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## MATERIAL SAFETY DATA SHEET

MSDS 386

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### 1. Product and Company Identification

- 1.1 PRODUCT NAME:** VULKEM PRIMER 191
- 1.2 USE OF PRODUCT** For use as a primer for Vulkem sealants.
- 1.3 SUPPLIER:** Equus Industries Ltd  
Sheffield Street  
Riverlands Industrial Estate  
Blenheim, Marlborough, New Zealand  
Telephone: +64 3 578 0214  
Fax: +64 3 578 0919
- 1.4 EMERGENCY CONTACT:** **National Poison Centre**  
**Telephone: 0800 764 766**

Information about Safety Data Sheet: Telephone: +64 3 578 0214 8:00am – 6:00pm Mon - Fri

### 2. Hazards Identification

- 2.1 Classification:**  
Dangerous Goods – classification according to New Zealand Dangerous Goods Code.
- 2.2 Risk & Safety Phrases:**  
R10,20-21,36,37,38,  
S23,24,62

The full text of each R & S phrases are listed in Section 16.

### 3. Composition/Information on Ingredients

- 3.1 Chemical Characterization (Preparation):**  
This product is a preparation.



### 3.2 Hazardous Ingredients:

CAS NO.	COMPONENT	CONCENTRATION %	CLASSIFICATION
1330-20-7	Xylene	>60%	R10/20/21/38
100-41-4	Ethyl benzene	15-40%	R11/20/36/37/38
101-68-8	4,4'-Methylene bis(phenylisocyanate)	1.0-5.0%	R20/22/36/37/38/42
108-10-1	Methyl isobutyl ketone	1.0-5.0%	R11/20/36/37/66
108-88-3	Toluene	1.0-5.0%	R11/20/45/65/66
64742-95-6	Solvent Naphtha (light)	1.0-5.0%	R10/20/21/36/37/38/ 51/53/65
95-63-6	1,2,4-Trimethylbenzene	0.1-1.0%	R10/20/36/37/38/51/53

3.3 Only ingredients, additives and impurities which are classified and contribute to the classification of the product are included in this section.

## 4. First Aid Measures

Get medical attention for any significant over exposure.

### 4.1 After Inhalation:

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.

### 4.2 After Skin Contact:

Clean area of contact thoroughly using soap and water. If irritation, rash or other disorders develop, get medical attention immediately.

### 4.3 After Eye Contact:

Flush with water for at least 15 minutes while holding eye lids apart. Get medical attention immediately.

### 4.4 After Ingestion:

Call doctor immediately. Do not induce vomiting unless advised by a doctor.

### 4.5 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. Water may be used to cool containers to minimize pressure build up.



**5.2 Protective Equipment:**

Use accepted fire fighting techniques. Wear full fire fighting protective clothing, including self contained breathing apparatus (SCBA).

**5.3 Specific Hazards:**

Vapour concentrations in enclosed areas may ignite explosively. Product may ignite if heated in excess of its flash point. Vapours may travel to sources of ignition and flashback. Closed container may burst when exposed to extreme heat. Empty containers may contain ignitable vapours.

**5.4 Combustion Products:**

Carbon monoxide, carbon dioxide, fumes, smoke and nitrogen oxides can form.

<b>6. Accidental Release Measures</b>
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**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 suitable, closable containers for re-use or disposal.

**6.1.9** Clean up all spills as soon as possible, using an inert absorbent material and dispose of as hazardous waste.

<b>7. Handling and Storage</b>
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**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. Vapours may migrate to sources of ignition.

**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, and oxidizing agents.

7.2.4 Keep containers tightly closed at all times.

**8. Exposure Controls and Personal Protection Equipment**

**8.1 Exposure Limits:**

Solvent naphtha (petroleum)	Cas – 64742-95-6	TLV/TWA(ACGIH): 19ppm (100mg/m <sup>3</sup> )
4,4'-Methylene bis(phenylisocyanate)	Cas – 25551-13-7	TLV/TWA (ACGIH): 0.005ppm
1,2,4-trimethylbenzene	Cas – 95-63-6	TLV/TWA(ACGIH): 25ppm (123mg/m <sup>3</sup> )
Toluene	Cas – 108-88-3	TLV/TWA (ACGIH): 50ppm
Xylene	Cas – 1330-20-7	TLV/TWA(ACGIH): 100ppm (435mg/m <sup>3</sup> ) STEL (ACGIH): 150ppm (650mg/m <sup>3</sup> )
Ethylbenzene	Cas – 100-41-4	TLV/TWA(ACGIH): 100ppm (435mg/m <sup>3</sup> ) STEL (ACGIH): 125ppm (540mg/m <sup>3</sup> )
Methyl isobutyl ketone	Cas – 108-10-1	TLV/TWA(ACGIH): 50ppm (205mg/m <sup>3</sup> ) STEL (ACGIH): 75ppm

**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 organic vapour or supplied air respirator when airborne contaminant level(s) are expected to exceed exposure limits indicated on the MSDS. Follow manufacturers directions for respirator use.

Hand Protection – Use suitable impervious nitrile 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.

Protective Measures - Use professional judgement in the selection, care and use. Inspect and replace equipment at regular intervals.



