



SAFETY DATA SHEET
Permabond MS359 Grey

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

1.1. Product identifier

Product name Permabond MS359 Grey

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Adhesive.

1.3. Details of the supplier of the safety data sheet

Supplier Permabond Engineering Adhesives Ltd.
Wessex Way
Colden Common
Winchester
Hampshire SO21 1WP
United Kingdom
Tel: +44 (0)1962 711 661
Fax: +44 (0)1962 711 662
info.europe@permabond.com

1.4. Emergency telephone number

Emergency telephone UK +44 (0)1962 711 661 USA 0800 640 7599 Asia +86 (0)21 5773 4913

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Elicitation - EUH208

Environmental hazards Not Classified

2.2. Label elements

Hazard statements EUH208 Contains N-(3-(TRIMETHOXYSILYL)PROPYL)ETHYLENEDIAMINE, BIS(1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL)SEBACATE. May produce an allergic reaction.

Precautionary statements P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Supplemental label information RCH002b For professional users only.

2.3. Other hazards

None under normal conditions.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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DI-"ISONONYL" PHTHALATE	10-30%
CAS number: 28553-12-0	EC number: 249-079-5
Classification Not Classified	
TRIMETHOXYVINYL SILANE	1-5%
CAS number: 2768-02-7	EC number: 220-449-8
	REACH registration number: 01-2119513215-52-XXXX
Classification Flam. Liq. 3 - H226 Acute Tox. 4 - H332	
N-(3-(TRIMETHOXYSILYL)PROPYL)ETHYLENEDIAMINE	<1%
CAS number: 1760-24-3	EC number: 217-164-6
	REACH registration number: 01-2119970215-39-XXXX
Classification Eye Dam. 1 - H318 Skin Sens. 1 - H317	
BIS(1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL)SEBACATE	<1%
CAS number: 41556-26-7	EC number: 255-437-1
M factor (Acute) = 1	M factor (Chronic) = 1
Classification Skin Sens. 1 - H317 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move the exposed person to fresh air. Get medical attention if any discomfort continues.
Ingestion	Give a few small glasses of water or milk to drink. Never give anything by mouth to an unconscious person. Get medical attention.
Skin contact	Wash skin thoroughly with soap and water. Remove contaminated clothing. If symptoms develop, obtain medical attention
Eye contact	Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed

Skin contact	Prolonged contact may cause redness, irritation and dry skin.
Eye contact	May cause temporary eye irritation.

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4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor No specific recommendations. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds. Burning produces irritating, toxic and obnoxious fumes.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear self contained breathing apparatus and protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb spillage with sand or other inert absorbent. Transfer to suitable, labelled containers for disposal.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry and cool place.

7.3. Specific end use(s)

Specific end use(s) Adhesive.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

DI-"ISONONYL" PHTHALATE

Long-term exposure limit (8-hour TWA): WEL 5 mg/m³

WEL = Workplace Exposure Limit

8.2. Exposure controls

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Protective equipment



Appropriate engineering controls

No specific ventilation requirements.

Eye/face protection

The following protection should be worn: Chemical splash goggles or face shield. Personal eye protection should conform to EN 166

Hand protection

Nitrile rubber or Viton™ gloves are recommended. Cotton or other absorbent gloves should not be worn. Gloves should conform to EN 374. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

Other skin and body protection

Uniforms, coveralls, or a lab coat should be worn

Hygiene measures

Wash at the end of each work shift and before eating, smoking and using the toilet. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke. Use of good industrial hygiene practices is required.

Respiratory protection

Not normally required.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Paste.
Colour	Grey.
Odour	Characteristic.
Odour threshold	Not available.
pH	Not determined.
Melting point	Not determined.
Initial boiling point and range	Not determined.
Flash point	>100°C
Evaporation rate	Not determined.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	1.5
Partition coefficient	Not determined.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not determined.
Viscosity	Not determined. Thixotropic
Explosive properties	Not applicable.
Oxidising properties	Not applicable.

9.2. Other information

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Other information Not relevant.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Strong acids. Strong alkalis. Strong oxidising agents. Strong reducing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects The toxicological properties of this product have not been fully evaluated. Avoid direct contact with skin or eyes. Do not ingest or inhale.

Aspiration hazard

Aspiration hazard Not applicable.

Inhalation

Unlikely to be hazardous by inhalation because of the low vapour pressure of the product at ambient temperature.

