Flowcrete
for the world at your feet

SAFETY DATA SHEET

Revision 2 Date Issued: January 2014

1. Identification of the substance/preparation and company

Product Name: **Super Satin Hardener B**

Application: Isocyanate component of a 2 pack floor sealer.

Manufacturer:
Flowcrete SA (Pty) Ltd, 176 Voortrekker Street, Jacobs 4052
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2. Composition/information on constituents

Chemical Name	EINECS No.	CAS No.	% by weight	Symbols and Risk Phrases
Aliphatic polyisocyanate	-	-	>90	Xi; R43. R52/53
Hexamethylene-1, 6-Diisocyanate	212-485-8	822-06-0	<0.3	T;Xi;R23.R36/37/38.R42/43.

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

3. Hazards Identification

Contains Isocyanates.
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 reaction every time they are in contact with the isocyanates in this material.

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

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.
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.

Ingestion : Do not induce vomiting. Seek medical advice.

5. Fire-fighting measures

Suitable extinguishing media : In case of large fire use: Water spray, alcohol foam.
In case of a small fire use: carbon dioxide (CO_2), 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 isocyanate vapour and some traces of hydrogen cyanide may be released.
Personnel in vicinity and downwind should be evacuated.

Special protective equipment : Wear self-contained breathing apparatus.

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. 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, sawdust) wetted out with water to expedite the process. Leave the material to reach for 30 minutes. Shovel into suitable open-top containers, do not close container for at least 24 hours (because of evolution of carbon dioxide) and keep damp in a safe, well ventilated area.
Dispose in accordance with section 13.
Wash area with plenty of water.

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.

Storage : Keep containers tightly closed and store in a well-ventilated place.
Protect from frost & freezing.
Keep away from drink, food, food containers and animal feeding stuffs.
Do not store with amines and alcohols.

8. Exposure controls/personal protection

Workplace Exposure Limit (WEL) : **Isocyanates, all (expressed as – NCO)**
0.02mg/m³ 8 hour Time Weighted Average (TWA)
0.07mg/m³ 15 minute Short Term Exposure Limit (STEL)

Exposition assessment value (EBW) per TRGS 430 (german regulations)
Polyisocyanate content (MI oligomers and/or prepolymers): 100%
Use an exposition assessment value of 0.5mg/m³.

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, NIOSH approved supplied air respirator with full face shield or self-contained breathing apparatus in pressure demand mode.
In the case of hypersensitivity of the respiratory tract (e.g. asthmatics and those who suffer from chronic bronchitis) it is inadvisable to work with the product.

Eye protection : Full face shield, safety goggles or safety glasses.

Hand protection : Rubber or plastic impermeable gloves (Butyl or Fluorinated rubber).
Check regularly for contamination, 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	:	yellowish liquid	Auto flammability	:	455 °C
Odour	:	Almost none	Relative Density	:	1.15 at 20 °C
Boiling Point	:	>300 °C	Water solubility	:	Insoluble, reacts slowly
Flashpoint	:	184 °C	Viscosity	:	1400mPA.s at 23 °C
Vapour pressure	:	16 mbar at 20 °C			

10. Stability and reactivity

Material is stable.

Conditions to avoid : Protect from frost & freezing.

Materials to avoid : Exothermic reaction with amines and alcohols.

Hazardous decomposition products : Reacts slowly with water forming carbon dioxide.
Burning produces noxious and toxic fumes – carbon and nitrogen oxides, plus isocyanate vapour and some traces of hydrogen cyanide may be released.

11. Toxicological information

Acute toxicity : LD_{50}, (rat)>2000 mg/kg (from a toxicological study of a comparable product)

Eye irritation : Non-irritant (rabbit)

Skin Irritation : Slightly irritant (4 hours, rabbit)

Sensitisation : No pulmonary sensitisation observed in animal tests.
Skin sensitisation: Buehler test – no sensitising effects (guinea pig)
Magnusson / Kligman test – Sensitising effects (guinea pig)

Mutagenicity : Salmonella / microsome test (ames test): No indication of mutagenicity.

12. Ecological information

Ecotoxicity : Fish, Brachydanio rerio, 96 hrs LC_{50} >=10mg/l - < 100mg/l Bacteria, activated sludge micro – organism, 3 hrs EC_{50} >10,000 mg/l

Persistence and degradability : <60% biodegradation, i.e. not readily biodegradable.28 days.

Additional ecological information : Avoid subsoil penetration.
Prevent product from entering drains, do not contaminate surface water.

As the compound is not readily biodegradable, long retention times in water are to be expected. This applies only in cases where no other elimination mechanism (photodegradation, hydrolysis, adsorption) are active. In the case of discharge into surface waters where emissions of longer duration result in concentrations in the region of the effective threshold at the outflow, damage to the ecosystem cannot be excluded.

The product reacts slowly with water at the interface, forming CO^2 and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by water soluble solvents.

13. Disposal considerations

Unused Product/waste from cleaning etc. : Must be disposed in compliance with local and national regulations.
Do not allow material to reach sewage system.

EC Waste Catalogue (EWC) code: 08 05 01

Contaminated packaging : Partially filled containers shall be treated as for the product above.

Fill well drained containers with water and a little detergent; allow to stand for at least 24 hours. Disposed of as non-hazardous packaging waste in accordance with local and national regulations after removing/invalidating the warning label.
Use EWC Code: 15 01 02 for plastic.

After cleaning, empty containers can be disposed in compliance with national and local regulations, Remove/invalidate the warning label. EWC Code: 150102 for plastic.

14. Transport information

Not regulated for transport, not classified as a transport hazard, all modes.

15. Regulatory information

Classification according to EEC regulations. Labelling requirements.
Hazard Symbols:

Irritant

R-phrases

R43 : May cause sensitisation by skin contact.
R52/53 : Harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

S-phrases

S24 : Avoid contact with skin.
S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection.
S61 : Avoid release to the environment. Refer to special instructions/safety data sheet.

Special provisions statement : Contains isocyanates. See information supplied by the manufacturer
Keep liquid above freezing.

Hazardous component(s) which must be listed on the label : Aliphatic polyisocyanate

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 1999.
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 REACH. 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.

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:

T	:	Toxic	Xi	:	Irritant
R34	:	Causes burns.			
R36/37/38	:	Irritating to eyes, respiratory system and skin			
R24	:	Toxic by inhalation			
R42/43		May cause sensitisation by inhalation and skin contact.			
R43	:	May cause sensitisation by skin contact.			
		Toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.			
R52/53	:	Harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment.			

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.

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.

The European Committee of Paint, Printing Ink and Artist's Colours Manufacturers' Associations (CEPE) provides the following information on coating containing isocyanates:-
Ready-to-use paints containing isocyanates may have an irritant effect on mucous membranes – especially on breathing organs – and cause hypersensitivity reactions, Inhalation of vapour or spray mist may cause sensitisation. When handling paints containing isocyanates all precautions required for solvent – containing paints must be followed. Vapour and spray mist in particular should not be inhaled. Persons who are allergic, asthmatic or prone to respiratory ailments should not work with isocyanate-containing paints.

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.