

Revision 3 Date Issued: 8th December 2013

1. Identification of the substance/preparation and company

Product Name: Peran STB Hardener B

Application: Aliphatic amine component of multi-component seamless epoxy floor coatings.
Mixed product is applied using a brush, roller and/or squeegee.

Manufacturer:

Flowcrete SA (Pty) Ltd, 176 Voortrekker Street, Jacobs, Durban 4052

Tel: +27 (0)31 461 3411

Fax: +27 (0)31 461 3475

E-mail: southafrica@flowcrete.com

Website: <http://www.flowcretesa.co.za>

2. Composition/information on constituents

Chemical Name	EINECS No.	CAS No.	% by weight	Symbols and Risk Phrases
Isophorone diamine	220-666-8	2855-13-2	25 – 40	C; R21/22. R34. R43. R52/53.
Benzyl alcohol	202-859-9	100-51-6	30 – 50	Xn; R20/22.
m-xylenediamine	216-032-5	1477-55-0	< 1	C; R20/22. R34. R43. R52/53.
4,4'-Isopropylidenediphenol	201-245-8	80-05-7	1 - 4	Xi; R36/37/38. R43. R62
Trimethylhexamethylene diamine	247-134-8	25620-58-0	5 - 10	C; R34. R22. R43. R52/53

See section 16 Additional information, for full text regarding symbols and Risk phrases.

3. Hazards Identification

Causes Burns. Acute effects: Contact of undiluted product with the eyes or skin quickly causes severe irritation and pain and may cause burns, necrosis and permanent injury. Burns of the eye may cause blindness.

Harmful by inhalation. (Most valid at elevated temperatures and when spraying.) Product vapour in low concentration can cause lacrimation, conjunctivitis and corneal oedema when absorbed onto the tissue of the eye from the atmosphere. Inhalation of vapours, aerosols and mist may severely damage contacted tissue and produce scarring.

Harmful if swallowed. Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of the oesophagus and the stomach.

Harmful in contact with skin. Product is absorbed through the skin and may cause nausea, headache and general discomfort. Contact with the skin may cause dryness (defatting), itching and/or rash.

May cause sensitisation by skin contact. Repeated and /or prolonged exposure may cause an allergic reaction/sensitisation. Once sensitised, an individual may produce an allergic eczema reaction every time they are in contact with the amines in this material.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

When the base is mixed with the hardener an exothermic reaction starts (i.e. heat is generated).
If the mix is not applied within 20 - 30 minutes some smoking may occur.

4. First Aid measures

- Inhalation** : Move patient to fresh air. If breathing has stopped or is laboured give assisted respiration (e.g. mouth to mouth). If symptoms persist seek medical advice.
Prevent aspiration of vomit, turn victim's head to the side.
- Skin contact** : Remove contaminated clothing and shoes. Remove product from skin and immediately flush affected area with water for at least 15 minutes. Cover affected area with a sterile dressing or clean sheeting and transport for medical care. Do not apply greases or ointments. Control shock if present.
Launder contaminated clothing before reuse.
- Eye Contact** : Hold eyelids apart and immediately flush with plenty of water for at least 15 minutes.
Seek medical advice immediately.

Ingestion : Administer 3 – 4 glasses of milk, water or charcoal slurry. Do not induce vomiting.
Seek medical advice immediately.

5. Fire-fighting measures

- Suitable extinguishing media** : In case of a large fire use: Water spray, alcohol foam.
In case of a small fire use: carbon dioxide (CO₂), dry chemical, dry sand or limestone.
- Un-Suitable extinguishing media** : High volume water jet.
- Special exposure hazards** : Burning produces noxious and toxic fumes – carbon and nitrogen oxides, plus some ammonia.
Contact of liquid with the skin must be prevented.
Personnel in vicinity and downwind should be evacuated.
- Special protective equipment** : Wear self-contained breathing apparatus, butyl rubber boots, gloves and protective suit.
- Additional information** : Retain expended liquids from fire fighting for later disposal.
Standard procedure for chemical fires.
Water mist may be used to cool closed containers.

6. Accidental release measures

- Personal precautions** : Use personal protective equipment as detailed in Section 8.
Ensure adequate ventilation.
Keep away from sources of ignition – No smoking.
Do not breath vapours.
- Environmental precautions** : Prevent the product from entering drains.
Avoid subsoil penetration.
Do not contaminate surface water.
- Methods for cleaning up** : Soak up with an inert absorbent material (e.g. sand) and dispose of as hazardous waste.

