1. IDENTIFICATION

GHS Product Identifier
EMULSEAL

Company Name
Fulton Hogan Industries Pty Ltd (ABN 54 000 630 689)

Address
25 Groves Avenue McGrath's Hill
NSW 2756 Australia

Telephone/Fax Number
Tel: (02)45875 111

Emergency phone number
1800 638 556 (24hr)

Recommended use of the chemical and restrictions on use
Asphalt crack sealing and concrete crack sealing

Other Names

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified Cold Crackfiller</td>
<td></td>
</tr>
</tbody>
</table>

2. HAZARD IDENTIFICATION

GHS classification of the substance/mixture
Not classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia
Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bitumen</td>
<td>64742-93-4</td>
<td>&gt;30 %</td>
</tr>
<tr>
<td>Styrene - Butadiene Copolymer</td>
<td>9003-55-8</td>
<td>&lt;30 %</td>
</tr>
<tr>
<td>Non-hazardous ingredients</td>
<td></td>
<td>Balance</td>
</tr>
</tbody>
</table>
4. FIRST-AID MEASURES

**Inhalation**
If inhaled, remove affected person from contaminated area. Keep at rest until recovered. If symptoms develop and/or persist seek medical attention.

**Ingestion**
Do not induce vomiting. Wash out mouth thoroughly with water. Seek medical attention.

**Skin**
Wash affected area thoroughly with soap and water. If symptoms develop seek medical attention.

If molten material adheres to skin, do not attempt to remove. Cool with cold water, wrap loosely with bandage or cloth and immediately seek trained medical attention.

**Eye contact**
If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing for several minutes until all contaminants are washed out completely. If symptoms develop and/or persist seek medical attention.

Cool eyes rapidly with cold water after contact with molten polymer. Do not attempt to remove molten material. Seek immediate medical attention.

**First Aid Facilities**
Eyewash and normal washroom facilities.

**Advice to Doctor**
Treat symptomatically.

**Other Information**
For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (131 126)

5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Use carbon dioxide, dry chemical, foam or water.

**Hazards from Combustion Products**
Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including carbon monoxide, carbon dioxide and oxides of nitrogen.

**Specific Hazards Arising From The Chemical**
This product will burn if exposed to fire especially polymer, once all water has been driven off.

**Decomposition Temperature**
Not available

**Precautions in connection with Fire**
Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) operated in positive pressure mode and full protective clothing to prevent exposure to vapours or fumes. Water spray may be used to cool down heat-exposed containers. Fight fire from safe location. This product should be prevented from entering drains and watercourses.

6. ACCIDENTAL RELEASE MEASURES

**Emergency Procedures**
Wear appropriate personal protective equipment and clothing to prevent exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unprotected personnel. If possible contain the spill. Place inert absorbent, non combustible material onto spillage. Use clean non-sparking tools to collect the material and place into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

**In case of Spills/Leaks**
Small spills: Wipe up and wash area with water
Large spills: Dike and contain spill with sand or earth.
7. HANDLING AND STORAGE

Precautions for Safe Handling
Avoid inhalation of vapours and mists, and skin or eye contact. Use only in a well ventilated area. Keep containers sealed when not in use. Prevent the build up of mists or vapours in the work atmosphere. Do not use near ignition sources. Do not pressurise, cut, heat or weld containers as they may contain hazardous residues. Maintain high standards of personal hygiene by washing hands prior to eating, drinking, smoking or using toilet facilities. Avoid contact with molten material.

Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well-ventilated area, out of direct sunlight, away from heat and ignition sources. Keep containers closed when not in use, securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures. Ensure that storage conditions comply with applicable local and national regulations. For information on the design of the storeroom, reference should be made to Australian Standard AS1940 - The storage and handling of flammable and combustible liquids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit values
No exposure standards have been established for this material. However, the available exposure limits for ingredients are listed below:

<table>
<thead>
<tr>
<th>Substance</th>
<th>TWA: 5 mg/m³</th>
</tr>
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</table>

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

Biological Limit Values
No biological limits allocated.

Appropriate Engineering Controls
Provide sufficient ventilation to keep airborne levels below the exposure limits or as low as possible. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flameproof exhaust ventilation system is required. Refer to relevant regulations for further information concerning ventilation requirements.

