1. Product and Company Identification

1.1 PRODUCT NAME: VULKEM 350 SL

1.2 USE OF PRODUCT: Waterproofing basecoat for Vulkem deck systems.

1.3 SUPPLIER: Equus Industries Ltd
    Sheffield Street
    Riverlands Industrial Estate
    Blenheim, Marlborough, New Zealand
    Telephone: +64 3 578 0214
    Fax: +64 3 5780919

1.4 EMERGENCY CONTACT: National Poison Centre
    Telephone: 0800 764 766

Information about Safety Data Sheet: Telephone: +64 3 5780214  8:00am – 6:00pm  Mon – Fri

1.5 DATE OF PREPARATION: 15 April 2013

2. Hazards Identification

2.1 Statement of Hazardous Nature:
Classified as hazardous according to New Zealand Hazardous Substances (Minimum degrees of hazard) Regulations 2007.

2.2 HSNO Group Standard:
Surface Coatings and Colourants (Flammable)

2.3 Substance Classification:
3.1C. 6.1E, 6.3A, 6.4A, 6.5A, 6.5B, 6.8B, 6.9A, 9.1D

2.4 Hazard Statements:
Flammable liquid and vapour.
May be harmful in contact with skin.
May be harmful if inhaled.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.
May cause long lasting harmful effects to aquatic life.

2.5 Prevention Statements:
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe fumes. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the work-place. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection. Use personal protective equipment as required. In case of inadequate ventilation wear respiratory protection.

### 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS NO.</th>
<th>COMPONENT</th>
<th>PROPORTION (% Weight)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NJ TSRN 51721300-5270P</td>
<td>Aromatic Polyisocyanate Resin</td>
<td>30.0-60.0</td>
</tr>
<tr>
<td>64742-95-6</td>
<td>Aromatic Petroleum Distillates</td>
<td>7.0-13.0</td>
</tr>
<tr>
<td>1332-58-7</td>
<td>Clay</td>
<td>15.0-40.0</td>
</tr>
<tr>
<td>1317-65-3</td>
<td>Calcium Carbonate (Limestone)</td>
<td>10.0-30.0</td>
</tr>
<tr>
<td>NJ TRSN# 51721300-5272P</td>
<td>Tackifier</td>
<td>10.0-30.0</td>
</tr>
<tr>
<td>95-36-6</td>
<td>1,2,4-Trimethylbenzene</td>
<td>3.0-7.0</td>
</tr>
<tr>
<td>13463-67-7</td>
<td>Titanium Dioxide</td>
<td>1.0-5.0</td>
</tr>
<tr>
<td>2555-1-13-7</td>
<td>Trimethyl Benzene (mixed siomers)</td>
<td>1.0-5.0</td>
</tr>
<tr>
<td>1333-96-4</td>
<td>Carbon Black</td>
<td>.&lt;1.0</td>
</tr>
<tr>
<td>85-68-7</td>
<td>Butyl Benzene Phthalate</td>
<td>.&lt;1.0</td>
</tr>
<tr>
<td>14808-60-7</td>
<td>Crystalline Silica (Quartz) Silica Sand</td>
<td>.&lt;1.0</td>
</tr>
<tr>
<td>584-84-9</td>
<td>2,4-Toluene Disocyanate</td>
<td>.&lt;1.0</td>
</tr>
<tr>
<td>95-48-7</td>
<td>O-Cresol</td>
<td>.&lt;1.0</td>
</tr>
<tr>
<td>91-08-7</td>
<td>Toluene-2,6-Diisocyanate</td>
<td>.&lt;1.0</td>
</tr>
</tbody>
</table>

### 4. First Aid Measures

#### 4.1 After Inhalation:
If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If required, artificial respiration or administration of oxygen can be performed by trained personnel. If symptoms persist, seek medical attention.

#### 4.2 After Skin Contact:
Remove/take off all contaminated clothing. Wash area of contact thoroughly with plenty of soap and water. If irritation, rash or other disorders develop, seek medical attention immediately. Wash contaminated clothing before re-use.

