

SAFETY DATA SHEET

1. IDENTIFICATION THE SUBSTANCE / PREPARATION OF THE COMPANY / UNDERTAKING

Product Name: **ESTOCURE R90**
 Application: Concrete Curing Compound
 Company: Denka Construction Solutions Malaysia Sdn Bhd
 Address: No. 18, Jalan Utas 15/7, Seksyen 15, 40200 Shah Alam, Selangor, Malaysia
 Telephone: 03 – 55108810 Fax: 03 – 55100708

2. HAZARD IDENTIFICATION

A. Hazard Risk Classification

- Health Hazard
 Flammable Liquids: Category 3
 Aspiration Hazard: Category 1
 Aquatic Toxicity (Chronic): Category 3
 Aquatic Toxicity (Acute): Category 2
 Skin Sensitization: Category 1

B. Label elements including precaution statements.

- Symbol:



- Signal word: Danger
- Hazard Risk Statement
 H226 Flammable liquid and vapours
 H304 May be fatal if swallowed and enters airways
 H317 May cause an allergic skin reaction
 H402 Harmful to aquatic life
 H412 Harmful to aquatic life with long lasting effects
- Precautionary Statement (Prevention)
 P210 Keep away from heat/sparks/open flames/hot surface. No smoking
 P233 Keep container tightly closed.
 P240 Ground/bond container and receiving equipment
 P241 Use explosion-proof electrical/ventilating/lighting equipment
 P242 Use only non-sparking tools
 P243 Take precautionary measures against static discharge
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray
 P273 Avoid release to the environment
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

- Response
 - P331 Do NOT induce vomiting
 - P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 - P370 + P378 In case of fire: Use appropriate media for extinction.
 - P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower
- Storage
 - P405 Store locked up
 - P403 + P235 Store in well-ventilated place.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Ingredient | Cas No | % |
|-----------------|------------|-------|
| White spirit | 64742-82-1 | 60-70 |
| Petroleum resin | 64742-16-1 | 20-30 |
| Additive | 8050-09-7 | 0-5 |

All constituents of this product are listed in EINECS (European Inventory of Existing Commercial Chemical Substances) or EILINCS (European List of New Chemical Substances) or are exempt. Refer to Section 8 for Occupational Exposure Limits.

4. FIRST AID MEASURES

| | |
|-------------|--|
| Eyes: | Flush eye with copious of water. If persistent irritation occurs, obtain medical attention. |
| Skin: | Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. |
| Inhalation: | Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment. |
| Ingestion: | Obtain medical attention urgently. Do NOT induce vomiting. Beware of aspiration if vomiting occurs. |

5. FIRE FIGHTING MEASURES

| | |
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| Suitable Extinguishing Media: | Carbon dioxide, powder, foam or water fog – Do not use water jets. |
| Special Exposure Hazards: | Toxic fumes. For further information see Section 10. |
| Special Protective Equipment: | Self-contained breathing apparatus. |

6. ACCIDENTAL RELEASE MEASURES

| | |
|----------------------------|---|
| Personal Precautions: | Immediately issue NO SMOKING and NO NAKED FLAMES warnings. Wear self-contained breathing apparatus and protective clothing. |
| Environmental Precautions: | 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 water) to avoid environmental contamination. Prevent from |

Decontamination Procedures: spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barrier.
Soak up with inert absorbent or contain and remove by best available means.
Dispose of as waste.

7. HANDLING AND STORAGE

Handling: Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Avoid contact with skin, eyes, and clothing.

Storage: Must be stored in a well-ventilated area, away from sunlight, ignition sources and other sources of heat. Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products which are not harmful or toxic to man or to the environment. Storage temperature: Ambient.

Product Transfer Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling.

Recommended material: For containers, or container linings use mild steel, stainless steel. For container paints, use epoxy paint, zinc silicate paint.

Unsuitable material: Avoid prolonged contact with natural, butyl or nitrile rubbers

Container advice: Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.

Other advice: Ensure that all local regulations regarding handling and storage facilities are followed.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Occupational Exposure Limits:-

| Material | Source | Type | ppm | mg/m3 |
|-------------------------|--------|-------|---------|-----------|
| 1,2,4-Trimethyl benzene | ACGIH | TWA | 25 ppm | |
| | SG PEL | TWA | 25 ppm | 123 mg/m3 |
| 1,3,5-Trimethyl benzene | ACGIH | TWA | 25 ppm | |
| | SG PEL | TWA | 25 ppm | 123 mg/m3 |
| Ethylbenzene | ACGIH | TWA | 100 ppm | |
| | ACGIH | STEEL | 125 ppm | |
| | SG PEL | TWA | 100 ppm | 434 mg/m3 |
| | SG PEL | STEEL | 125 ppm | 543 mg/m3 |

Additional information: Adequate ventilation to control airborne concentrations below the exposure guidelines/limits

| Material | Source | Hazard Designation |
|--------------|--------|--|
| Ethylbenzene | ACGIH | Confirmed animal carcinogen with unknown relevance to humans |

Biological Exposure Index (BEI)

| Material | Determinant | Sampling time | BEI | Reference |
|--------------|--|---|---------|------------------|
| Ethylbenzene | Ethyl benzene in End-exhaled air | Sampling time: Not critical | | ACGIH BEL (2008) |
| | Sum of mandelic acid and phenylglyoxylic acid in creatinine in urine | Sampling time: End of shift at end of work week | 0.7 g/g | ACGIH BEL (2009) |

Engineering Control Measures:

Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Eye washes and shower for emergency use.