7. Handling and storage

- Handling** : Provide sufficient air exchange and/or exhaust in workrooms. Avoid formation of aerosol.
Ensure adequate ventilation - avoid breathing of vapours.
Use personal protective equipment as detailed in Section 8.
Handle and open container with care. Do not eat, drink or smoke when handling.
Avoid using in any spray application without strict conformance to all applicable electrical codes.
- Storage** : Keep containers tightly closed and store in a well-ventilated place at 15 - 35°C.
Protect from freezing.
Keep away from drink, food, food containers and animal feeding stuffs.
Do not store with strong acids and strong oxidising agents.

8. Exposure controls/personal protection

There are no components with occupational exposure limits established.

Engineering measures to reduce exposure : Ensure adequate ventilation, especially in confined areas.

Personal protective equipment :

Respiratory protection : Not required under normal conditions in a well ventilated workplace.

A respirator will be required for spray applications and in poorly ventilated areas, viz. chemical cartridge respirator with face piece to protect against the organic vapour, NIOSH approved supplied air respirator with full face shield or self-contained breathing apparatus in pressure demand mode.

- Eye protection** : Full face shield with safety goggles underneath.
- Hand protection** : Rubber or plastic impermeable gloves (PVC, butyl or neoprene rubber). Check regularly for degradation/holes and replace as necessary.
- Skin and body protection** : Protective suit and heavy duty work shoes.
- Protective measures** : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. When using do not eat, drink or smoke.

9. Physical and chemical properties

Appearance	: Pale yellow transparent liquid	pH	: Alkaline, ~11
Odour	: Ammoniacal	Relative Density	: ~1.01
Boiling Point	: > 150 °C	Water solubility	: Partly soluble, limited
Flashpoint	: > 150 °C	Explosion limits	: Not explosive

10. Stability and reactivity

Material is stable when stored and handled under recommended conditions.

When the base is mixed with the hardener an exothermic reaction starts (i.e. heat is generated). If the mix is not applied within 20 - 30 minutes some smoking may occur.

- Conditions to avoid** : Take precautionary measures against extremes of temperature. Avoid temperatures above 40 °C. Protect from freezing.
- Materials to avoid** : Strong acids and strong oxidising agents. Reaction with peroxides may result in violent decomposition of peroxide, possibly creating an explosion. Slowly corrodes copper, aluminium and zinc (includes galvanised surfaces).
- Hazardous decomposition products** : Irritating and toxic fumes at elevated temperatures. Burning produces noxious and toxic fumes. Ammonia produced when heated. Nitrogen oxides, carbon monoxide and carbon dioxide (CO₂) in a fire. Hazardous polymerisation will not occur.

11. Toxicological information

- Acute toxicity** : Oral LD₅₀, rat, 1,030 mg/kg (Isophorone diamine)
Oral LD₅₀, rat, 900 mg/kg (Trimethylhexamethylene diamine)
Oral LD₅₀, rat, 940 mg/kg (m-xylenediamine)
Oral LD₅₀, rat, 1,230 mg/kg (benzyl alcohol)
- Eye irritation** : Material is corrosive, burns of the eye can cause blindness. Will result in pain and ulceration.
- Skin Irritation** : Material is Corrosive and will cause skin irritation and skin dehydration.
- Sensitisation** : Prolonged and/or repeated contact may cause sensitisation by skin contact, resulting in an allergic eczema every time the person is in contact with the material.

12. Ecological information

- Ecotoxicity** : Isophorone diamine:

LC₅₀ / fish (Leuciscus idus) / 48 hr = 185 mg/l
EC₅₀ / Daphnia magna / 24 hr = 42 mg/l

Trimethylhexamethylene diamine:
EC₅₀ / Daphnia magna / 24 hr = 63 mg/l

Hexane-1,6-diol diglycidyl ether:
LC₅₀ / fish / 48 hr = 10 - 100 mg/l

- Persistence and degradability** : Not readily biodegradable.
- Bioaccumulative potential** : No data available.
- Additional ecological information** : Avoid subsoil penetration.
Prevent product from entering drains, do not contaminate surface water.