#### 4.3 After Eye Contact:
Rinse cautiously with water for at least 15 minutes while holding eye lids apart. Remove contact lenses if present and easy to do. Continue rinsing. If irritation persists, seek medical advice/attention.
4.4 **After Ingestion:**
Immediately call Poison Centre or Doctor/Physician.

a. **General:**
Get immediate medical attention for any significant over exposure.

4.6 **Advice to Doctor:**
Treat symptomatically.

5. **Fire Fighting Measures**

5.1 **Suitable Extinguishing Media:**
If water fog is ineffective, use carbon dioxide, dry chemical or foam.

5.2 **Protective Equipment:**
Use accepted fire fighting techniques. Wear full fire fighting protective clothing, including self contained breathing apparatus (SCBA). Water may be used to cool containers to minimise pressure build-up.

5.3 **Specific Hazards:**
Product may ignite if heated in excess of its flash point. Closed container may burst when exposed to extreme heat. Empty containers may contain ignitable vapours. Vapours may travel to sources of ignition and flash back.

5.4 **Combustion Products:**
Carbon monoxide and carbon dioxide can form. Smoke, fumes. Hydrocyanic acid and nitrogen oxides can form.

5.5 **Fire & Explosion Conditions:**
Product may ignite if heated in excess of its flash point. Vapours may travel to source of ignition and flashback. Closed container may burst when exposed to extreme heat. Containers may contain ignitable vapours.

5.6 **Additional Information:**
Flashpoint 43°C (Setaflash Closed Cup). Hazchem Code: 3[Y]

6. **Accidental Release Measures**

6.1 **Preliminary Action and Precautions:**

6.1.1 Eliminate every possible source of ignition.

6.1.2 Evacuate all personnel immediately and ventilate area.

6.1.3 Avoid breathing vapour and contact with skin, eyes and clothing.

6.1.4 Wear recommended personal protective equipment.

6.1.5 Shut off leaks if possible without risk.

6.1.6 Dike in the spilled product as much as possible with inert material.

6.1.7 Prevent entry of product into sewers, storm water drains and open bodies of water.

6.1.8 Collect the spillage in closable, suitable disposal containers.
6.1.9 Clean up all spills as soon as possible, using an inert absorbent material and dispose of as hazardous waste.

7. Handling and Storage

7.1 Handling:

7.1.1 Prevent inhalation of vapour, ingestion and contact with skin, eyes and clothing.

7.1.2 Keep container closed when not in use. Precautions also apply to emptied containers.

7.1.3 Change soiled work clothes frequently.

7.1.4 Clean hands thoroughly after handling.

7.1.5 Do not smoke, weld, generate sparks, or use flame near container.

7.1.6 To prevent generation of static discharges, use bonding/grounding connection when pouring liquid.

7.1.7 Extinguish all ignition sources including pilot lights, non-explosion proof motors and electrical equipment until vapours dissipate.

7.2 Storage:

7.2.1 Store under dry warehouse conditions.

7.2.2 Store away from sources of ignition, (i.e. sparks, open flames, heat etc.)

7.2.3 Store away from strong acids, strong bases, amines, water or moisture, and alcohols.

7.2.4 Keep containers tightly closed at all times.

8. Exposure Controls and Personal Protection Equipment

8.1 Exposure Limits:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Regulation</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>95-63-6</td>
<td>WES – TWA</td>
<td>25ppm</td>
</tr>
<tr>
<td>O-Cresol</td>
<td>95-78-7</td>
<td>WES – TWA</td>
<td>5ppm</td>
</tr>
<tr>
<td>Trimethyl Benzene (Mixed Isomers)</td>
<td>2555-1-13-7</td>
<td>WES – TWA</td>
<td>25ppm</td>
</tr>
<tr>
<td>2,4-Toluene Diisocyanate</td>
<td>584-84-9</td>
<td>WES – TWA</td>
<td>0.2 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WES – STEL</td>
<td>0.7 mg/m³</td>
</tr>
<tr>
<td>Toluene-2-6-Diisocyanate</td>
<td>91-08-7</td>
<td>WES – TWA</td>
<td>0.2 mg-m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WES – STEL</td>
<td>0.7 mg/m³</td>
</tr>
<tr>
<td>Aromatic Polyisocyanate Resin</td>
<td>NJ TSRN 51721300-5270P</td>
<td>WES – TWA</td>
<td>0.2 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WES – STEL</td>
<td>0.7 mg/m³</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls:

