

**MATERIAL SAFETY DATA SHEET FOR CANADA**  
**NAME OF PRODUCT CYCLOGEN L BASE OIL**

**FILE NUMBER: 2850F**  
**DATE PREPARED: 8/10/05**

**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

<b>PRODUCT NAME:</b>	CYCLOGEN L BASE OIL	<b>HAZARDOUS MATERIALS IDENTIFICATION SYSTEM</b>		
<b>SYNONYMS:</b>	PETROLEUM OIL NEC	<b>HMIS® HAZARD RATING</b>		
<b>PRODUCT CODES:</b>	2850F	<b>4 - SEVERE</b>	<b>HEALTH</b>	<b>1 *</b>
<b>MANUFACTURER:</b>	TRICOR REFINING, LLC	<b>3 - SERIOUS</b>	<b>FLAMMABILITY</b>	<b>1</b>
<b>DIVISION:</b>	BAKERSFIELD	<b>2 - MODERATE</b>	<b>REACTIVITY</b>	<b>0</b>
<b>ADDRESS:</b>	P.O. BOX 5877, BAKERSFIELD, CA 93388	<b>1 - SLIGHT</b>		
<b>EMERGENCY PHONE:</b>	(661) 393-7110	<b>0 - MINIMAL</b>		
<b>PREPARED BY:</b>	TRICOR REFINING, LLC HEALTH, SAFETY AND ENVIRONMENTAL DEPARTMENT			

**SECTION 2: HAZARDOUS INGREDIENTS / IDENTITY INFORMATION**

**CHEMICAL FAMILY:** PETROLEUM HYDROCARBON

<b>HAZARDOUS COMPONENT(S)</b>	<b>CAL-OSHA PEL-TWA (8 HOUR)</b>	<b>ACGIH TLV TWA (8 HOUR)</b>	<b>OTHER LIMITS RECOMMENDED</b>	<b>% BY WEIGHT</b>
Heavy Naphthenic Distillate Solvent Extract CAS 64742-11-6	5 mg/m <sup>3</sup> for mineral oils	5 mg/m <sup>3</sup> (As oil mist)	None	< 74
Petroleum Distillate, Heavy Naphthenic CAS 64741-53-3	5 mg/m <sup>3</sup> for mineral oils	5 mg/m <sup>3</sup> (As oil mist)	None	< 32

**SECTION 3: HEALTH HAZARDS IDENTIFICATION**

<b>ROUTES OF ENTRY:</b>	<b>EYES:</b> Yes	<b>SKIN:</b> Yes	<b>INGESTION:</b> Yes	<b>INHALATION:</b> Yes
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**HEALTH HAZARDS (ACUTE AND CHRONIC):**

**EYES:** No data available.

**SKIN:** Prolonged skin contact may cause irritation.

**INGESTION:** No data available.

**INHALATION:** Remove the person to fresh air if respiratory discomfort occurs.

**CARCINOGENICITY:** ACGIH, NTP, OSHA and IARC carcinogen lists were checked for those components with CAS Registry Number (64742-11-6) and (64741-53-3).

**ACGIH:** This product is not listed as carcinogenic.

**IARC:** This product contains petroleum oils similar to ones categorized by the International Agency for Research on Cancer as causing skin cancer in laboratory animals when the oil was repeatedly applied for most of the lifetime of the animal with no effort made to remove the oil between applications. Handling instructions and precautions outlined in this MSDS should be followed when handling this product.

**NTP:** This product contains no ingredients classified as carcinogens.

**OSHA:** This product contains no ingredients classified as carcinogens.

**CA PROP 65:** This product contains chemicals in trace quantities that are on the California Proposition 65 List.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:**

Persons susceptible to dermatitis (skin rash) may aggravate their condition by skin contact with this product.

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**SECTION 4: EMERGENCY AND FIRST AID MEASURES**

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**EYES:** Immediately flush eyes with water for a minimum of 15 minutes. Seek medical attention immediately.

**SKIN:** Wash with soap and water.

**INGESTION:** Contact a physician immediately.

**INHALATION:** If operating conditions create airborne concentrations that exceed the exposure standard, move the person to fresh air. Administer CPR if required. Provide oxygen if breathing is difficult. Seek medical attention immediately.

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**SECTION 5: FIRE AND EXPLOSION HAZARD DATA**

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**FLAMMABLE LIMITS IN AIR,  
(% BY VOLUME)**

UPPER: No data available

LOWER: No data available

**FLASH POINT: COC °F:**

Greater than 360 ° F

**EXTINGUISHING MEDIA:**

Foam, water fog, dry chemical, CO<sub>2</sub>

**SPECIAL FIRE FIGHTING PROCEDURES:** None

**HAZARDOUS DECOMPOSITION PRODUCTS:**

Normal combustion forms carbon dioxide and water vapor, and may produce oxides of sulfur and nitrogen. Incomplete combustion can produce carbon monoxide.

