**Asphalt Laboratory Report**

ISO9000 : 2000 #FS81129

Report Number : 2007/07/#012

Client : South East Asia

Job Location : South East Asia

Material Type : RejuvaSeal / RJSeal – Asphalt Rejuvenator

Test Date : 1 July 2007

<table>
<thead>
<tr>
<th>Test Methods</th>
<th>Description</th>
<th>Test Result</th>
<th>Conformance Production Tolerances</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM D70</td>
<td>Specific Gravity of Semi-Solid Bituminous Materials (25/25 °C) (g/cm³)</td>
<td>1.062</td>
<td>Min 1.04</td>
</tr>
<tr>
<td>ASTM2170</td>
<td>Kinematics Viscosity (Equiv Engler specific viscosity @ 50 °C, to ASTM D1665)</td>
<td>4.62</td>
<td>8.0 max</td>
</tr>
<tr>
<td>ASTM D95</td>
<td>Water, % by volume</td>
<td>1.63</td>
<td>2.0 max</td>
</tr>
<tr>
<td>ASTM D20</td>
<td>Distillation, % by weight of total material at:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>170 °C</td>
<td>18.26</td>
<td>Max 20.0</td>
</tr>
<tr>
<td></td>
<td>270 °C</td>
<td>41.11</td>
<td>20.0 to 50.0</td>
</tr>
<tr>
<td></td>
<td>300 °C</td>
<td>56.46</td>
<td>Max 60.0</td>
</tr>
<tr>
<td>ASTM D36</td>
<td>Softening point on residue from distillation, °C</td>
<td>46.2</td>
<td>Max 65</td>
</tr>
</tbody>
</table>

Remarks: RJSeal is a trade mark designated for China Market whilst RejuvaSeal for South East Asia.

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MATERIAL SAFETY DATA SHEET

SECTION 01: CHEMICAL PRODUCT

Product Name          RejuvaSeal / RJSeal™ Asphalt Pavement Rejuvenator Sealer
Chemical Family       Not Applicable
Chemical Formula      Complex Hydrocarbon Mixture

SECTION 02: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>HAZARDOUS INGREDIENTS</th>
<th>%</th>
<th>EXPOSURE LEVELS</th>
<th>CHEMICAL ABSTRACTS SERVICE # (C. A. S. #)</th>
<th>LETHAL DOSE / 5D,ROUTE, SPECIES</th>
<th>LC / 5D, ROUTE, SPECIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aromatic Solvent</td>
<td>32%</td>
<td>2%</td>
<td>300 ppm</td>
<td>64742-95-6</td>
<td>RAT / ORAL 4700 mg / kg. RAT / DERMAL &gt; 4.0 mg / kg. RAT / INH &gt; 3670 ppm 4 hr.</td>
</tr>
<tr>
<td>Coal Tar Pitch</td>
<td>35%</td>
<td>0%</td>
<td>0.2 mg / m³</td>
<td>65996-93-2</td>
<td></td>
</tr>
<tr>
<td>Aromatic Oils</td>
<td>15%</td>
<td>0%</td>
<td>0.2 mg / m³</td>
<td>65996-91-0</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 03: HAZARDS IDENTIFICATION

Potential Health Effects
Route of Entry         See Effects of Acute Exposure
Effects of Acute Exposure
Eye Contact            Can cause severe irritation and swelling of eye tissues (Conjunctivitis) and corneal burns. May cause permanent eye damage if contact not eliminated immediately.
Ingestion May cause irritation of the gastrointestinal tract.
Inhalation May cause moderate irritation to the respiratory tract. May affect the central nervous system.
Skin Absorption Not absorbed through skin.
Skin Contact May cause drying, cracking, or inflammation of the skin. Prolonged or repeated contact may cause irritation and/or dermatitis.