8.2.1 Exposure Controls in the Work Place:
Use only in well ventilated areas. Provide maximum ventilation in enclosed areas. Use local exhaust when the general ventilation is inadequate.
8.2.2 Personal Protection Equipment
Respiratory Protection – Wear appropriate, properly fitted NIOSH/MSHA, approved respirator when airborne contaminant level(s) are expected to exceed exposure limits indicated on the MSDS. Select positive pressure supplied air respirator for isocyanates, (TC 19c or equivalent).

Hand Protection – Use suitable impervious nitril or neoprene gloves and protective apparel to reduce exposure.

Eye Protection – Wear appropriate eye protection. Wear chemical safety goggles and/or face shield to prevent eye contact. Do not wear contact lenses. Do not touch eyes with contaminated body parts or materials. Have eye washing facilities readily available.

Skin/Body Protection - Prevent contact with shoes and clothing. Prevent skin contact.

9. Physical and Chemical Properties

9.1 General Information:

<table>
<thead>
<tr>
<th>Physical State/Form</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Grey</td>
</tr>
<tr>
<td>Odour</td>
<td>Solvent</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>43°C (Setaflash closed cup)</td>
</tr>
<tr>
<td>Water Solubility/Miscibility</td>
<td>Negligible.</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>121°C</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour Density</td>
<td>Heavier than air</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.284</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>%Volatile Weight</td>
<td>12%</td>
</tr>
<tr>
<td>VOC (less water and exempt solvent)</td>
<td>159g/l</td>
</tr>
</tbody>
</table>

10. Stability and Reaction

10.1 General Information:
This material is stable when properly handled and stored. No hazardous reactions are known.

10.2 Conditions to Avoid:
High temperatures, open flames, sparks.

10.3 Material to Avoid:
Strong acids, strong bases, amines, water or moisture and alcohols.

10.4 Hazardous Decomposition Products:
None expected when material properly handled and stored. For thermal decomposition see Section 5.

10.5 Hazardous Polymerisation:
Will not occur under normal conditions.
11. Toxicological Information

11.1 Emergency Overview:
May cause drowsiness, weakness and fatigue. Vapour and/or mist may irritate nose and throat. May cause moderate irritation to the respiratory system. May cause allergic respiratory sensitization. Move to fresh air. If required, artificial respiration or administration of oxygen can be performed by trained personnel. Leave area to breathe fresh air. Avoid further over exposure. If symptoms persist, seek medical attention.

11.2 Acute toxicity:

Trimethyl benzene (mixed isomers), CAS No. 25551-13-7
Acute toxicity (LD50 oral)  8.970 mg/kg (Rat)

Butyl benzyl phthalate, CAS No. 85-68-78
Acute oral toxicity (LD50 oral)  13,500 mg/kg (Rat)

2,4-Toluene diisocyanate, CAS No. 584-84-9
Acute oral toxicity (LD50 oral)  5,800 mg/kg (Rat)
Acute inhalation toxicity (LC50) 14 mg/l for 4h (Rat) 1 mg/l for 4h (Mouse)
13 mg/l for 4h (Guinea Pig). 1 mg/l for 4hs (Rabbit)

0-Cresol, CAS No. 95-48-7
Acute oral toxicity (LD50 oral)  94 mg/kg (Rabbit) 1,800 mg/kg (Rabbit)
121 mg/kg (Rat) 344 mg/kg (Mouse)
1 mg/kg (Rat)

Acute inhalation toxicity (LC50) 0.179 mg/l for 2h (Mouse)
Acute dermal toxicity (LD50 dermal) 620 mg/kg (Rat) and 891 mg/kg (Rabbit)
620 mg/kg (Mouse)

11.3 Skin Contact:
May cause sensitization resulting in irritation, itching and redness.

11.4 Eye Contact:
Vapours and/or mist may cause eye irritation.

11.5 Ingestion:
May cause irritation to the mouth, throat and stomach. May cause gastrointestinal irritation, nausea, and vomiting.