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**SECTION 6: SPILL OR LEAK PROCEDURES**

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**ACCIDENTAL RELEASE MEASURES:** In case of spill, clean up using absorbent material such as earth or sand. If spilled into water, remove bulk of the product by skimming. If spilled into a navigable waterway and a film, sheen or discoloration of any water surface is observed, the spill must be reported to the National Response Center by calling (800) 424-8802.

**WASTE DISPOSAL METHOD:** Observe Federal, State and Local regulations covering chemical waste spills.

**RCRA HAZARD CLASS:** This product is not a characteristic hazardous waste under RCRA. No EPA waste numbers are applicable for this product's components.

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**SECTION 7: HANDLING AND STORAGE**

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**HANDLING AND STORAGE:** Avoid fire, sparks or open flame. Wear appropriate personal protective equipment to ensure that this product does not contact the eyes or skin.

**VENTILATION:** Use adequate ventilation to keep the airborne concentrations of this material below the established exposure limits.

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**RESPIRATORY PROTECTION:** If operating conditions create airborne concentrations that exceed the exposure standard for mineral oil mists, the use of an approved NIOSH/OSHA respirator for organic vapors or air supplied breathing equipment is recommended.

**EYE PROTECTION:** Wear appropriate safety glasses, goggles or face shield.

**SKIN PROTECTION:** Long sleeve cotton shirt and cotton pants are recommended. Wear appropriate gloves.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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<b>APPEARANCE:</b>	N/T (non Transparent) Dark Green / Brown		
<b>ODOR:</b>	Petroleum odor		
<b>PHYSICAL STATE:</b>	Liquid		
<b>INITIAL BOILING POINT:</b>	Greater than 288 ° C (550 ° F)		
<b>VAPOR PRESSURE (mmHg):</b>	< 0.1	<b>PERCENT VOLATILE (% BY VOL.):</b>	NA
<b>VAPOR DENSITY (AIR = 1):</b>	NA	<b>EVAPORATION RATE (WATER = 1):</b>	< 1
<b>SPECIFIC GRAVITY (H<sub>2</sub>O = 1):</b>	0.92 – 1.03	<b>SOLUBILITY IN WATER:</b>	Nil

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## SECTION 10: REACTIVITY DATA

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**STABILITY:** Stable

**CONDITIONS CONTRIBUTING TO INSTABILITY:** None

**INCOMPATIBILITY (MATERIAL TO AVOID):** May react with strong oxidizers.

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:**  
Normal combustion forms carbon dioxide and water vapor, and may produce oxides of sulfur and nitrogen. Incomplete combustion can produce carbon monoxide.

**HAZARDOUS POLYMERIZATION:** Will not occur

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## SECTION 11: TRANSPORT INFORMATION

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**TRANSPORT CANADA:** Not regulated as a hazardous material for transportation.

**U.S. DEPARTMENT OF TRANSPORTATION** Not regulated as a hazardous material for transportation.

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## SECTION 12: REGULATORY INFORMATION

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### U.S. FEDERAL REGULATIONS:

**TSCA (TOXIC SUBSTANCE CONTROL ACT) REGISTRY:** Listed

### CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT):

This product is not a hazardous substance under CERCLA.

### SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):

**Section 302/304:** This product is not a hazardous substance under 40 CFR Part 355. This product is not listed as an extremely hazardous substance in 40 CFR Part 355, and is not known to contain an extremely hazardous substance in a concentration greater than one percent by weight.

<b>Section 311/312:</b>	Acute Health Hazard:	No
	Chronic Health Hazard:	Yes
	Fire Hazard:	No
	Pressure Release Hazard:	No
	Reactivity Hazard:	No

**Section 313:** This product is not known to contain any components in concentrations above *de minimus* levels that are listed as toxic in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA.

**WHMIS:** D2A

**OSHA:** 29 CFR 1910.1200 (Hazard Communication) required

**UNITED STATES  
REGULATIONS:**

Mineral oil, petroleum extracts, heavy naphthenic distillate solvent appears on one or more of the hazardous substances lists in the following states:

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The information provided in this Material Safety Data Sheet is believed to be accurate and reliable on and as of the date on page one. **However, this Material Safety Data Sheet is not a guarantee or warranty of any kind, express or implied. Any and all warranties of merchantability and/or fitness for a particular purpose are specifically disclaimed.** It is the user's responsibility to determine the conditions under which the product is used, including the selection of engineering controls, work practices and Personal Protective Equipment to minimize hazards.

