. Consult local, provincial and territorial authorities for specific values.

Gasoline: 300 ppm (STEL: 500 ppm)

Benzene (skin) : 0.5 ppm (STEL: 2.5 ppm)

Benzene: Shell internal standard is 0.5 ppm or 1.6 mg/m<sup>3</sup> (8-12 hour time-weighted average limit), 2.5 ppm or 8 mg/m<sup>3</sup> (15-minute short term limit)

Skin Notation: Absorption through skin, eyes and mucous membranes may contribute significantly to the total exposure.

- Mechanical Ventilation:** Concentrations in air should be maintained below the occupational exposure limit if unprotected personnel are involved. Use explosion-proof ventilation as required to control vapour concentrations. Local ventilation recommended where general ventilation is ineffective in controlling airborne concentrations below the recommended occupational exposure limit. Make up air should always be supplied to balance air exhausted (either generally or locally). For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space entry procedure must be followed including ventilation and testing of tank atmosphere.

### PERSONAL PROTECTIVE EQUIPMENT:

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



**Skin Protection:** Avoid contact with skin. Use protective clothing and gloves manufactured from nitrile. Safety showers should be available for emergency use.

**Respiratory Protection:** Avoid breathing vapour or mists. If exposure has the potential to exceed occupational exposure limits, use an appropriate NIOSH-approved respirator. For high airborne concentrations, use a NIOSH-approved supplied-air respirator, either self-contained or airline breathing apparatus, operated in positive pressure mode.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Volatile Liquid  
**Appearance:** Colourless  
**Odour:** Typical Gasoline Odour  
**Odour Threshold:** < 0.25 ppm  
**Freezing/Pour Point:** Not available  
**Boiling Point:** 35 - 220 °C  
**Density:** 720 - 760 kg/m<sup>3</sup> @ 15 °C  
**Vapour Density (Air = 1):** 3.5  
**Vapour Pressure (absolute):** < 107 kPa @ 38 °C  
**Specific Gravity (Water = 1):** 0.74  
**pH:** Not applicable  
**Flash Point:** TCC -30 °C  
**Lower Flammable Limit:** 1.4 % (vol.)  
**Upper Flammable Limit:** 7.6 % (vol.)  
**Autoignition Temperature:** 280 °C  
**Viscosity:** < 1 mm<sup>2</sup>/s @ 38 °C  
**Evaporation Rate (n-BuAc = 1):** Not available  
**Partition Coefficient (log K<sub>ow</sub>):** 2.3  
**Water Solubility:** Insoluble  
**Other Solvents:** Hydrocarbon Solvents  
**Formula:** C<sub>4</sub> - C<sub>11</sub>

## 10. STABILITY AND REACTIVITY

**Chemically Stable:** Yes  
**Hazardous Polymerization:** No  
**Sensitive to Mechanical Impact:** No  
**Sensitive to Static Discharge:** Yes  
**Incompatible Materials:** Avoid contact with strong oxidizing agents and acids.  
**Conditions of Reactivity:** Avoid excessive heat, open flames and all ignition sources.

## 11. TOXICOLOGICAL INFORMATION

Ingredient (or Product if not specified)	Toxicological Data
Gasoline	LD50 Oral Rat > 18 mL/kg LD50 Dermal Rabbit > 5 mL/kg
Benzene	LD50 Oral Rat 690 - 3400 mg/kg LC50 Inhalation Rat 13700 ppm for 4 hours LD50 Dermal Rabbit > 8260 mg/kg

