

SAFETY DATA SHEET

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

Product Name: **ESTOPATCH ST**
 Application: Cementitious Repair Mortar
 Company: **Denka Construction Solutions Malaysia Sdn Bhd**
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2: HAZARDS IDENTIFICATION

Type of product: Component / Mixture

A. Hazard Risk Classification

- Skin irritation : Category 2
- Serious eye damage/eye irritation : Category 1
- Skin sensitisation : Category 1
- Specific target organ toxicity (single exposure) : Category 3

B. Label elements including precaution statements.

- Symbol:



- Signal word: Danger
- Hazard Risk Statement
 - H315 Causes skin irritation
 - H317 May cause an allergic skin reaction
 - H318 Causes serious eye damage
 - H335 May cause respiratory irritation, May cause cancer (inhalation), Causes damage to organs (lung/respiratory system) through prolonged or repeated exposure (inhalation)

- Precautionary Statement

(Prevention)

- P201 Obtain special instruction before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe dust.
- P264 Wash your handling region thoroughly after handling.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P281 Use personal protective equipment as required

(Response)

P312	Call a poison centre / doctor if you feel unwell
P314	Get medical advice / attention if you feel unwell
P363	Wash contaminated clothing before reuse.
P308 + P313	If exposed or concerned: Get medical attention.
P261 + P304 + 340 + P312	IF INHALE: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a doctor / physician if you feel unwell.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do not induce vomiting.
P302 + P352 + P333 + P313	IF ON SKIN (or hair): Wash with plenty of soap and water. If skin irritation or rash occurs, get medical advice / attention.
P305 + P351 + P338 + P310	IN IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor / physician

(Storage)

P405	Store locked up.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.

(Disposal)

P501	Dispose of contents / container to harden by application of water and dispose of as concrete waste
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3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS No.	Content, %
OPC	65997-15-1	50 – 60
Silica sand	14808-60-7	35 – 45
Calcium Sulfate	7778-18-9	1 – 5
High Alumina Cement	65997-16-2	1 – 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

Description of first aid measure,

General Advice:	Move out the dangerous area. Consults a physician. Show this safety data sheet to the doctor in attendance.
Eyes:	Do not rub eyes in order to avoid possible cornea damage at a result of mechanical stress Incline head to injured eye, open the eyelid(s) widely and flush eye(s) immediately by thoroughly rinsing with plenty of clean water for at least 20 minutes to remove all particles. Remove content lenses, if present and easy to do, continue rinsing. Avoid flushing particles into uninjured eye. Get immediately medical attention or consult physician.
Skin:	Wash skin with plenty of water. Remove contaminated clothing, footwear, watches etc. and clean thoroughly before re-using them. Seek medical attention if situation persist for rash and irritation.

Inhalation:	Move the person to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention for discomfort or if coughing or other symptoms do not subside.
Ingestion:	Do not induce vomiting. If conscious, give plenty of water to drink. Get immediate medical attention or consult physician.

5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	None, not flammable
Special Exposure Hazards:	None
Special Protective Equipment:	Wear complete protective clothing including self-contained breathing apparatus.

6: ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wear suitable protective clothing, gloves and eye/face protection. Avoid airborne dust generation.
Environmental Precautions:	Prevent entry into drains, sewers and water courses.
Decontamination Procedures:	Avoid dry sweeping. Use water spraying or High Efficiency Particulate Air (HEPA) filtered vacuum cleaning system to minimize the raising of dust.

7: HANDLING AND STORAGE

Handling:	Avoid inhalation, skin and eye contact. Do not sweep. Use cleanup methods such as vacuum clean-up or vacuum extraction, which do not cause airborne dispersion. Avoid release to the environment. Spillages or uncontrolled discharges into watercourse must be alerted to the appropriate regulatory body.
Storage:	Keep containers dry and tightly closed. Store in cool, dry area protected from environmental extremes. Avoid from acid, alkali.

8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:	None assigned.
Engineering Control Measures:	Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits.
Personal Protective Equipment:	Impervious gloves (eg PVC). Safety glasses / Goggles. Plastic apron. Change contaminated clothing and clean before re-use.
Respiratory protection:	Under ordinary conditions no respiratory protection is needed.
Eye protection:	Wear approved safety goggles when handling dust to prevent contact with eyes.
Skin protection:	Wear gloves in situations where abrasion from sand may occur. Remove clothing and protective equipment that becomes dusty and launder before reusing.

9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Granulated powder
Colour:	Grey
Odour:	Odourless
pH(concentrate):	>12
Boiling Point/Range (°C):	No data
Flash Point (closed, °C):	No data
Explosive Properties (%):	No data
Vapour Pressure (kPa at 20°C):	No data
Relative Density (at 25°C):	1.4 (bulk)
Water Solubility:	Insoluble.

10: STABILITY AND REACTIVITY

Stability:	Stabl
Possibility of hazardous reaction:	Do not cause hazardous reactions
Conditions to Avoid:	Humid conditions during storage may cause lump formation and loss of product quality
Material to avoid:	Strong acids
Hazardous Decomposition Products:	Will not decompose into hazardous products.