Effects of Chronic Exposure None Known

SECTION 04: FIRST AID MEASURES

Skin Contact Remove from skin by washing thoroughly with soap and water. Baby oil is helpful in removing residual material. Burns - DO NOT attempt to remove asphaltic material. Seek medical attention immediately.
Inhalation Remove victim to fresh air. If breathing has stopped properly trained personnel should begin artificial respiration. Get medical attention immediately.
Ingestion If ingested, consult a physician
Eye Contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Consult physician if irritation continues.
Note to Physicians N/A
Additional Information Not Available

SECTION 05: FIRE FIGHTING MEASURES

Flash Point (C), Method > 72° C
Auto Ignition Temperature (° C) Not Available
Upper Flammable Limit (% VOL) 7.0
Lower Flammable Limit (% VOL) 1.0
Extinguishing Media Carbon Dioxide, Foam, Dry Chemical, Water Fog
Hazardous Combustion Products Carbon Dioxide, Carbon Monoxide, Sulphur Dioxide
Sensitivity to Mechanical Impact Not Available
Sensitivity to Static Discharge Not Available
SECTION 06: ACCIDENTAL RELEASE MEASURES
Leak / Spill
Contain the spill. Eliminate all sources of ignition, absorb residual material with sand, and/or other absorbent material, or recover using electrically grounded explosion proof pumps.

SECTION 07: HANDLING AND STORAGE
Handling Procedures
Avoid skin and eye contact. Equipment must be grounded.
Storage Needs
Keep containers closed when not in use. Store containers in a cool area. Containers must be grounded. Store away from oxidizing materials and all sources of ignition.

SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Protective Equipment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye / Type</td>
<td>Splash proof chemical goggles or 8” face shield.</td>
</tr>
<tr>
<td>Respiratory / Type</td>
<td>Not required under normal conditions. In closed areas, wear approved air purifying respirator for dust/fumes/mist and organic vapours or supplied air respirator.</td>
</tr>
<tr>
<td>Gloves / Type</td>
<td>Do not wear natural rubber or polyvinyl chloride gloves.</td>
</tr>
<tr>
<td>Clothing / Type</td>
<td>Long sleeve, loose fitting clothing, closed at the neck and tight fitting at the wrist. Have contaminated clothing washed before reuse.</td>
</tr>
<tr>
<td>Footwear / Type</td>
<td>Safety boots per local regulations.</td>
</tr>
<tr>
<td>Other Type</td>
<td>NA</td>
</tr>
<tr>
<td>Ventilation Requirements</td>
<td>Mechanical ventilation recommended in enclosed areas.</td>
</tr>
</tbody>
</table>
SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Physical State: Liquid
Odour: Hydrocarbon Odour
Odour Threshold: Not Available
Specific Gravity: > 1.03
Vapour Pressure (mm Hg): Not Available
Vapour Density (AIR = 1): > 1
Evaporation Rate: Not Available
Boiling Point (°C): > 133° C
pH: Not Available
Solubility in Water (%W/W): Negligible
Coefficient of Water/Oil: Not Available
Distribution Freezing Point (°C): Not Available
Melting Point (°C): Not Available
Molecular Weight: Not Available

SECTION 10: STABILITY AND REACTIVITY

Hazardous Polymerisation: Not Applicable
Stability: Keep away from heat, sparks, open flames.
Incompatibility: Incompatible with strong acids, strong bases, strong oxidizing agents.
Reactivity Conditions: May ignite if over heated or in the presence of strong oxidizers.
Hazardous Products of Decomposition: Carbon Monoxide, Carbon dioxide, sulphur dioxide

SECTION 11: TOXICOLOGICAL INFORMATION

Irritancy of Material: Refer to route of entry.
Sensitising Capability of Material: None known
Carcinogenicity of Material: Petroleum fraction includes many naturally occurring polycyclic aromatic hydrocarbons (PAH's). Certain species of PAH's have been implicated in the incidence of skin cancer in test animals.
Teratogenicity: None known
Mutagenicity: None known
Reproductive Effects: None known
Synergistic Materials: None known

SECTION 12: ECOLOGICAL INFORMATION

Environmental: Not Available
Ectotoxiclogical Information: Not Available
Biodegradability: Not Available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose with absorbent material in accordance with regulatory laws. Waste management priorities (depending on volumes and concentration of waste) are:

1. Recycle (reprocess),
2. Energy Recovery (cement kilns, thermal power generation),
3. Incineration,
4. Disposal at licensed waste facility.