Ingestion

No harmful effects expected from quantities likely to be ingested by accident.

Skin contact

Prolonged and frequent contact may cause redness and irritation.

Eye contact

May cause temporary eye irritation.

Toxicological information on ingredients.

DI-"ISONONYL" PHTHALATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 10,000.0

Species Rat

ATE oral (mg/kg) 10,000.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 3,160.0

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Species	Rabbit
ATE dermal (mg/kg)	3,160.0
<u>Skin corrosion/irritation</u>	
Animal data	Slightly irritating.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Not irritating.
<u>Skin sensitisation</u>	
Skin sensitisation	Not sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Chromosome aberration: Negative.
<u>Carcinogenicity</u>	
Carcinogenicity	NOAEL 88.3 mg/kg/day, Oral, Rat
<u>Reproductive toxicity</u>	
Reproductive toxicity - development	Teratogenicity: - NOAEL: 1000 mg/kg/day, Oral, Rat

N-(3-(TRIMETHOXYSILYL)PROPYL)ETHYLENEDIAMINE

<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	2,295.0
Species	Rat
ATE oral (mg/kg)	2,295.0
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	2,000.1
Species	Rabbit
ATE dermal (mg/kg)	2,000.1
<u>Skin corrosion/irritation</u>	
Animal data	Not classified.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Risk of serious damage to eyes.
<u>Skin sensitisation</u>	
Skin sensitisation	Sensitising.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Screening - NOAEL >=500 mg/kg/day, Oral, Rat P, F1

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Ecotoxicity Not regarded as dangerous for the environment.

12.1. Toxicity

Toxicity No data available.

Ecological information on ingredients.

DI-"ISONONYL" PHTHALATE

Acute toxicity - fish	LC ₅₀ , 96 hours: >102 mg/l, Brachydanio rerio (Zebra Fish)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 24 hours: >74 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: >80 mg/l, Desmodesmus subspicatus
Acute toxicity - microorganisms	EC ₅₀ , 30 minutes: >83.9 mg/l, Activated sludge
Chronic toxicity - fish early life stage	NOEC, 284 days: >= 18.5 <=24.5 µg/g feed, Oryzias latipes (Red killifish)

N-(3-(TRIMETHOXYSILYL)PROPYL)ETHYLENEDIAMINE

Acute toxicity - fish	LC ₅₀ , 96 hours: 597 mg/l, Brachydanio rerio (Zebra Fish)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 81 mg/l, Daphnia magna
Acute toxicity - aquatic plants	NOEC, 72 hours: 20 mg/l, Scenedesmus subspicatus
Acute toxicity - microorganisms	EC ₅₀ , 16 hours: 67 mg/l, Pseudomonas putida
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: >=1 ppm, Daphnia magna

BIS(1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL)SEBACATE

<u>Acute aquatic toxicity</u>	
LE(C)₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1
<u>Chronic aquatic toxicity</u>	
M factor (Chronic)	1

12.2. Persistence and degradability

Persistence and degradability No data available.

Ecological information on ingredients.

DI-"ISONONYL" PHTHALATE

Stability (hydrolysis) pH7 - Half-life : 3.43 years @ 25°C

12.3. Bioaccumulative potential

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Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not determined.

12.4. Mobility in soil

Mobility The product is insoluble in water.

Ecological information on ingredients.

DI-"ISONONYL" PHTHALATE

Henry's law constant 41.4 Pa m³/mol @ 25°C

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste disposal should be in accordance with existing Community, National and local regulations Empty containers may contain product residue; follow SDS and label warnings even after they have been emptied.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General The product is not classified as dangerous for carriage.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Not relevant.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not relevant.

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SECTION 15: Regulatory information

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

National regulations	The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).
EU legislation	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
Guidance	Workplace Exposure Limits EH40. CHIP for everyone HSG228. Approved Classification and Labelling Guide (Sixth edition) L131. Safety Data Sheets for Substances and Preparations.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision date	28/07/2017
Revision	4
Supersedes date	10/09/2015
Hazard statements in full	EUH208 Contains N-(3-(TRIMETHOXYSILYL)PROPYL)ETHYLENEDIAMINE, BIS(1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL)SEBACATE. May produce an allergic reaction. H226 Flammable liquid and vapour. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H332 Harmful if inhaled. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.