



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of: Regulation of Hazardous Chemical Agents (HCA)

Revision date 21-May-2025

Revision Number 1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product Name DEN BRAVEN MIRRORFIX-MS

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Adhesives and/or sealants.

Restrictions on use No information available

Supplier's details

Supplier

Bostik South Africa
1 Beverley Close
Montague Gardens
Cape Town
South Africa
7441
Tel: +27 21 555 7400

Non-Emergency Telephone Number+27 21 555 7400

E-mail address psra.za@bostik.com

Emergency telephone number

Emergency Telephone Tel: +27 21 555 7400

Restrictions on emergency number 8am - 5pm (Monday - Friday)

SECTION 2: Hazards identification

Classification of the substance or mixture

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS)

GHS Label elements, including precautionary statements

Hazard statements

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS).

Other hazards which do not result in classification

Small amounts of methanol (CAS 67-56-1) are formed by hydrolysis and released upon curing.

SECTION 3: Composition/information on ingredients

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Substance

Not applicable

Mixture

Chemical name	CAS No.	Weight-%
Trimethoxyvinylsilane	2768-02-7	1 - <3
N-(3-(trimethoxysilyl)propyl)ethylenediamine	1760-24-3	0.1 - <1
N-[3-(Dimethoxymethylsilyl)propyl]-ethylenediamine	3069-29-2	0.1 - <1

SECTION 4: First aid measures

Description of necessary first aid measures

General advice	Show this safety data sheet to the doctor in attendance. If medical advice is needed, have product container or label at hand.
Inhalation	Remove to fresh air. If symptoms persist, call a doctor.
Skin contact	Wash with soap and water.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion	Small amounts of toxic methanol are released by hydrolysis. Call a doctor immediately. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed

Symptoms	None known.
Effects of Exposure	No information available.

Indication of immediate medical attention and special treatment needed, if necessary

Note to doctors	Small amounts of methanol (CAS 67-56-1) are formed by hydrolysis and released upon curing. Small amounts of methanol (CAS 67-56-1) are formed by hydrolysis and released, when the product is exposed to moisture or water. Treat symptomatically.
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SECTION 5: Firefighting measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam.
Unsuitable extinguishing media	Full water jet.
Specific hazards arising from the chemical	Thermal decomposition can lead to release of irritating gases and vapours.
Hazardous combustion products	Carbon oxides. Carbon monoxide. Carbon dioxide (CO ₂). Nitrogen oxides (NO _x). Silicon dioxide.
Special protective actions for fire-fighters	Wear self contained breathing apparatus for fire fighting if necessary.

SECTION 6: Accidental release measures

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Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing.

Environmental precautions

Environmental precautions Prevent product from entering drains. Do not allow to enter into soil/subsoil. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for cleaning up Pick up and transfer to properly labelled containers.

Methods for containment Do not scatter spilled material with high pressure water streams.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a cool, well-ventilated place. Protect from moisture. Keep away from food, drink and animal feedingstuffs.

Recommended storage temperature Keep at temperatures between 10 and 35 °C.

Incompatible materials None known based on information supplied.

SECTION 8: Exposure controls/personal protection

Working area parameters, subject to mandatory control (MAC or TSEL)

Occupational exposure limits Small amounts of methanol (CAS 67-56-1) are formed by hydrolysis and released upon curing

Chemical name	Occupational exposure limits	Restricted exposure limits
Methyl alcohol 67-56-1		TWA: 400 ppm STEL: 500 ppm Sk

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

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Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Long term (repeated)	Wear protective butyl rubber gloves	>0.7 mm	>480 minutes
Short term	Wear protective nitrile rubber gloves	>0.7 mm	>180 minutes

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Paste
Physical state	Solid
Colour	See section 1 for more information
Odour	Characteristic
Odour threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	Not applicable
pH (as aqueous solution)	No data available	No information available
Melting point / freezing point	No data available	No information available
Initial boiling point and boiling range	No data available	No information available
Flash point	> 60 °C / 140 °F	
Evaporation rate	No data available	No information available
Flammability	No data available	
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	No information available
Relative vapour density	No data available	No information available
Relative density	No data available	No information available
Solubility(ies)		
Water solubility	Reacts with water moisture	Product cures withReacts with water
Solubility in other solvents	No data available	No information available
Partition coefficient	No data available	No information available
Autoignition temperature	No data available	No information available
Decomposition temperature	No data available	No information available
Kinematic viscosity	21 mm ² /s	
Dynamic viscosity	No data available	No information available
Other information		
Explosive properties	No information available	
Oxidising properties	No information available	
Density	1.54 g/cm ³	

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SECTION 10: Stability and reactivity

Reactivity	Product cures with moisture.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Protect from moisture. Exposure to air or moisture over prolonged periods. Do not freeze. Keep away from open flames, hot surfaces and sources of ignition. Product cures with moisture.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None under normal use conditions. Small amounts of methanol (CAS 67-56-1) are formed by hydrolysis and released upon curing.

