

# SAFETY DATA SHEET

## Enviro Bind



### SECTION 1: Identification of the Substance and Supplier

Product Name:	Enviro Bind
Other Name:	Cationic Medium Setting Bituminous Emulsion
Recommended Use:	Product is predominantly used in road making
Company Details:	Road Science
Address:	345 Matakokiri Drive Omanawa, Tauranga, 3173
Telephone Number:	07 575 1150
Emergency Telephone Number:	07 575 1150 24hr / 7 days or National Poisons Centre 0800 POISON (0800 764 766)

### SECTION 2: Hazards Identification

Hazard Classification:	HSNO classification not yet assigned by ERMA NZ
Risk Phrase:	R53 – may cause long-term adverse effects in aquatic environment R36/37 – Irritating to eyes and skin

### SECTION 3: Composition/Information On Ingredients

Chemical Identity	Concentration	Cas Number
Bitumen – heavy asphalt residue from petroleum refining	60 - 70%	8052-42-4
Water	< 40%	Not Applicable
Kerosene	< 6%	68334-30-5
Amines	1 - 2%	Proprietary

## SECTION 4: First Aid Measures

Requirement for First Aid:

### FIRST AID INSTRUCTIONS:

**Swallowed:** Wash mouth out with water. Do not induce vomiting. Seek medical attention.

**Eye:** Rinse immediately with plenty of water for at least 15 minutes and seek medical advice if any redness or irritation persists.

**Skin:** Do not use solvents to remove from skin. Wash immediately with soap and water and seek medical advice if any redness or irritation persists.

**Inhaled:** If inhalation of mists, fumes or vapour causes nose or throat irritation, or coughing, remove to fresh air. Keep patient warm and at rest. Seek medical advice if any symptoms persist.

**Medical Attention/Special Treatment:** Aspiration of the product is unlikely to occur except as a result of ingestion, followed by vomiting or regurgitation in a partially or totally unconscious individual, where immediate effects are most likely to result from the aspiration of acidic stomach contents. If it should occur, transport the casualty immediately to hospital.

## SECTION 5: Fire-Fighting Measures

**Fire and Explosion Hazards:** Under normal conditions, the product will not support combustion. However if the liquid is subject to high temperatures, sufficient for decomposition, this may not apply and the product may burn. Toxic fumes may be evolved on burning or exposure to heat.

**Extinguishing Media & Methods:** Use foam, CO<sub>2</sub>, or dry powder fire extinguishers, vaporising liquid or water delivered as a fine spray.

DO NOT use water jets.

Hazchem Code: Not listed

**Recommended Protective Clothing:** In confined spaces where there is a lack of natural ventilation, fires should always be dealt with by trained personnel wearing self-contained breathing apparatus (SCBA).

## SECTION 6: Accidental Release Measures

This product contains emulsified bitumen droplets that are suspended in an aqueous (water based) solution. The product will be liquid under standard storage conditions. The bitumen in the product may separate from the solution if it is diluted with large volumes of water, or comes in contact with reactive surfaces (e.g. road aggregates, sand, soil, concrete surfaces) and solidify.

**Land Spill –** Prevent additional discharge of material if possible to do so safely. Prevent product from entering drains, sewers, and watercourses as it can become extremely mobile. For small spills use sand or absorbent pads and booms to contain and clean up material. If a large spill and in a public area, keep public away and contact the authorities. Contain spilled liquid with sand, gravel, or earth bunds. Recover liquid using sand or other suitable inert absorbent material. Do not wash residue into drains. If necessary, clean the area with hot water and detergent and absorb the washings with sand or absorbent material.

**Water Spill –** Use absorbent pads and booms to contain and clean up material. Use suitable containers and receptacles to collect debris.

Ensure waste disposal of product and cleaning materials conforms with local waste disposal regulations.

## SECTION 7: Handling and Storage

Precautions for Safe Handling: Avoid skin contact. Wear suitable gloves. Whilst using, do not eat, drink or smoke. High standards of personal hygiene and plant cleanliness must be maintained at all times. Wash hands thoroughly after contact. Removal of product from the skin is best achieved by the use of a suitable hand cleaner. DO NOT use solvents such as turpentine or kerosene.

Avoid contact with eyes. If splashing is likely to occur, wear a full-face visor or chemical goggles.

Storage and transfer should occur in areas that are well

ventilated to prevent the inhalation and contact with vapours, mists or fumes that may be generated during use. If such vapour, mists or fumes are generated, their concentration in the workplace air should be controlled to the lowest practicable level.

Conditions for Safe Storage: Store above 5°C to avoid freezing and below 90°C. Containers should always be kept closed in storage and properly labelled. Clean tanks at regular intervals. Avoid contact with oxidising agents.

## SECTION 8: Exposure Control/Personal Protection

1) Workplace Exposure Guidelines: Handling operations should take place in a well ventilated area to ensure that ventilation is adequate to maintain air concentrations below exposure standards.