**MATERIAL SAFETY DATA SHEET FOR CANADA**  
**NAME OF PRODUCT CYCLOGEN M BASE OIL**

**FILE NUMBER: 2851A**  
**DATE PREPARED: 8/10/05**

**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

<b>PRODUCT NAME:</b>	<b>CYCLOGEN M</b>	<b>HAZARDOUS MATERIALS IDENTIFICATION SYSTEM</b>		
<b>SYNONYMS:</b>	<b>PETROLEUM OIL NEC</b>	<b>HMIS® HAZARD RATING</b>		
<b>PRODUCT CODES:</b>	<b>2851A</b>	<b>4 - SEVERE</b>	<b>HEALTH</b>	<b>2 *</b>
<b>MANUFACTURER:</b>	<b>TRICOR REFINING, LLC</b>	<b>3 - SERIOUS</b>	<b>FLAMMABILITY</b>	<b>1</b>
<b>DIVISION:</b>	<b>BAKERSFIELD</b>	<b>2 - MODERATE</b>	<b>REACTIVITY</b>	<b>0</b>
<b>ADDRESS:</b>	<b>P.O. BOX 5877, BAKERSFIELD, CA 93388</b>	<b>1 - SLIGHT</b>		
<b>EMERGENCY PHONE:</b>	<b>(661) 393-7110</b>	<b>0 - MINIMAL</b>		
<b>PREPARED BY:</b>	<b>TRICOR REFINING, LLC HEALTH, SAFETY AND ENVIRONMENTAL DEPARTMENT</b>			

**SECTION 2: HAZARDOUS INGREDIENTS / IDENTITY INFORMATION**

<b>CHEMICAL FAMILY:</b>	<b>PETROLEUM HYDROCARBON</b>			
<b>HAZARDOUS COMPONENT(S)</b>	<b>CAL-OSHA PEL-TWA (8 HOUR)</b>	<b>ACGIH TLV TWA (8 HOUR)</b>	<b>OTHER LIMITS RECOMMENDED</b>	<b>% BY WEIGHT</b>
Heavy Naphthenic Distillate Solvent Extract CAS No. 64742-11-6	5 mg/m <sup>3</sup> for mineral oils	5 mg/m <sup>3</sup> (As oil mist)	None	< 31
Distillate (Petroleum) Hydrotreated Heavy Naphthenic CAS No. 64742-52-5	5 mg/m <sup>3</sup> for mineral oils	5 mg/m <sup>3</sup> (As oil mist)	None	< 29
Petroleum Asphalt CAS No. 8052-42-4	5 mg/m <sup>3</sup>	0.5 mg/m <sup>3</sup> (as the inhalable fraction)	NIOSH REL 5 mg/m <sup>3</sup> (15 minute)	< 46

**SECTION 3: HEALTH HAZARDS IDENTIFICATION**

<b>ROUTES OF ENTRY:</b>	<b>EYES:</b> Yes	<b>SKIN:</b> Yes	<b>INGESTION:</b> Yes	<b>INHALATION:</b> Yes
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**HEALTH HAZARDS (ACUTE AND CHRONIC):**

- EYES:** No data available.
- SKIN:** Prolonged skin contact may cause irritation.
- INGESTION:** This product is not expected to be acutely toxic by ingestion. If swallowed, do not induce vomiting. Call a physician.
- INHALATION:** Remove the person to fresh air if respiratory discomfort occurs.
- CARCINOGENICITY:** ACGIH, NTP, OSHA and IARC carcinogen lists were checked for those components with CAS Registry Number(s) 64742-11-6, 64742-52-5 and 8052-42-4.
- ACGIH:** Asphalt fumes (coal tar free) are designated as A4 – Not Classifiable As A Human Carcinogen.

- IARC:** Bitumens – including undiluted air-refined bitumens are described as “ Not Classifiable As To Its Carcinogenicity To Humans” (Group 3)  
Extracts of air-refined bitumens are described as “ Possibly Carcinogenic To Humans (Group 2B) (Monograph, Vol. 35, Supplement 7, p. 133). This product contains petroleum oils similar to ones categorized by the International Agency for Research on Cancer as causing skin cancer in laboratory animals when the oil was repeatedly applied for most of the lifetime of the animal with no effort made to remove the oil between applications. Handling instructions and precautions outlined in this MSDS should be followed when handling this product.
- NTP:** This product contains no ingredients classified as carcinogens.
- OSHA:** This product contains no ingredients classified as carcinogens.
- CA PROP 65:** This product contains chemicals in trace quantities that are on the California Proposition 65 List.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:**

Persons susceptible to dermatitis (skin rash) may aggravate their condition by skin contact with this product.

