SECTION #1 PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: TOTAL CERAN MM

CHEMICAL NAME AND SYNONYMS: Calcium Sulfonate complex grease

MANUFACTURER/SUPPLIER’S NAME: TOTAL LUBRICANTS CANADA INC.
220, LAFLEUR
LASALLE, QUEBEC
H8R 4C9
Tel.: (514) 595-7579 or 1-800-463-3955

24 HOURS EMERGENCY: Call CHEMTREC 1-800-424-9300 or 703-527-3887

PRODUCT USE: LUBRICANT GREASE

WHMIS CLASS AND DESCRIPTION -

This product or any of its components is not regulated by the WHMIS.

Other Hazardous System Classification: According to the NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) and Hazardous Materials Identification System (HMIS, USA):

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>NO SIGNIFICANT RISK</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>WEAK RISK</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>NO SIGNIFICANT RISK</td>
</tr>
</tbody>
</table>

INDIVIDUAL PROTECTION: B Eye protection and gloves are recommended

SECTION #2 COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>NOM</th>
<th>%</th>
<th>No CAS</th>
</tr>
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</tbody>
</table>

This product is a calcium Sulfonate complex grease and its oil is a petroleum-derived severely refined mineral base product.
ADDITIONAL REGULATORY INFORMATION
-- Canadian DSL status: All ingredients are listed.

* No components of this product have been found carcinogenic or potential carcinogen. Does not contain ingredients that are listed as carcinogenic or potential carcinogen by OSHA, IARC or the U.S. National Toxicology Program (NTP). This product or its components have no teratogenic or mutagenic effects known.

SECTION #3 PHYSICAL DATA – TYPICAL VALUES

PHYSICAL STATE AT 25°C Semi-solid

APPEARANCE ET ODOR: smooth, brown with a characteristic odor

NLGI grade: 2

MINIMUM DROP POINT (ASTM D2265): >300°C

DENSITY (g/cm³ at 15°C): 0.900

VAPOR PRESSURE (mm Hg at 20°C): Negligible

pH: No Object

EVAPORATION RATE: Negligible

SOLUBILITY: Insoluble and immiscible in water

Soluble in common organic solvents

PENETRATION INDEX (ASTM D217):

270 x 1/10 mm (unworked)

283: 282 x 1/10 mm (worked 60 times)

BASE OIL VISCOSITY (cSt @ 40°C): 107

BASE OIL VISCOSITY (cSt @ 100°C): 13.4

SECTION #4 STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions of storage and handling.

CONDITIONS TO AVOID: Avoid excessive heat, open flames and formation of oil mist.

PRODUCTS TO AVOID: Oxidizing agents, strong acids and bases.

HAZARDOUS DECOMPOSITION PRODUCTS: N/A

POLYMERIZATION: Will not occur

PHYSICO-CHEMICAL HAZARDS: No hazard of explosion or inflammation under normal conditions of handling and storage

SECTION #5 FIRE FIGHTING MEASURES

AUTOIGNITION TEMPERATURE (ASTM E 659): > 350°C

FLAMMABILITY LIMITS IN AIR:

(LEL: N/A

(UEL: N/A

AUTOIGNITION TEMPERATURE (°C): N/A

EXTINGUISHING MEDIA: Foam, Dry chemical and CO₂
HAZARDOUS COMBUSTION PRODUCTS: Normal combustion products, CO and CO₂.

SPECIAL FIRE FIGHTING PROCEDURES: Do not enter confined fire space without adequate protective clothing and an approved positive self-contained breathing apparatus. Use water to cool fire exposed containers.

SECTION #6 TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>LD₅₀ ORAL</th>
<th>LD₅₀ DERMAL</th>
<th>LC₅₀ INHALATION</th>
<th>HRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>&gt; 5000 mg/Kg</td>
<td>&gt; 2000 mg/Kg</td>
<td>N/A</td>
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</tr>
</tbody>
</table>

This product in normal conditions presents no toxicological hazards. It is practically non-toxic. There is no known repeated dose toxicity effect.

INHALATION: Prolonged exposure to high vapor concentration of this product can cause headache, dizziness and nausea. Short-term overexposure can cause an irritation to the respiratory passages.

CONTACT WITH EYES: May cause eye irritation.

SKIN CONTACT: This product should not cause skin irritation. Prolonged and repeated contact with this product can cause skin drying, which may result in skin irritation and dermatitis.