NZ Workplace Exposure Standards (WES):	TWA mg/m <sup>3</sup>	STEL mg/m <sup>3</sup>
Asphalt (Bitumen) Fumes	5	Not set

2) Engineering Controls: Use in a well-ventilated area. If operating conditions generate vapour or fumes that exceed

NZ WES use process enclosures, local exhaust ventilation or other engineering controls to control exposure.

3) Personal Protective Equipment (PPE)

General: When handling emulsion, wear suitable protective clothing and equipment manufactured to an appropriate AS/ NZS standard.

Eye/Face Protection: Face shield to protect face.

Skin Protection: Cotton overalls covering full body and limbs with legs worn over protective boots. Protective clothing should be regularly dry cleaned and laundered. Change heavily contaminated clothing as soon as reasonably practicable and launder before re-use. Wash any contaminated underlying skin with soap and water.

Respiratory Protection: Respiratory protection is not normally required if airborne concentrations are below the recommended NZ WES. Where the bitumen WES is exceeded, wear an approved respirator that provides adequate protection such as air purifying dust/mist respirators.

Hand Protection: PVC gauntlet gloves.

## SECTION 9: Physical and Chemical Properties

Appearance:	Dark brown liquid	
Odour & Odour Threshold:	Mild bitumen odour	
pH:	2.5 - 3.0	
Vapour Pressure:	Below 0.26 kPa at 20°C	
Vapour Density:	Not available	
Boiling Point:	IBP: 100°C approx	Boiling Range: No data
Freezing Point:	0°C	
Solubility:	Miscible, then precipitates bitumen	
Specific Density:	1.015 kg/L at 15°C	
Flammability Limits:	LEL: Not applicable	UEL: Not applicable
Flashpoint:	Not applicable	
Auto-ignition Temperature	Not applicable	

## SECTION 10: Stability and Reactivity

**Chemical Stability:** This product is stable and unlikely to react in a hazardous manner under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Materials to Avoid:** Avoid contact with oxidising agents, hot bitumen, anionic emulsion.

**Hazardous Decomposition Products:** Thermal decomposition can produce a variety of compounds, the precise nature of which will depend on the decomposition conditions. Incomplete combustion/thermal decomposition will generate smoke, carbon dioxide and hazardous gases including carbon monoxide, hydrogen sulphide and oxides of sulphur. Overheating in storage may cause partial vaporisation and decomposition with the production of toxic hydrogen sulphide gas (H<sub>2</sub>S).

**Hazardous Polymerization:** Hazardous polymerisation has not been reported to occur under normal ambient and anticipated storage and handling conditions of temperature and pressure.

## SECTION 11: Toxicological Information

**Eyes:** May be irritating to eyes if exposed to vapours or fumes. Symptoms may include stinging and reddening of eyes and watering which may become copious.

**Skin:** Likely to cause skin irritation. Symptoms may include itchiness and reddening of contacted skin.

**Ingestion:** Unlikely to cause harm if accidentally swallowed in small doses, although larger quantities may cause nausea and diarrhoea.

**Inhalation:** At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. Fumes, mist or vapours may cause irritation to the nose and throat. Vapour, mists or fumes from hot product may contain polycyclic aromatic hydrocarbons (PAHs) at low levels. Handling procedures and personal protective measures should be followed to minimise exposure.

**Chronic Effects:** Bitumens contain polycyclic aromatic hydrocarbons (PAHs) which become bioavailable when bitumen is solubilised in water. Some PAHs have been shown by experimental studies to induce skin cancer. However, sub-chronic and chronic toxicity studies found that no systematic effects have been noticed other than skin and lung irritancy. No acute toxicity studies have been published although extrapolation from data on sub-chronic and chronic studies suggest that the acute toxicity to bitumen is likely to be very low.

## SECTION 12: Ecotoxicity Information

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Potential Environmental Interactions: This product is not biodegradable. Spillages may penetrate the soil causing groundwater contamination. This material may accumulate in sediments. May be harmful to aquatic organisms. Prevent this material entering waterways, drains and sewers.

## SECTION 13: Disposal Considerations

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Disposal – Dispose of via a licensed disposal contractor in accordance with local regulations.

### SECTION 14: Transport Information

UN Number:	Not classified as Dangerous for transport
UN Proper Shipping Name:	None allocated
Class:	None allocated
Subsidiary Risk:	None allocated

### SECTION 15: Regulatory Information

HSNO Approval Code:	HSR002544
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## SECTION 16: Other Information

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Key/Legend: ERMA – Environmental Risk Management Authority  
IARC – International Agency for Research on Cancer  
IBP – Initial boiling Point  
HSNO – Hazardous Substances and New Organisms Act  
PMB – Polymer Modified Bitumen  
RNZ – Roading New Zealand  
UN Number – United Nations Number  
WES – Workplace Exposure Standards

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