

SAFETY DATA SHEET

1: IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY UNDERTAKING

Product Name: **Estop Rootproof**
 Application: Root Inhibitor.
 Company: **Denka Construction Solutions Malaysia Sdn Bhd**
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2: HAZARDS IDENTIFICATION

A. Hazard Risk Classification

- Physical Hazards
Flammable liquids: Category 3
- Health Hazard
Acute toxicity: Category 4
- Eye Irritation: Category 2
- Skin Sensitization: Category 1
- Environmental Hazards
Aquatic toxicity – acute: Category 2

B. Label elements including precaution statements.

- Symbol:



- Signal word: Danger
- Hazard Risk Statement
 - H315 Causes skin irritation
 - H317 May cause an allergic skin reaction
 - H319 Causes serious eye irritation
 - H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
 - H335 May cause respiratory irritation
 - H412 Harmful to aquatic life with long lasting effects
- Precautionary Statement

(Prevention)

 - Obtain special instruction before use
 - Do not handle until all safety precautions have been read and understood
 - Keep away from heat/sparks/open flames/hot surfaces.
 - Keep container tightly closed.

- Use only non-sparking tools.
- Take precautionary measures against static charge.
- Do not breathe fume/gas/mist/vapours/spray
- Wash hand, face and other necessary parts thoroughly and gargle the throat after handling.
- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Avoid release to the environment
- Wear protective gloves/protective clothing/eye protection/face protection.
- Use personal protective equipment as required.

(Response)

- If swallow, call a doctor/physician immediately.
- If contact on skin, wash with plenty of water and soap.
- Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
- If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- If contact in eyes, rinse cautiously with water for several minutes
- Easy to remove contact lenses if present.
- Continue rinsing.
- If exposed or concerned, get medical attention.
- If expose/unwell, call doctor/physician.
- Get medical advice/attention if feel unwell.
- Do not induce vomiting.
- If skin irritation occurs, get medical advice/attention.
- If eye irritation persists, get medical advice/attention.
- Take off contaminate clothing and wash before reuse.
- Collect spillage and dispose off according to regulations.

(Storage)

- Store in a well - ventilated place and cool place. Keep container tightly closed
- Maintain air gap between stacks/pallets.
- Protect from sunlight.

(Disposal)

- Dispose of contents/container to appropriate waste site or reclaimed in accordance with local/regional/national/international regulation.

(Other Hazards)

- Not Available.

3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS No.	Content, %
Bitumen	8052-42-4	65 – 75
Mineral Spirits	1302-38-9	25 – 35
Polyurethane	7732-18-5	5 – 15

4: FIRST AID MEASURES

Description of first aid measure,

Eyes:	Irrigate thoroughly with plenty of water for at least 10 minutes Seek medical attention if soreness or redness persists
Skin:	Flush with running water for 10 minutes No attempt should be made to remove firmly adhering bitumen from skin Seek medical attention if soreness or redness persists
Inhalation:	Remove to fresh air If symptoms are severe or persistent, seek medical attention
Indigestion:	Wash out mouth with water. Do NOT induce vomiting. Seek medical attention immediately if any material enters the lungs during swallowing or vomiting

5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media	: Use dry chemical powder, foam, carbon dioxide and sand/earth.
Unsuitable Extinguisher Media	: Water Jet.
Unusual Fire Hazards	: Non Available.
Protective Equipment for Firefighters	: Suitable respiratory protective equipment (Chemical Cartridge Respirator/Self Contained Breathing Apparatus).

6: ACCIDENTAL RELEASE MEASURES

Protective Measure	:	Do not breathe fumes and vapour. Shut off leaks, if possible, without personal risks Remove all possible sources of ignition in the surrounding area Use appropriate containment of product and firefighting measures to avoid environment contamination Prevent from spreading or entering drains, ditches or river by using sand/earth or other appropriate barriers.
Clean up Methods	:	Attempt to disperse or direct its flow to a safe location. For small spills, transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Remove contaminated soil and appropriate absorbent material disposal (Refer to Section 13-Disposal Considerations). Shovel/scoop into a suitable clearly marked container for disposal or reclamation in accordance with local regulations.

7: HANDLING AND STORAGE

Handling:	Keep out of the reach of children. Keep containers tightly closed when not in use. Keep away from heat, sources of ignition and flame - No smoking. Do not use in areas without adequate ventilation.
Storage:	Store in a well-ventilated place. Keep away from incompatible materials. Keep container tightly closed. Keep away from sources of ignition - No smoking.

8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Component	Exposure limits (OSHA PEL)		
	TWA	STEL	Unit
Bitumen	5 fume	NE	mg/m ³
Mineral Spirits	500	NE	ppm
Polyurethane	10 dust	NE	mg/m ³

Exposure Limits:	Vapour levels should be adequately controlled to keep levels below the OES (UK Guidance Note EH40).
Engineering Control Measures:	No specific ventilation requirement noted Avoid contact with skin and eye
Respiratory protection:	Suitable respiratory protective equipment (i.e. Chemical cartridge respirator or self-contained breathing apparatus) must be used if vapour levels are high, especially in enclosed areas.
Skin Protection:	Operator handling the material should wear overalls and suitable heat-resistance gloves
Eye Protection:	Operator should wear goggles or face shield to protect eyes from splashes.
Others	None.