Do not attempt to combust waste on-site. Incinerate at a licensed waste disposal site with approval of environmental authority.

SECTION 14: TRANSPORT INFORMATION

U.N. #1999
Transport Dangerous Goods: 3.2
SECTION 15: REGULATORY INFORMATION

U.S. Federal Regulations
Hazardous Material Identification System Classification
Health - 2, Flammability - 2, Reactivity - 0.

International Regulations
State Regulations
Not regulated
Not regulated

Workplace Hazardous Materials
Information System Classification
B3, D2A

Cardiopulmonary Resuscitation Compliance
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16: OTHER INFORMATION

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made to the information contained herein.

Remarks: RJSeal is a trade mark designated for China Market whilst RejuvaSeal for S E Asia.

Dr. M. Y. Fisekci, M. Eng & Ph.D
Canadian Research Scientist (retired)

Charence, S.W. Chiang, C.E.O., P.Eng
# General Standard of Rejuvenator and Seal or Rejuvenator or Sealer

(as of July 2007)

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>FAA Eng. Brief 44</th>
<th>DNT Canada</th>
<th>RejuvaSeal (USA)</th>
<th>RejuvaSeal (Export) 1 July 2007</th>
<th>RJS Seal (China)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Gravity 25/25°C</td>
<td>ASTM D70</td>
<td>1.04 min.</td>
<td>1.04 min.</td>
<td>1.06 min</td>
<td>1.062</td>
<td>1.04 min</td>
</tr>
<tr>
<td>Kinematics Viscosity @50°C, cSt</td>
<td>ASTM D2170</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Engler Viscosity @ 50°C)</td>
<td>ASTM D1665</td>
<td>8.0 max.</td>
<td>4.5 max.</td>
<td>8.0 max</td>
<td>4.62</td>
<td>8.0 max</td>
</tr>
<tr>
<td>Water, % by Volume</td>
<td>ASTM D95</td>
<td>2.0 max.</td>
<td>2.0 max.</td>
<td>2.0 max</td>
<td>1.63</td>
<td>2.0 max</td>
</tr>
<tr>
<td>Distillation, % by Weight of Total Material off at:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>170°C</td>
<td>ASTM D20</td>
<td>20 max.</td>
<td>30 max.</td>
<td>&lt;20</td>
<td>18.26</td>
<td>&lt;30</td>
</tr>
<tr>
<td>270°C</td>
<td></td>
<td>20 to 50</td>
<td>25 to 45</td>
<td>20 to 50</td>
<td>41.11</td>
<td>20 to 50</td>
</tr>
<tr>
<td>300°C</td>
<td></td>
<td>60 max.</td>
<td>30 to 55</td>
<td>40 to 60</td>
<td>56.46</td>
<td>40 to 60</td>
</tr>
<tr>
<td>Softening Point on Residue From Distillation</td>
<td>ASTM D36</td>
<td>65 max.</td>
<td>40 to 55</td>
<td>40 to 55 max</td>
<td>46</td>
<td>65 max</td>
</tr>
<tr>
<td>Flash Point (°C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Penetration (dmm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absolute Viscosity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ductility (cm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Softening Point (°C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Flash Point (°C) ASTM D5 at 25

Penetration (dmm) ASTM D2171, at 60°C

Absolute Viscosity

Ductility (cm) ASTM D113 at 25°C

Softening Point (°C) ASTM D36 at 40°C-55°C max
# General Standard of Rejuvenator and Seal or Rejuvenator or Sealer

(as of July 2007)

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Binder Content</td>
<td></td>
<td>ASTM D2172</td>
</tr>
<tr>
<td>Bituminous Materials For Coal-Tar Rejuvenator/Sealer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refined Coal Tar Pitch</td>
<td>FAA Eng. Brief 44</td>
<td>DNT Canada</td>
</tr>
<tr>
<td></td>
<td>RejuvaSeal (USA)</td>
<td>RejuvaSeal (Export) 1 July 2007</td>
</tr>
<tr>
<td>Maltenuous Type Petroleum Distillate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refined Coal Tar Oils</td>
<td></td>
<td>32-42%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15-40%</td>
</tr>
</tbody>
</table>

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ISO9001:2000
Certificate No:FS81129