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## SECTION 4: EMERGENCY AND FIRST AID MEASURES

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- EYES:** Immediately flush eyes with water for a minimum of 15 minutes. Seek medical attention immediately.
- SKIN:** Wash with soap and water.
- INGESTION:** Contact a physician immediately.
- INHALATION:** If operating conditions create airborne concentrations that exceed the exposure standard, move the person to fresh air. Administer CPR if required. Provide oxygen if breathing is difficult. Seek medical attention immediately.

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## SECTION 5: FIRE AND EXPLOSION HAZARD DATA

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- FLAMMABLE LIMITS IN AIR, (% BY VOLUME)** UPPER: No data available  
LOWER: No data available
- FLASH POINT: COC ° F:** > 400
- EXTINGUISHING MEDIA:** Foam, water fog, dry chemical, CO<sub>2</sub>
- SPECIAL FIRE FIGHTING PROCEDURES:** None
- HAZARDOUS DECOMPOSITION PRODUCTS:**  
Normal combustion forms carbon dioxide and water vapor, and may produce oxides of sulfur and nitrogen. Incomplete combustion can produce carbon monoxide.

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## SECTION 6: SPILL OR LEAK PROCEDURES

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- ACCIDENTAL RELEASE MEASURES:** In case of spill, clean up using absorbent material such as earth or sand.
- WASTE DISPOSAL METHOD:** Observe Federal, State and Local regulations covering chemical waste spills.
- RCRA HAZARD CLASS:** This product is not a characteristic hazardous waste under RCRA. No EPA waste numbers are applicable for this product's components.

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## SECTION 7: HANDLING AND STORAGE

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- HANDLING AND STORAGE:** Avoid fire, sparks or open flame. Wear appropriate personal protective equipment to ensure that this product does not contact the eyes or skin.

**VENTILATION:** Use adequate ventilation to keep the airborne concentrations of this material below the established exposure limits.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

---

**RESPIRATORY PROTECTION:** If operating conditions create airborne concentrations that exceed the exposure standard for mineral oil mists, the use of an approved NIOSH/OSHA respirator for organic vapors or air supplied breathing equipment is recommended.

**EYE PROTECTION:** Wear appropriate safety glasses, goggles or face shield.

**SKIN PROTECTION:** Long sleeve cotton shirt and cotton pants are recommended. Wear appropriate gloves.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**APPEARANCE:** N/T (Non Transparent) Black  
**ODOR:** Petroleum odor  
**PHYSICAL STATE:** Liquid  
**BOILING POINT:** Greater than 288° C (550 ° F)

<b>VAPOR PRESSURE (mmHg):</b>	Less than 1.0	<b>PERCENT VOLATILE (% BY WT.):</b>	NA
<b>VAPOR DENSITY (AIR = 1):</b>	NDA	<b>EVAPORATION RATE (WATER = 1):</b>	Less than 1
<b>SPECIFIC GRAVITY (H<sub>2</sub>O = 1):</b>	0.96 – 1.01	<b>SOLUBILITY IN WATER:</b>	NIL

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## SECTION 10: REACTIVITY DATA

---

**STABILITY:** Stable

**CONDITIONS CONTRIBUTING TO INSTABILITY:** None

**INCOMPATIBILITY (MATERIAL TO AVOID):** May react with strong oxidizers.

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:**  
Normal combustion forms carbon dioxide and water vapor, and may produce oxides of sulfur and nitrogen. Incomplete combustion can produce carbon monoxide.

**HAZARDOUS POLYMERIZATION:** Will not occur

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## SECTION 11: TRANSPORT INFORMATION

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**TRANSPORT CANADA:** Not regulated as a hazardous material for transportation.

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## SECTION 12: REGULATORY INFORMATION

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**U.S. FEDERAL REGULATIONS:**

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**CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT):**

This product is not a hazardous substance under CERCLA.

**SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):**

**Section 302/304:** This product is not a hazardous substance under 40 CFR Part 355. This product is not listed as an extremely hazardous substance in 40 CFR Part 355, and is not known to contain an extremely hazardous substance in a concentration greater than one percent by weight.

**Section 311/312:**

Acute Health Hazard:	No
Chronic Health Hazard:	Yes
Fire Hazard:	No
Pressure Release Hazard:	No
Reactivity Hazard:	No

**Section 313:** This product is not known to contain any components in concentrations above *de minimus* levels that are listed as toxic in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA.

**WHMIS:** D2A

**OSHA:** 29 CFR 1910.1200 (Hazard Communication) required

**UNITES STATES REGULATIONS:** Mineral oil, petroleum extracts, heavy naphthenic distillate solvent appears on one or more of the hazardous substances lists in the following states:

MA

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