11: TOXICOLOGICAL INFORMATION

The following toxicological assessment is based on a knowledge of the toxicity of the product's components:

Silica sand

Skin contact	No effect
Skin absorption	No effect
Eye contact	No long term effect other than dust discomfort
Ingestion	No effect
Inhalation acute exposure	No immediate effect
Sensitization	No effect
Chronic exposure	Respiratory disease may develop such as silicosis, pneumoconiosis and pulmonary fibrosis

OPC

Acute toxicity-dermal	Based on available data, the classification criteria are not met
Acute toxicity-inhalation	Based on available data, the classification criteria are not met
Acute toxicity-oral	Based on available data, the classification criteria are not met
Skin corrosion/irritation	Prolonged contact in combination with abrasion may cause severe burns.
Serious eye damage/irritation	Direct contact with cement may cause corneal damage by mechanical stress, immediate or delayed irritation or inflammation. Direct contact by larger amounts of dry cement or splashes or wet cement may cause effects ranging from moderate eye irritation to chemical burns and blindness
Skin sensitization	Some individual may develop eczema upon exposure to wet cement dust, cause either by the high pH which induces irritant contact dermatitis after prolonged contact, or by an immunological reaction to soluble Cr (VI) which elicits allergic contact dermatitis.

Respiratory sensitization
Germ cell-mutagenicity
Carcinogenicity
Reproductive-toxicity
STOT-single exposure

Based on available data, the classification criteria are not met
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May irritate the throat and respiratory tract. Coughing, sneezing and shortness of breath may occur following exposure in excess of occupational exposure limits.
Based on available data, the classification criteria are not met
Not applicable as cement are not used as an aerosol.

STOT-repeated exposure
Aspiration hazard

High Alumina Cement

Skin corrosion/skin irritation	No observed effect. Species: Rabbit OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Serious damage to eyes/eye irritation	Corneal haze: Average score < 1 Species: Rabbit Duration of exposure: 72 h OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Iritis	Average score < 1 Species: Rabbit Duration of exposure: 72 h OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Conjunctival redness	Average score < 2 Species: Rabbit Duration of exposure: 72 h OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Conjunctival oedema	Average score < 2 Species: Rabbit Duration of exposure: 72 h OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Specific target organ systemic toxicity – single exposure	Dust from this product may cause irritation to the respiratory tract.

12: ECOLOGICAL INFORMATION

Persistence and degradability:	After hydration (several hours or several days under humid conditions), the product is stable in soil and in water, with a negligible mobility of its components.
Bio-accumulative potential:	Not relevant. After hardening, cement presents no toxicity risks.
Mobility in soil:	Not relevant. After hardening, cement presents no toxicity risks.
Toxicity:	The product is not hazardous to the environment. Eco-toxicological test with Portland cement on Daphnia magna and Selenastrum coli have shown little toxicological impact. Therefore, LC50 and EC50 values could not be determined. There is no indication of sediment phase toxicity.
Fish toxicity	LC50 > 100 mg/l Species: Oncorhynchus mykiss Duration of exposure: 96 h OECD Guideline 203 (Fish, Acute Toxicity Test) NOEC > 100 mg/l Species: Oncorhynchus mykiss Duration of exposure: 96 h

	OECD Guideline 203 (Fish, Acute Toxicity Test)
Crustacean toxicity	<p>EC50 = 6.6 mg/l Species: Daphnia magna Duration of exposure: 48 h OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)</p> <p>NOEC = 1.8 mg/l Species: Daphnia magna Duration of exposure: 48 h OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)</p>
Algae toxicity	<p>ECr50 > 5.6 mg/l Species: Pseudokirchnerella subcapitata Duration of exposure: 72 h OECD Guideline 201 (Alga, Growth Inhibition Test)</p> <p>NOEC = 3.2 mg/l Species: Pseudokirchnerella subcapitata Duration of exposure: 72 h OECD Guideline 201 (Alga, Growth Inhibition Test)</p>

13: DISPOSAL CONSIDERATIONS

Waste disposal	Do not dispose into sewage systems or surface waters.
Product-unused residue/dry spillage	Pick up dry unused residue or dry spillage as is. Mark the containers. Possibly reuse depending upon shell life considerations and the requirement to avoid dust exposure. In case of disposal, harden with water and dispose according to 'Product – after addition on water, hardened'.
Product-slurries	Allow to harden, avoid entry in sewage and drainage systems or into bodies of water and dispose of as explained below under 'Product-after addition of water, hardened'.
Product-after addition of water, hardened	Dispose of according to the local legislation. Avoid entry into sewage water system. Dispose of the hardened product as concrete waste. Due to the inertisation, concrete waste is not a dangerous waste.

14: TRANSPORT INFORMATION

IATA-DGR	Not regulated for transport of dangerous good
IMDG-Code	Not regulated for transport of dangerous good
ADR/RID	Not regulated for transport of dangerous good

15: REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

- a) Occupational Safety and Health Act 1994 and relevant regulation
- b) Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.
- c) Environmental Quality Act 1974

- d) Implementation of CLP Regulations – classification for Portland cement clinker and common cements (Cembureau)

16: OTHER INFORMATION

Also refer to the Safety Data Sheet(s) for information on other components of this product.

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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