Personal Protective Equipment:

In case of insufficient ventilation wear suitable respiratory equipment. Imperious gloves (eg PVC). Safety glasses / goggles. Change contaminated clothing immediately and cleans before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--------------------------------|---|
| Physical State | Liquid |
| Colour | Brown |
| Odour | Aromatic |
| pH (concentration) | Not applicable (non-aqueous) |
| Boiling Point / Range (°C) | 150 -200 |
| Melting point / Range (°C) | Not applicable |
| Flash Point (closed °C) | 40 |
| Autoflammability (°C) | >200 |
| Explosive Properties (%) | Lower explosive limit (LEL): 0.6% Upper explosive limit (UEL): 8.0% |
| Oxidising Properties | Not applicable |
| Vapour Pressure (kPa at 20 °C) | 0.53 |
| Specific gravity (at 25 °C) | 0.85 – 0.95 |
| Water Solubility | Insoluble |
| Other data | Evaporation rate (n-butyl acetate = 1): 0.13 |

10. STABILITY AND REACTIVITY

Stability:

Contain volatile solvent

Condition to avoid:

Any source of ignition. Direct sunlight.

Material to avoid:

Strong oxidising agents.

Hazardous Decomposition Product:

Thermal decomposition:- Oxides of carbon.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological effects

Acute Toxicity

| | |
|---|--|
| Acute Oral Toxicity: | Expected to be of low toxicity: LD50>5000 mg/kg, Rat |
| Acute Dermal Toxicity: | Low toxicity: No deaths at highest tested dose. |
| Acute Inhalation Toxicity: | Low toxicity: LC50 greater than near-saturated vapour concentration, 4 hours, Rat |
| Skin corrosion/Irritation: | Not irritating to skin. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis. |
| Serious eye damage/irritation: | Not irritating to eye |
| Respiratory irritation: | Inhalation of vapours or mists may cause irritation to the respiratory system. |
| Skin sensitization: | Not a skin sensitizer. |
| Aspiration hazard: | Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal. |
| Gem cell mutagenicity: | Not mutagenic |
| Carcinogenicity: | Not expected to be carcinogenic. Tumours produced in animals are not considered relevant to humans. |
| Reproductive & Developmental Toxicity: | Not expected to impair fertility. Not a developmental toxicant. |
| Specific target organ toxicity-single exposure: | May cause drowsiness or dizziness. |
| Specific target organ toxicity-repeated exposure: | Kidney: caused kidney effects in male rats which are not considered relevant to humans. Central nervous system: repeated exposure affects the nervous system. |

12. ECOLOGICAL INFORMATION

| | |
|-----------------------------|---|
| Acute Toxicity Fish: | Toxic: LL/EL/IL50 1-10 mg/l |
| Aquatic Invertebrates: | Toxic: LL/EL/IL50 1-10 mg/l |
| Algae: | Toxic: LL/EL/IL50 1-10 mg/l |
| Microorganisms: | Practically nontoxic: Toxic: LL/EL/IL50 > 100 mg/l |
| Mobility: | Floats on water. Adsorbs to soil and has low mobility. |
| Persistence/degradability: | Readily biodegradable. Oxidises rapidly by photo-chemical reactions in air. |
| Bio accumulative potential: | Has the potential to bio accumulate. |
| Other Adverse Effects: | In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life. |

13. DISPOSAL CONSIDERATIONS

Disposal must be in accordance with local and national legislation.

| | |
|--------------------|--|
| Material disposal: | Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water. |
|--------------------|--|

| | |
|---------------------|---|
| Container disposal: | Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums. Send to drum recoverer or material reclaimer. |
| Local legislation: | Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with. |

14. TRANSPORT INFORMATION

Land (as per ADR classification): Regulated

| | |
|-----------------------------|-----------------------|
| Class: | 3 |
| Packing group: | III |
| Hazard identification no. | 30 |
| UN No. | 1300 |
| Danger label (primary risk) | 3 |
| Proper shipping name | Turpentine substitute |
| Environmentally hazardous | Yes |

IMDG

| | |
|-----------------------|-----------------------|
| Identification number | UN 1300 |
| Proper shipping name | TURPENTINE SUBSTITUTE |
| Class / Division | 3 |
| Packing group | III |
| Marine pollutant | Yes |

IATA (Country variations may apply)

| | |
|----------------------|-----------------------|
| UN No. | 1300 |
| Proper shipping name | Turpentine substitute |
| Class / Division | 3 |
| Packing group | III |

15. REGULATORY INFORMATION

Hazard Label Data

| | |
|------------------------|---|
| Risk Phrases: | Flammable. Harmful if swallowed. |
| Safety Phrases: | Do not breathe vapours/spray. Wear suitable gloves and eye/face protection. Use only in well ventilated areas. |
| EC Directives: | Dangerous Preparation Directive, 88/379/EEC Dangerous Substance Directive, 67/548/EEC and adaptations Safety Data Sheet Directive, 91/155/EEC |
| Statutory Instruments: | Chemical (Hazard Information and Packaging for Supply) (Amendment) Regs. 1996 (SI 1092) Control of Substances Hazardous to Health Regs. 1994 (SI 3246) Health and Safety at Work, etc Act 1974 Environmental Protection Act 1990 |
| Codes of Practice: | Waste Management. The Duty of Care. |
| Guidance Notes: | Storage of packages dangerous substances [HS(G)71] |

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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Denka Construction Solutions Malaysia Sdn Bhd
(591858-U)

No. 18, Jalan Utas 15/7, Seksyen 15,
40200 Shah Alam, Selangor Darul Ehsan, Malaysia
Tel: +603 5510 8810 Fax: +603 5518 8202

www.denka-cs.com

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