INGESTION: May cause nausea.

SENSITIZATION: Not expected based on components and similar products.

CARCINOGENICITY: No evidence was found in studies of chronic exposure involving components of this product and of similar products.

SECTION #7 ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES: Eliminate all ignition sources. Stop leak only if safe to do so. Absorb residue or small spills with absorbent material and remove to non-leaking containers for disposal.

SECTION #8 HANDLING AND STORAGE

STORAGE AND HANDLING: Store in cool, dry, ventilated area, away from heat and ignition sources. Use good personal hygiene. Always keep the container close.

SECTION #9 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS: ACGIH and OSHA

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</thead>
<tbody>
<tr>
<td>LTEL</td>
<td>5mg/m³</td>
<td></td>
</tr>
<tr>
<td>STEL</td>
<td>10mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

LTEL: LONG TERM EXPOSURE LIMITS-TIME WEIGHT AVERAGE (TWA) over 8 hours.
STEL: SHORT TERM EXPOSURE LIMITS-TIME WEIGHT AVERAGE (TWA) over 15 minutes

VENTILATION: Mechanical ventilation is recommended.

RESPIRATORY PROTECTION: If mist present, chemical cartridge respirator is recommended.
GLOVES: Resistant gloves (Viton, Nitrile, Neoprene) are recommended when handling this material.

EYE PROTECTION: Chemical safety goggles are recommended.

OTHER PROTECTION: In confined spaces or where the risk of skin exposure is higher, resistant clothing or apron should be worn.

SECTION #10 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS: Consult relevant local authorities. Reclaim or dispose of at a licensed waste disposal company. Incinerate with approval of appropriate local authority.

SECTION #11 FIRST AID

INHALATION: Remove person to fresh air. See a physician if irritation persists.

CONTACT WITH EYES: Flush immediately with water for at least 15 minutes.

CONTACT WITH SKIN: Wash contaminated skin with mild soap and water. See a physician if irritation persists.

INGESTION: This product has a low toxicity. May cause nausea and have a laxative effect. Do not induce vomiting. Contact an Anti-Poison Center (1-800-463-5060).

SECTION #12 HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS: Under normal conditions of intended use, this product does not pose a risk to health. Excessive exposure may result in eye, skin, and respiratory irritation. Repeated and excessive exposure may cause skin dryness and cracking.

High pressure injection under the skin pose a great threat of injury.

ECOLOGICAL HAZARDS: This product is not readily biodegradable. It cannot be released into the environment.

PHYSICO CHEMICAL HAZARDS: No risk under normal conditions of intended use.

SENSITIZATION: To our knowledge, the product does not cause aggravated sensitivity. It contains no allergens.

SECTION #13 ECOLOGICAL INFORMATION

ENVIRONMENTAL EFFECTS:

Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches. Provincial regulations require and federal regulations may require that environmental and/or
other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities.

**BIODEGRADABILITY:** NOT READILY BIODEGRADABLE.

**SECTION #14 TRANSPORTATION INFORMATION**

**TRANSPORTATION (TDG)**

not regulated, not considered a dangerous good.

<table>
<thead>
<tr>
<th>SHIPPING NAME:</th>
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<tbody>
<tr>
<td>UN NUMBER:</td>
<td>None</td>
</tr>
<tr>
<td>CLASS DESCRIPTION:</td>
<td>None</td>
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Other agencies:

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<tr>
<th>USDOT</th>
<th>Not regulated by that agency as an hazardous material.</th>
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<tbody>
<tr>
<td>IMO/IMDG</td>
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<td>IATA</td>
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<td>ADR</td>
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<tr>
<td>RID</td>
<td>Not regulated by that agency as an hazardous material.</td>
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**SECTION #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.

**THIS PRODUCT IS NOT A WHMIS CONTROLLED SUBSTANCE.**

DSL/NDSL Status: This product, or all components, are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act. This product and/or all components are listed on the U.S. EPA TSCA Inventory.

Other Regulatory Status: No Canadian federal standard; however, for general discharge guidance, federal installations limited to 15 mg/L for total oil and grease. Provincial criteria are likely and should be requested when notifying provincial authorities.

**SECTION #16 ADDITIONAL INFORMATION**

Prepared by: André St-Jean, Chemist
Revised on: July 16, 2014

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