<b>Routes of Exposure:</b>	Exposure will most likely occur through skin contact or inhalation.
<b>Formulation:</b>	No data is specifically available for this product and therefore this toxicological information is based on testing completed with the ingredients.
<b>Irritancy:</b>	Based on testing with similar materials, this product is not expected to be a primary skin irritant after exposure of short duration, would not be a skin sensitizer and would not be irritating to the eye.
<b>Acute Toxicity:</b>	Vapour concentrations above the recommended exposure level are irritating to the eyes and respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.
<b>Chronic Effects:</b>	Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Prolonged exposure to high vapour concentration can cause headache, dizziness, nausea, blurred vision and central nervous system depression. Prolonged and repeated exposure may cause serious injury to blood forming organs, resulting in anemia and similar conditions. Myelodysplastic syndrome (MDS) has been observed in people exposed to very high levels (50 to 300 ppm) of benzene over a long period of time in the workplace. The relevance of these results to lower levels of exposure is not known.
<b>Carcinogenicity and Mutagenicity:</b>	According to the International Agency for Research on Cancer (IARC) this product is considered to be possibly carcinogenic to humans. This product contains benzene. Carcinogenic hazard. Repeated exposure to benzene concentrations greater than the recommended TLV/TWA may reduce the cellular components of peripheral blood and bone marrow. Epidemiological studies indicate that long term inhalation of benzene vapour can cause leukaemia in man. Benzene has also produced chromosomal aberrations in peripheral blood lymphocytes. May cause heritable genetic damage.

## 12. ECOLOGICAL INFORMATION

Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches.

<b>Biodegradability:</b>	Inherently biodegradable. Rapid volatilization.
<b>Bioaccumulation:</b>	Potential for bioaccumulation.
<b>Partition Coefficient (log K<sub>ow</sub>):</b>	2.3
<b>Aquatic Toxicity:</b>	Product is expected to be toxic to aquatic organisms.

Ingredient:	Toxicological Data
Gasoline	LL50 (WAF method) Rainbow Trout (96hr) 1 - 10 mg/L. EL50 (WAF method) Daphnia Magna (48hr) 1 - 10 mg/L. EL50 - growth rate (WAF method) Algae (72hr) 1 - 10 mg/L.
Benzene	LL50 Rainbow Trout (96hr) 1 - 10 mg/L. EL50 Daphnia Magna (48hr) 10 - 100 mg/L. EL50 - growth rate Algae (72hr) 10 - 100 mg/L.

**Definition(s):** LL and EL are the lethal loading concentration and effective loading concentration respectively. The concentration represents the amount of substance added to the system to obtain a toxic concentration. They replace the traditional LC and EC for low solubility substances.

WAF is the water accommodated fraction. A slightly soluble hydrocarbon is stirred



into water and the insoluble portions are removed. The remaining solution is the water accommodated fraction.

### 13. DISPOSAL CONSIDERATIONS

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

### 14. TRANSPORT INFORMATION

#### Canadian Road and Rail Shipping Classification:

UN Number	UN1203
Proper Shipping Name	GASOLINE
Hazard Class	Class 3 Flammable Liquids
Packing Group	PG II
Additional Information	Marine Pollutant
Shipping Description	GASOLINE Class 3 UN1203 PG II Marine Pollutant

### 15. REGULATORY INFORMATION

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

WHMIS Class:	Class B2 Flammable Liquid Class D2A Carcinogenicity
DSL/NDSL Status:	This product, or all components, are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act. This product and/or all components are listed on the U.S. EPA TSCA Inventory.
Other Regulatory Status:	The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

### 16. OTHER INFORMATION

#### LABEL STATEMENTS

Hazard Statement :	Flammable Liquid. Contains Benzene. May cause cancer.
Handling Statement:	Eliminate all ignition sources. Wear suitable gloves and eye protection. Bond and ground transfer containers and equipment to avoid static accumulation. Avoid prolonged exposure to vapours. Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.
First Aid Statement :	Wash contaminated skin with soap and water. Flush eyes with water.



**REGULAR UNLEADED GASOLINE**

**211-001**  
**Revision Number: 7**

**If overcome by vapours remove to fresh air.**  
**Do not induce vomiting.**  
**Obtain medical attention.**

**Revisions:**

**This MSDS has been reviewed and updated. Section 4 Section 5 Section 7 Section 8 Section 11 Section 15**