9: PHYSICAL AND CHEMICAL PROPERTIES

Physical Form	Thick Liquid
Colour	Black
Odour	Slight aromatic
Viscosity	Refer to Product Specification.
Flammability	Flammable.
Relative Density	0.99 -1.03 g/cm ³ @ 25°C.
Volatile Matter	Refer to Product Specification.
Flash Point	Min. 32°C (Abel closed cup).
Water Solubility	Insoluble in water.

10: STABILITY AND REACTIVITY

Reactivity	Not classified as self-reactive.
Stability	The product is stable under normal conditions Stable during storage and handling under predicted temperature and pressure.
Hazardous Polymerization	Will not occur.
Condition to avoid:	Keep away from extreme heat, strong acids and strong oxidising agents
Incompatible Materials	Oxidising agents, strong acids and alkalis.
Hazardous Decomposition Products	Unknown (Refer to Section 5-Fire Fighting Measures).
Hazardous Reaction	H ₂ S , CO, CO ₂ , CaO.

11: TOXICOLOGICAL INFORMATION

Acute Toxicity	
LD50 (Oral, rat)	: > 5000 mg/kg
LD50 (Dermal, rabbit)	: > 2000 mg/kg
LC50 (Inhalation, rat)	: > 10000 mg/kg
Eye irritation	: Product is not irritant (OECD 405 test). : May cause eye damage in high temperatures.
Skin Irritation	: Product is not irritant (OECD 404 test). : Prolonged exposure to bitumen may cause acne-like skin changes, excessive skin keratosis and black chromatosis. : In high temperatures, it may cause thermal burns and irritation of the respiratory tract.
Respiratory	: Not found (OECD 406 test)
Germ Cell Mutagenicity	: Not found (In Vitro and Vivo research)
Carcinogenicity	: Does not meet criteria for classification as carcinogen. : Having regard to skin cancers resulting from whole-life exposure to the condensate (application temperature above 250°C) of oxidised bitumen vapours, the substance is considered to have a weak carcinogenic effect on animals test. : The significance of the data for human is considered uncertain

12: ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish	: LL50 (Oncorhynchus mykiss (rainbow trout)) : > 1,000 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: LL50 (Daphnia magna (water flea)) : > 1,000 mg/l Exposure time: 48 h
Toxicity to algae	: EL50 (Pseudokirchneriella subcapitata (microalgae)) : > 1,000 mg/l Exposure time: 72 h
Toxicity to microorganisms	: LL50 (Tetrahymena pyriformis) : > 1,000 mg/l Exposure time: 40 h

Toxicity to fish (Chronic toxicity)	: NOEC : > 0.1 mg/l Exposure time : 28 d Species : Oncorhynchus mykiss (rainbow trout)
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Persistence and degradability

Biotic :	
Biodegradation potential	: Not applicable - UVCB Substance.
Activated sludge simulation test	: Not applicable - UVCB Substance

Abiotic :

Hydrolysis as pH function : Does not occur.

Photolysis/phototransformation : Does not occur.

Bioaccumulative potential

Bioaccumulation : Not applicable - UVCB Substance.

Partition coefficient n-Octanol/water : Pow : > 6
Method : No information available.

Mobility in soil

Adsorption/desorption test : Not applicable - UVCB Substance.

Other adverse effects

Additional ecological information : None.

13: DISPOSAL CONSIDERATIONS

The generation of waste should be avoided or minimized wherever possible.

Waste in small quantities should not be poured into drains, sewers or watercourse for disposal.

The material when mixed properly and cured at the proper mix ration may be safely landfilled.

Waste disposal method in accordance with all applicable local, national environmental laws and regulations.

14: TRANSPORT INFORMATION

International Regulation

UNRTDG

UN Number	:	UN 1999
Proper Shipping Name	:	TARS, LIQUID
Class	:	3
Packing Group	:	III
Label	:	3

IATA-DGR

UN Number	:	UN 1999
Proper Shipping Name	:	TARS, LIQUID
Class	:	3
Packing Group	:	III
Packing Instruction (Cargo Aircraft)	:	309
Packing Instruction (Passenger Aircraft)	:	309

IMDG-Code

UN Number	:	UN 1999
Proper Shipping Name	:	TARS, LIQUID
Class	:	3
Packing Group	:	III
Label	:	3
EmS Code	:	F-A, S-D
Marine Pollutant	:	No

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

15: REGULATORY INFORMATION

Risk/Safety phrases

R10	:	Flammable.
R20/21	:	Harmful by inhalation and in contact with skin.
R36/38	:	Irritation to skin and eyes.
R43	:	May cause sensitization by skin contact.
S16	:	Keep away from sources of ignition.
S24/25	:	Avoid contact with skin and eyes.
S27	:	Remove all contaminated clothing immediately .
S37/38/39	:	Wear suitable protective clothing, gloves and eye/face protection.

16: OTHER INFORMATION

The data and advice given apply when the product is used for the stated application or applications. The product is not sold as suitable for any other application. Use of the product for applications other than as stated in this sheet may give rise to risks not mentioned in this sheet. The product should not be used than for the stated application or applications without seeking advice from Denka Construction Solutions Malaysia Sdn Bhd.

If this product has been purchased to a third party for use at work, it is the purchaser's duty to take all necessary steps to secure that any person handling or using the product is provided with information in this sheet.

It is the responsibility and duty of the employer to inform employees and others who may be affected of any hazards described to this sheet and of any precautions which should be taken. This sheet does not constitute or substitute for the users own assessment of workplace risk, as required by other health and safety legislation.

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