1. Product and company identification

Product use: Petrochemical industry: Automatic Transmission Fluid

Date of issue/Revisions: 27 June 2011

In case of emergency - Chemical

+1-800-403-0044 (US & Canada)
+1-804-648-7727 (International)
+32 2 507-20-64 (Europe)
+81 3158-1074 (Asia Pacific)
+66 10 5100 3039 (China)
+61 2801 44558 (Australia)

Manufacturer / Supplier

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Richmond, VA 23219
Telephone number: +1-804-788-5800

Afton Chemical Limited
Euro-Tech Centre
London Road, Bracknell, Berkshire
RG12 2UW, England
Telephone Number: +44 1344 304141
msds@aftonchemical.com

In Singapore:
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111 Somerset Road
#09-05
TripleOne Somerset
Singapore 238164
Telephone number: +65 3732 0822
Fax: +65 3737 4123

2. HAZARDS IDENTIFICATION

Notice to reader

Afton operates a world-wide system for hazard communication. Some hazards shown in Section 2 may apply to non-EU countries and may not result in classification and labeling in the EU. Please see Sections 3 and 15 for country specific classification information, and Section 11 for additional details.

Europe: The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
Australia: NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

Primary hazards and critical effects: NOTICE!

Environmental hazards: Not classified as dangerous for the environment according to EC criteria.

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

| Health | 0 |
| Fire hazard | 1 |
| Reactivity | 0 |

GHS Classification

Hazard classification: Not classified.

Symbol:

Signal word: No signal word.

Hazard statements: No known significant effects or critical hazards.

Precautionary statements:
3. Composition/information on ingredients

Note: see section 8 for occupational exposure limits and section 11 for LC50/LD50 information

<table>
<thead>
<tr>
<th>Substance/Preparation</th>
<th>CAS no.</th>
<th>Conc. (% w/w)</th>
<th>EU Classification</th>
<th>WHMIS Regulated?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyalkene</td>
<td>Proprietary</td>
<td>70 - 80</td>
<td>Not classified.</td>
<td>No.</td>
</tr>
<tr>
<td>Polyolefin</td>
<td>Proprietary</td>
<td>10 - 19.9</td>
<td>Xn; R65</td>
<td>No.</td>
</tr>
<tr>
<td>Mineral oil</td>
<td>Mixture</td>
<td>1 - 4.9</td>
<td>Not classified.</td>
<td>No.</td>
</tr>
<tr>
<td>Methacrylate copolymer</td>
<td>Proprietary</td>
<td>1 - 4.9</td>
<td>Xi; R36</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

4. First aid measures

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

**Ingestion**: If affected person is fully conscious, give one glass of water to drink. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

**Skin contact**: Wash with soap and water. Get medical attention if irritation develops.

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

5. Fire-fighting measures

**Extinguishing media**: In case of fire, use water spray (fog), foam, dry chemical or CO2.

**Fire-fighting procedures**: Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

**Hazardous decomposition products**: No specific data.

**Flash point**: Closed cup: 180°C (356°F) [Minimum Pensky-Martens.]
Closed cup: 200°C (392°F) [Typical Pensky-Martens.]

6. Accidental release measures

**Personal precautions**: Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Follow all fire-fighting procedures (section 5).

**Environmental precautions and clean-up methods**: If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion-proof means to transfer material to a sealable, appropriate container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Avoid contact of spilled material with soil and prevent runoff entering surface waterways.

Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

**Handling**: Wash thoroughly after handling.

**Storage**: Keep container tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure controls/personal protection

**Engineering controls**: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

**Personal protective equipment**

- **Respiratory system**: Use appropriate respiratory protection if there is the potential to exceed the exposure limit(s).
- **Skin and body**: Disposable outer garments when there is a risk of contact with the material.
- **Hands**: Use chemical-resistant, impervious gloves.
- **Eyes**: Safety glasses with side shields. Goggles with a face shield may be necessary depending on quantity of material and conditions of use.