## 9. Physical and Chemical Properties

<b>9.1 General Information:</b>	
<b>Physical State/Form</b>	Liquid
<b>Colour</b>	Light yellow
<b>Odour</b>	Aromatic solvent
<b>pH</b>	Not available
<b>Vapour Pressure</b>	Not available
<b>Vapour Density</b>	Heavier than air
<b>Melting Point/Range</b>	Not available
<b>Freezing Point</b>	Not available
<b>Boiling Point/Range</b>	>121 <sup>0</sup> C
<b>Flash Point</b>	27 <sup>0</sup> C (Setaflash closed cup)
<b>Water Solubility</b>	Negligible
<b>Evaporation Rate</b>	Not available
<b>Specific Gravity</b>	0.899
<b>% Volatile Weight</b>	90%
<b>Lower Explosion Limit</b>	Not available
<b>Upper Explosion Limit</b>	Not available
<b>Autoignition Temperature</b>	Not available
<b>VOC</b>	812 g/l

## 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:**  
Welding arcs, flames or other high temperature sources.
- 10.3 Material to Avoid:**  
Oxidizing agents, strong acids and strong bases.
- 10.4 Hazardous Decomposition Products:**  
None expected when material properly handled and stored. For thermal decomposition see Section 5.

## 11. Toxicological Information

- 11.1 Emergency Overview:**  
May cause moderate irritation to the respiratory system. May cause nausea, headaches, and dizziness. May cause drowsiness, weakness and fatigue. 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, get medical attention.



### 11.2 Acute toxicity:

Ethylbenzene:

Oral LD 50: (Rat) 3,500 mg/kg

Dermal LD50: (Rabbit) 17,800 mg/kg

Xylene:

Oral LD 50: (Rat) 3,523 - 8,600 mg/kg

Inhalation LC 50: (Rat) 6,350 mg/l

4,4'-Methylene bis(phenylisocyanate):

Inhalation LC 50: (Rat) 0.38 mg/l

Methyl isobutyl ketone:

Oral LD50: (Rat) 2,080 mg/kg

Toluene:

Oral LD50: (Rat) 2,600 – 7,500 mg/kg

Inhalation LC50: (Rat) 26,700 mg/l

Dermal LD50: (Rabbit) 12,124 mg/kg

### 11.3 Skin Contact:

May cause moderate irritation.

### 11.4 Eye Contact:

Vapours and/or mist may cause eye irritation. Direct contact may cause temporary redness and discomfort.

### 11.5 Ingestion:

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

### 11.6 Inhalation:

May cause moderate irritation to the respiratory system. May cause nausea, headaches and dizziness. May cause drowsiness, weakness and fatigue.

### 11.7 Chronic effects:

Reports have associated repeated and prolonged occupational over exposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. 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 over exposure may affect fetal development. The International Agency for Research on Cancer (IARC) has evaluated ethylbenzene and classified it as a possible human carcinogen based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. Diphenylmethane diisocyanate (methylene bisphenyl isocyanate) caused an increased incidence of lung tumors in experimental animals following long term inhalation at concentrations in excess of 100 times the exposure limit. Prolonged or repeated exposure 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 and testes damage. Toluene over exposure may cause burns of the skin, respiratory tract damage. May be harmful to the human fetus based on animal tests and limited epidemiology data. Fillers are encapsulated and not expected to be released from product under normal conditions of use.



**11.8 Aggravated Medical Conditions:**

Pre existing eye, skin, liver, kidney and respiratory disorders may be aggravated by exposure.

**12. Ecological Information**

**12.1 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 Material**

Dispose of according to regulations by incineration in a special waste incinerator or landfill at a permitted facility in accordance with local/national regulations.

**14. Transport Information**

**14.1 Land Transport:**

Road: Dangerous good (Class 3, Haz Chem 3Y, PGIII)

Rail: Dangerous good (Class 3, Haz Chem 3Y, PGIII)

**14.2 Sea Transport:** Dangerous good (Class 3.3, Haz Chem 3Y, PGIII)

**14.3 Air Transport:** Dangerous good (Class 3, Haz Chem 3Y, PGIII)

**14.4 Postal and Courier Service:** Can not be transported by courier.

**15. Regulatory Information**

This product is flammable and hazardous.

**16. Other Information**

**16.1 Full Text of R-Phrases Contained in Section 2:**

**R10** Flammable

**R20/21** Harmful by inhalation and in contact with skin.

**R36/37/38** Irritating to the eyes, respiratory system and skin



**16.2 Full Text of S-Phrases Contained in Section 2:**

- S23** Do not breathe gas/fumes/vapour/spray  
**S24** Avoid contact with skin  
**S62** If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

**16.3** The information contained in this Data Sheet relates only to the specific material identified. Equus Industries Ltd believes the information to be accurate and reliable as at the date of this Data Sheet. No Warranty, Guarantee or representation is expressed or implied by the Company as to the absolute correctness or completeness of any representation contained in this Data and assumes no legal responsibility in connection therewith. It can not be assumed that all acceptable safety measures are contained in this Data Sheet, or that additional measures may not be required under particular or exceptional circumstances or conditions.