SECTION 11: Toxicological information

Information on the likely routes of exposure

Product Information	.
Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Based on available data, the classification criteria are not met. May cause sensitisation in susceptible persons.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	No information available.
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Acute toxicity

Numerical measures of toxicity

The following ATE values have been calculated for the mixture

ATEmix (oral)	21,948.10 mg/kg
ATEmix (dermal)	>5000 mg/kg
ATEmix (inhalation-gas)	>20000 ppm
ATEmix (inhalation-vapour)	308.70 mg/l
ATEmix (inhalation-dust/mist)	>5 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Trimethoxyvinylsilane	LD50 = 7120 -7236 mg/kg (Rattus) OECD 401	= 3540 mg/kg (Oryctolagus cuniculus)	LC50 (4hr) 16.8 mg/l (Rattus) OECD TG 403
N-(3-(trimethoxysilyl)propyl)ethylene diamine	=2295 mg/kg (Rattus)	>2000 mg/Kg (Rattus)	LC50 4H (Aerosol) 1.5 - 2.44 mg/L air
N-[3-(Dimethoxymethylsilyl)propyl]-ethylene diamine	=200 - 2000 mg/Kg (Rattus) (OECD 401)	>5000 mg/Kg (Oryctolagus cuniculus) (OECD 402)	> 5.2 mg/L (Rattus) 4 h (OECD 403)

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
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Trimethoxyvinylsilane (2768-02-7)					
Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rabbit	Dermal	0.5 mL	24 hours	Non-irritant

N-(3-(trimethoxysilyl)propyl)ethylenediamine (1760-24-3)					
Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 404: Acute Dermal Irritation/Corrosion	Rabbit				Mild skin irritant

Serious eye damage/eye irritation No information available.

Trimethoxyvinylsilane (2768-02-7)					
Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	eye		24 hours	Non-irritant

N-(3-(trimethoxysilyl)propyl)ethylenediamine (1760-24-3)					
Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	eye			Eye Damage

Respiratory or skin sensitisation OECD Test No. 406: Skin Sensitisation. No sensitisation responses were observed. No classification is proposed, based on conclusive negative data. May cause sensitisation in susceptible persons.

Method	Species	Exposure route	Results
OECD Test No. 406: Skin Sensitisation	Guinea pig	Dermal	No sensitisation responses were observed

Germ cell mutagenicity No information available.

Trimethoxyvinylsilane (2768-02-7)		
Method	Species	Results
OECD Test No. 471: Bacterial Reverse Mutation Test	in vitro	Not mutagenic

N-(3-(trimethoxysilyl)propyl)ethylenediamine (1760-24-3)		
Method	Species	Results
OECD Test No. 471: Bacterial Reverse Mutation Test	Mammalian cells in vitro	Negative
OECD Test No. 476: In Vitro Mammalian Cell Gene Mutation Tests using the Hprt and xprt genes	Mammalian cells in vitro	Negative

Carcinogenicity No information available.

Reproductive toxicity No information available.

Trimethoxyvinylsilane (2768-02-7)		
Method	Species	Results
OECD Test No. 422: Combined Repeated Dose Toxicity Study with the	Rat	Not Classifiable

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Reproduction/Developmental Toxicity Screening Test		
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N-(3-(trimethoxysilyl)propyl)ethylenediamine (1760-24-3)		
Method	Species	Results
OECD Test No. 422: Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test	Rat Oral	NOAEL >500 mg/Kg

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Trimethoxyvinylsilane (2768-02-7)					
Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 413: Sub-chronic Inhalation Toxicity: 90-day Study	Rat	Inhalation vapour		90 days	0.058 NOAEL

N-(3-(trimethoxysilyl)propyl)ethylenediamine (1760-24-3)					
Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 422: Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test	Rat	Sub-acute oral toxicity gavage		28 days	NOAEL >500 mg/kg

Aspiration hazard No information available.

SECTION 12: Ecological information

Ecotoxicity Based on available data, the classification criteria are not met.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Trimethoxyvinylsilane	EC 50 (72h) > 957 mg/l (Desmodesmus subspicatus) EU Method C.3	LC50 (96h) = 191 mg/l (Oncorhynchus mykiss)	EC50(48hr) 168.7mg/l (Daphnia magna)
N-(3-(trimethoxysilyl)propyl)ethylene diamine	-	LC50 (96H) =597 mg/L (Danio rerio)Semi-static	EC50 (48h) =81mg/L Daphnia magna Static

Persistence and degradability No information available.

Trimethoxyvinylsilane (2768-02-7)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)	28 days	BOD	51 % Not readily biodegradable

Bioaccumulative potential

Component Information

Chemical name	Partition coefficient
Trimethoxyvinylsilane	1.1
N-(3-(trimethoxysilyl)propyl)ethylenediamine	-0.3

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Mobility in soil No information available.

Other adverse effects No information available.

SECTION 13: Disposal considerations

Disposal methods

Waste from residues/unused products Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

Contaminated packaging Handle contaminated packages in the same way as the product itself.

SECTION 14: Transport information

IMDG Not regulated

IATA Not regulated

ADR Not regulated

SECTION 15: Regulatory information

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

National regulations

South Africa - Occupational Injuries and Diseases - Chemical Agents Not applicable

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Europe

Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006)

SVHC: Substances of Very High Concern for Authorisation:

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Directive 2011/65/EU (EU RoHS 2), as amended by the Delegated Directive (EU) 2015/863 (EU RoHS 3)

This product does not contain Lead, Cadmium, Mercury, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-Ethylhexyl) phthalate (DEHP), Benzyl butyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP) above the regulated limit mentioned in this regulation

SECTION 16: Other information

Prepared By Product Safety & Regulatory Affairs

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Revision Note No information available.

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend **SECTION 8: Exposure controls/personal protection**

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TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Disclaimer

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End of Safety Data Sheet