13. Disposal considerations

- Unused Product/waste from cleaning etc.** : Must be disposed in compliance with local and national regulations.
Must not be disposed together with household waste.
Do not allow material to reach sewage system.
- EC Waste Catalogue (EWC) code: 080111*.
- Unused product can be mixed with Base A and disposed of under EC Waste Catalogue (EWC) code: 080112 (not a hazardous waste).
Remove/invalidate the warning label.
- Contaminated packaging** : Partially filled containers shall be treated as for the product above.
- Well drained containers shall be disposed of as hazardous packaging waste, use EWC Code: 150110*.

14. Transport information

Proper shipping name: **Isophorone diamine solution**

UN No: **2289**

ADR/RID

Class : 8 **Item No** : 53(c)
HI No : 80 **Packing Group** : III
Contains : **Isophoronediamine / Trimethylhexamethylene diamine mixture**

IMO

Class : 8 **Marine Pollutant** : No
Packing Group : III
Contains : **Isophoronediamine / Trimethylhexamethylene diamine mixture**

IATA

Keep from freezing.
Class : 8
Packing Group : III
Contains : **Isophoronediamine / Trimethylhexamethylene diamine mixture**

15. Regulatory information

Classification according to EEC regulations. Labelling requirements.

Hazard Symbols:



Corrosive

R-phrases

- R34** : Causes burns.
R20/21/22 : Harmful by inhalation, in contact with skin and if swallowed.
R43 : May cause sensitisation by skin contact.
R52/53 : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases

- S26** : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 : After contact with skin, wash immediately with plenty of water and soap.
S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection.
S60 : This material and/or its container must be disposed of as hazardous waste.
S61 : Avoid release to the environment. Refer to special instructions/safety data sheet.

Special provisions statement : Keep liquid above freezing.

Hazardous component(s) which must be listed on the label : Isophoronediamine, Trimethylhexamethylene diamine, Benzyl alcohol, 4,4'-Isopropylidenediphenol

EC Directives: Dangerous Substances Directive, 67/548/EEC & adaptations.
Dangerous Preparations Directive, 1999/45/EC.
Safety Data Sheets Directive, 91/155/EEC and adaptations.

Statutory Instruments: Chemicals (Hazard Information & Packaging for Supply) Regs 2002.
Control of Substances Hazardous to Health Regs 2002.
Environmental Protection (Duty of Care) Regs. 1991.

Codes of Practice Waste Management. The Duty of Care.
Approved classification and labelling guide (Fifth edition). L131.
The compilation of safety data sheets (Third edition).

Guidance Notes Occupational Exposure Limits EH40
CHIP for Everyone HSG(108)

16. Other Information

This safety data sheet has been prepared in accordance with CHIP3. The text in sections 2, 11, 12, 13, 14 and 16 has changed. The provision of Safety data sheets comes under Regulation 6 of CHIP (CHIP is the recognised abbreviation for the Chemicals, Hazard Information and Packaging Regulations). This is in addition to the Health and Safety at Work Act 1974.

Users of our products should take appropriate measures to ensure working practices are in accordance with the Control of Substances Hazardous to Health Regulations (CoSHH).
This data sheet does not replace the obligation of the user to provide their own assessment of workplace risk as required by other Health & Safety legislation.

Training Advice

Applicators need to be trained in:
Handling and hygiene associated with use of industrial chemicals.
Correct mixing and application of the product.
Correct cleaning and disposal methods.

EC Directive relating to the classification, packaging and labelling of dangerous substances and preparations – Classification(s) and Risk (R) phrase(s) referred to in this document:

C : Corrosive. Xn : Harmful.
Xi : Irritant.

R34 : Causes burns.
R20/22 : Harmful by inhalation and if swallowed.
R21/22 : Harmful in contact with skin and if swallowed.
R20/21/22 : Harmful by inhalation, in contact with skin and if swallowed.
R36/37/38 : Irritating to eyes, respiratory system and skin.
R36/38 : Irritating to eyes and skin.
R43 : May cause sensitisation by skin contact.
R52/53 : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R62 : Possible risk of impaired fertility.

Restrictions on Use

The product is intended for use by appropriately trained applicators in industrial situations. It is not suitable for use in home DIY applications, especially because of its hazardous nature and the protective measures required.

Notes

Do not use organic solvents for skin cleansing, it will lead to defatting of the skin, skin irritation and/or dermatitis. Some solvents can be absorbed through the skin.
Beware of cross contamination where different products are in use in the same location.

This safety data sheet is based on our present knowledge and experience and is intended to serve as a guide for safe handling of the product regarding to health and environmental aspects.