Respiratory Protection
If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

Eye Protection
Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection
Wear gloves of impervious material such as Neoprene/Rubber. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection
Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.
### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Form**  
Liquid

**Appearance**  
Viscous, black liquid

**Colour**  
Black

**Odour**  
Characteristic

**Decomposition Temperature**  
Not available

**Melting Point**  
Not available

**Boiling Point**  
100°C approx. (water)

**Solubility in Water**  
Dilutable

**Specific Gravity**  
1kg/Litre

**pH**  
Not available

**Vapour Pressure**  
Equivalent to water.

**Vapour Density (Air=1)**  
< 1 water

**Evaporation Rate**  
Not available

**Odour Threshold**  
Not available

**Viscosity**  
Not available

**Partition Coefficient: n-octanol/water**  
Not available

**Flash Point**  
Not available

**Flammability**  
Combustible in aqueous solution

**Auto-Ignition Temperature**  
Not available

**Flammable Limits - Lower**  
Not available

**Flammable Limits - Upper**  
Not available

### 10. STABILITY AND REACTIVITY

**Reactivity**  
Reacts with incompatible materials.
Chemical Stability
Stable under normal conditions of storage and handling.

Conditions to Avoid
Extremes of temperature and direct sunlight. Heat, open flames and other sources of ignition.

Incompatible materials
Solvents, strong oxidizing agents, strong acids and alkalis

Hazardous Decomposition Products
Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including carbon monoxide, carbon dioxide and oxides of nitrogen.

Possibility of hazardous reactions
Will react with strong oxidizing agents.

Hazardous Polymerization
Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information
No toxicity data available for this material. The available toxicity data for the ingredients are as follows:

Acute Toxicity - Oral
Toxicity data for Bitumen:
LD50 (Rat): >5000 mg/kg

Ingestion
Ingestion of this product may irritate the gastric tract causing nausea and vomiting.

Inhalation
Inhalation of product vapours may cause irritation of the nose, throat and respiratory system.

Skin
May be irritating to skin. The symptoms may include redness, itching and swelling.

Eye
May be irritating to eyes. The symptoms may include redness, itching and tearing.

Respiratory sensitisation
Not expected to be a respiratory sensitiser.

Skin Sensitisation
Not expected to be a skin sensitiser.

Germ cell mutagenicity
Not considered to be a mutagenic hazard.

Carcinogenicity
Not considered to be a carcinogenic hazard.

Bitumen is listed as a Group 2A: Probably carcinogenic to humans according to International Agency for Research on Cancer (IARC).

Styrene - butadiene copolymer is listed as a Group 3: Not classifiable as to carcinogenicity to humans according to International Agency for Research on Cancer (IARC).

Reproductive Toxicity
Not considered to be toxic to reproduction.

STOT-single exposure
Not expected to cause toxicity to a specific target organ.

STOT-repeated exposure
Not expected to cause toxicity to a specific target organ.

Aspiration Hazard
Not expected to be an aspiration hazard.
12. ECOLOGICAL INFORMATION

Ecotoxicity
No ecological data are available for this material.

Persistence and degradability
Not available

Mobility
Soluble in water.

Bioaccumulative Potential
Not available

Environmental Protection
Prevent this material entering waterways, drains and sewers.

13. DISPOSAL CONSIDERATIONS

Disposal considerations
The disposal of the spilled or waste material must be done in accordance with applicable local and national regulations.

14. TRANSPORT INFORMATION

Transport Information
Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

U.N. Number
None Allocated

UN proper shipping name
None Allocated

Transport hazard class(es)
None Allocated

IMDG Marine pollutant
No

15. REGULATORY INFORMATION

Regulatory information
Not classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poisons Schedule
Not Scheduled
16. OTHER INFORMATION

Date of preparation or last revision of SDS
MSDS Reviewed: February 2015
MSDS Supersedes: January 2010

References
Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice
Standard for the Uniform Scheduling of Medicines and Poisons.
Australian Code for the Transport of Dangerous Goods by Road & Rail.
Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
Workplace exposure standards for airborne contaminants, Safe work Australia.
American Conference of Industrial Hygienists (ACGIH)
Globally Harmonised System of classification and labelling of chemicals