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>OEL United States</th>
<th>OEL Canada</th>
<th>OEL Europe</th>
<th>OEL Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyalkene</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyolefin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mineral oil</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methacrylate copolymer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state and Appearance</th>
<th>Liquid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>0.86 g/cm³</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>0.855 @ 15.6°C</td>
</tr>
<tr>
<td>Viscosity</td>
<td>5.95 cSt @ 100°C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>
| Flash point                   | Closed cup: 180°C (356°F) [Minimum Pensky-Martens.]  
Closed cup: 200°C (392°F) [Typical Pensky-Martens.] |

10. Stability and reactivity

<table>
<thead>
<tr>
<th>Stability</th>
<th>The product is stable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials to avoid</td>
<td>Strong oxidizing and reducing agents.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>High temperatures, sparks, and open flames.</td>
</tr>
</tbody>
</table>

11. Toxicological information

| Routes of entry               | Skin, Eyes, Ingestion, and Inhalation. |
| Target organs                 | None known.                |

- **Acute effects**
  - **Inhalation**: Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.
  - **Ingestion**: Not determined.
  - **Skin contact**: Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

- **Eye contact**: Non-irritating to the eyes.

- **Adverse effects**: Not determined.

| Carcinogenic effects           | Not classified or listed by IARC, NTP, OSHA, EU and ACGIH. |

**Toxicity data**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LD50 Dermal</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyolefin</td>
<td>Rabbit</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation</td>
<td>5 mg/m³</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vapor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mineral oil</td>
<td>Rabbit</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

| Other information         | Not available. |
12. Ecological information

Environmental hazards : Not classified as dangerous for the environment according to EC criteria. Based on calculation.

Environmental fate : This product contains components which may be persistent in the environment.

13. Disposal considerations

Waste handling and disposal : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport information

<table>
<thead>
<tr>
<th>Regulatory information</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Class</th>
<th>Packing group</th>
<th>Label</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Classification</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>TDG Classification</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>ADR/RID Class</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>IMDG Class</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>IATA-DGR Class</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>ADG Class</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Notice to reader

The above transport information is provided to assist in the proper classification of this product and may not be suitable for all shipping conditions.

15. Regulatory information

EU regulations

Risk phrases : This product is not classified according to EU legislation.

Safety phrases : No known significant effects or critical hazards.

US regulations

SARA 313 toxic chemical notification and release reporting (w/w%) : No SARA 313 chemicals are present above the reporting threshold.

SARA 311/312 Hazardous Categorization : SARA 311/312 MSDS distribution - chemical inventory - hazard identification: HiTEC 5738 Performance Additive: Immediate (acute) health hazard

RQ (Reportable quantity) : CERCLA: Hazardous substances: Ethylene glycol: 5000 lbs. (2270 kg); Phenol: 1000 lbs. (454 kg); Arsenic: 1 lb. (0.454 kg); Ethylene oxide: 10 lbs. (4.54 kg); Ethyl acrylate: 1000 lbs. (454 kg);

State - California Prop. 65 : This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: 2-Propenoic Acid, Ethyl Ester
Arsenic
Ethylene oxide

Canadian regulations

WHMIS (Classification) : Not determined.

International Inventory Status

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

Canada inventory : All components are listed or exempted.

Europe inventory : All components are listed or exempted.
16. Other information

PREPARATION INFORMATION
Validated by HS&E Department (Tel: +1 804 788 5800) on 6/27/2011.

Date of printing: 6/27/2011.
Indicates information that has changed from previously issued version.

Notice to reader
This information and these recommendations are offered in good faith and believed to be correct as of the date hereof. Information and recommendations are supplied upon the condition that the recipients will make their own decision as to safety and suitability for their purposes. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, are made with respect to the product or the information and recommendations. Afton makes no representation as to completeness or accuracy. In no event will Afton be responsible for damages of any nature whatsoever resulting from the use or reliance upon the information and recommendations.

ADDRESS CONTACT INFORMATION

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Australia
Telephone number: +61 2801 44558
Business Hours: 9:00am - 5:00pm

In China:
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Room 808 China World Office 2
No. 1 Jian Guo Men Wai Avenue
Beijing 100004 China
Telephone number: +86 10 6535 0000

Full text of R-phrases appearing in section 3:
R65- Harmful: may cause lung damage if swallowed.
R36- Irritating to eyes.
**HMCS ID:** 1190862  
**SUC:** 04-Metal Working Fluids and Lubricants  
**External Key:** 10-4093, 19300536, ACDelco  
**DEDRON HP Automatic Transmission Fluid**

**MATERIAL SAFETY DATA SHEET**  
**Print Date:** 01.Feb.2013

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*** END OF MSDS ***