11.6 Inhalation:
May cause drowsiness, weakness, and fatigue. Vapour and/or mist may irritate nose and throat. May cause moderate irritation to the respiratory system. May cause allergic respiratory sensitization.

11.7 Chronic effects:
Over exposure may cause dermatitis, asthma, skin and respiratory sensitization and decreased lung function. Repeated over exposure to vapours and/or material may injure the liver, kidneys and respiratory system unless suitable engineering controls and/or personal protective equipment are used. Prolonged or repeated exposure to Xylene may cause defatting, drying and irritation of the skin, dermatitis, central nervous system (CNS) effects, heart muscle sensitization and arrhythmia, hearing loss, and brain, liver/kidney damage. Xylene distillates may cause defatting, drying and irritation of the skin, dermatitis, and central nervous system (CNS) effects. A long term NTP study showed that oral exposure to toluene Diisocyanate (TDI) caused cancer in rats and mice. A lifetime inhalation study sponsored by the International Isocyanate Institute did not show carcinogenic activity in rats. May cause allergic skin and respiratory sensitization. Fillers are encapsulated and not expected to be released from product under normal conditions of use.
12. Ecological Information

12.3 Environment Protection:
Prevent product from entering drains, sewers and waterways.

12.2 Ecotoxicity:
Data not available.

12.3 Persistence and degradability:
Data not available.

12.4 Bioaccumulative Potential:
Data not available.

13. Disposal Consideration

13.1 Disposal Methods:
Subject to hazardous waste treatment, storage and disposal requirements. Recycle or incinerate waste at approved facility or dispose of in compliance national/regional/local, waste disposal regulations. DO NOT EMPTY INTO DRAINS, SEWERS OR WATERWAYS.

14. Transport Information

Regulated under NZS 5433 for land transport.

UN Number 1263
Proper Shipping Name Paint Related Material
Class 3
Packing Group III
Hazchem Code 3[Y]

15. Regulatory Information

15.1 HSNO Approval:
Approval Code HSR 002662
HSNO Group Standard: Surface Coatings and Colourants (Flammable)

15.2 HSNO Controls:
Approved Handler Not required

16. Other Information

16.1 Hazard Classifications:

3.1C Flammable Liquid – medium hazard.
6.1E Substances that are acutely toxic. May be harmful. Aspiration hazard.
6.3A Substances that are irritating to the skin.
6.4A Substances that are irritating to the eye.
6.5A Substances that are respiratory sensitisers.
6.5B Substances that are contact sensitisers.
6.8B Substances that are suspected human reproductive or developmental toxicants.
6.9A Substances that are toxic to human target organs or systems.
9.1D Substances that are slightly harmful to the aquatic environment or are otherwise designed for biocidal action.

16.2 Abbreviations/Terminology:

- HSNO (NZ) Hazardous Substances and New Organisms Act
- CAS Chemical Abstract Service
- NJTSRNB New Jersey Trade Secret Registry Number
- LD50, LC50 Lethal dose/Lethal Concentration - Dose or concentration required to produce specified effect in 50% of the samples studied.
- WES Workplace Exposure Standard (NZ Department of Business, Innovation and Employment)
- TWA Time Weighted Average exposure level designed to protect from the effects of long-term exposure.
- STEL Short-term Exposure Level (15 minutes)
- VOC Volatile Organic Compound

16.3 Issue Information:

Date of Issue: 15 April 2013
Reasons: Update and format change
Replaces: 15 July 2007

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