SAFETY DATA SHEET

1. Identification of the substance/preparation and company

Product Name: **Mondéco Earth Hardener B**

Application: Aliphatic amine component of a multi-pack anti-bacterial terrazzo floor system. Mixed product is applied using a Flowcrete sledge or wooden float and compacted with a steel trowel.

Manufacturer:
Flowcrete S.A. (Pty) Ltd, 176 Voortrekker Street, Jacobs, 4026
Tel: +27 31 461 3411 Fax: +27 31 461 3475
E-mail: southafrica@flowcrete.com Website: http://www.flowcrete.com

2. Composition/information on constituents

Chemical Name	EINECS No.	CAS No.	% by weight	Symbols and Risk Phrases
Isophoronediamine	220-666-8	2855-13-2	15 - 30	C; R21/22. R34. R43. R52/53
Benzene-1,3-dimethanamine	216-032-5	1477-55-0	15 - 30	C; R20/22. R35.
Benzyl Alcohol	202-859-9	100-51-6	< 50	Xn; R20/22.

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. Product vapour in low concentration can cause lacrimation, conjunctivitis and corneal edema 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 oesophagus and stomach.

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

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 to fresh air.
If breathing has stopped or is laboured give assisted respiration (e.g. mouth to mouth). Seek immediate medical aid.
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.

Ingestion : Administer 3 – 4 glasses of milk or water. Do not induce vomiting unless under medical supervision. Seek medical advice.

5. Fire-fighting measures

Suitable extinguishing media : Ignition will give rise to a Class B fire.
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 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 in accordance with section 13.

7. Handling and storage

Handling : Provide sufficient air exchange and/or exhaust in work rooms. 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 cool, well-ventilated place. 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 UK 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 or in poorly ventilated workplace,
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 : Impermeable gloves (butyl, neoprene or nitrile rubber, PVC).
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	:	Amber liquid	pH	:	alkaline
Odour	:	Fishy	Relative Density	:	~1.04
Boiling Point	:	>200 ^{o}C	Water solubility	:	Slight
Flashpoint	:	110 ^{o}C	Autoflammability	:	No data
Explosion limits	:	No data	Vapour pressure	:	1.8 mm Hg at 21^{o}C

10. Stability and reactivity

Material is stable.

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 static electricity discharges and extremes of temperature. Protect from freezing.

Materials to avoid : Acids and 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 : Ammonia produced when heated.
Irritating and toxic fumes at elevated temperatures.
Burning produces noxious and toxic fumes of nitrogen oxides, ammonia, carbon monoxide and carbon dioxide (CO_2).

11. Toxicological information

Acute toxicity : Oral toxicity - LD_{50} (rat) - 1752 mg/kg (estimate)

Eye irritation : Material is corrosive, burns of the eye can cause blindness.

Skin Irritation : Material is corrosive (rabbit, dermal) and will cause skin irritation.

Sensitisation : Skin sensitisation to isophorone diamine has been observed in some humans and has produced allergic sensitisation in animals.

12. 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.
Do not allow material to reach sewage system.
Use EC Waste Catalogue (EWC) code: 08 01 11

Contaminated packaging : Treat uncleaned empty containers as hazardous waste, use EWC Code: 150110*.

Empty containers can be landfilled after cleaning, when in compliance with local and national regulations.
Remove/invalidate the warning label.
Use EWC Code 150102 for plastic or 150104 for metal.

14. Transport information

Proper shipping name: Amines, liquid, corrosive, n.o.s.
UN No: 2735

ADR/RID

Class	:	8	**Item No**	:	53(b)
HI No	:	80	**Packing Group**	:	II
Contains	:	**Benzene-1, 3-dimethanamine (MXDA)**			

IMO

Class	:	8	**Marine Pollutant**	:	No.
Packing Group	:	II			
Contains	:	**Benzene-1, 3-dimethanamine (MXDA)**			

IATA Keep from freezing.

Class	:	8		:	
Packing Group	:	II			
Contains	:	**Benzene-1, 3-dimethanamine (MXDA)**			

15. Regulatory information

Classification according to EEC directive. Labelling requirements.

Hazard Symbols:

Corrosive

R-phrases

R34 : Causes burns.
R20/22 : Harmful by inhalation and if swallowed.
R43 : May cause sensitisation by skin contact.

S-phrases

S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S45 : In case of accident or you feel unwell, seek medical advice immediately (show the label where possible).
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 : Keep liquid above freezing.

Hazardous component(s) which must be listed on the label : Benzene-1, 3-dimethanamine

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 each section has changed and the section order/ headings are in line with the requirements of CHIP3.
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.

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 N : Dangerous for the environment
R34 : Causes burns.
R35 : Causes severe burns.
R20/22 : Harmful by inhalation and if swallowed.
R21/22 : Harmful in contact with skin and if swallowed.
R43 : May cause sensitisation by skin contact.
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.

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.
Take into account the Manual Handling regulations when dealing with the mixed product.

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.