



Safety Data Sheet

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Transportation version number:			

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

PERMADYNE LOW/DUENN KIT

Product identification numbers

70-2011-0638-5

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

1.3. Details of the supplier of the substance or mixture

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.

E Mail: tox.uk@mmm.com

Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet for each of these components is included. Please do not separate the component Safety Data Sheets from this cover page. The document numbers of the MSDSs for components of this product are:

16-5629-7, 16-2608-4

TRANSPORTATION INFORMATION

KIT LABEL

2.2. Label elements

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

Symbols None.

Contains:

Consult the component labels for disclosable ingredients.

Risk phrases

Safety phrasesNone.

Revision information:

Revision Changes:

Kit: Component document group number(s) was modified.

Section 1: Product identification numbers was modified.

Copyright was modified.

Section 1: Initial issue message was modified.



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Document group:	16-2608-4	Version number:	8.01
Revision date:	19/01/2012	Supersedes date:	23/12/2010
Transportation version number: 1.00 (02/12/2010)			

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

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

1.1. Product identifier

PERMADYNE CATALYST

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

Identified uses

Dental Product

1.3. Details of the supplier of the substance or mixture

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.

E Mail: tox.uk@mmm.com

Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

This product is not classified as hazardous according to EU Directive 1999/45/EC.

2.2. Label elements

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

Symbols None.

Contains:

No ingredients are assigned to the label.

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Risk phrases None.

Safety phrases None.

This product is exempt from labelling per Directive 1999/45/EC as it is defined as a medical device according to Directive 93/42/EEC and is invasive or comes into contact with the human body.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Tributyl o-acetylcitrate	77-90-7	EINECS 201-067-0	30 - 40	Aquatic Chronic 2, H411 (Self Classified)
Sulphonium salt	Trade Secret		25 - 35	
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	68909-20-6	EINECS 272-697-1	10 - 20	
Polyethylene-polypropylene glycol	9003-11-6		5 - 10	
Kieselguhr, soda ash flux-calcined	68855-54-9	EINECS 272-489-0	5 - 10	

Please see section 16 for the full text of any R phrases and H statements referred to in this section

Please refer to section 15 for the any applicable Notas that have been applied to the above components

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

SECTION 4: First aid measures

4.1. Description of first aid measures

Eye contact

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

Skin contact

Wash with soap and water. If signs/symptoms develop, get medical attention.

Inhalation

Remove person to fresh air. If you feel unwell, get medical attention.

If swallowed

Rinse mouth. If you feel unwell, get medical attention.

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

See Section 11.1 Information on toxicological effects

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam.

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5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Irritant vapours or gases.

Condition

During combustion.

5.3. Advice for fire-fighters

No unusual fire or explosion hazards are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Clean up residue with detergent and water. Place in a closed container approved for transportation by appropriate authorities. Seal the container.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store in a well-ventilated place. Keep container tightly closed.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Silica, amorphous	68855-54-9	Health and Safety Comm. (UK)	TWA(as inhalable dust):6 mg/m ³ ;TWA(as respirable dust):2.4 mg/m ³	

Health and Safety Comm. (UK) : UK Health and Safety Commission

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

ppm: parts per million

mg/m³: milligrams per cubic metre

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CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

8.2.2. Personal protective equipment (PPE)

Eye/face protection

The following eye protection(s) are recommended: Safety glasses with side shields.

Skin/hand protection

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Paste
Appearance/Odour	Different coloured pastes, slight characteristic odour
pH	<i>No data available.</i>
Boiling point/boiling range	<i>Not applicable.</i>
Melting point	<i>No data available.</i>
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	<i>Not applicable.</i>
Autoignition temperature	<i>No data available.</i>
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Vapour pressure	<i>Not applicable.</i>
Relative density	1.1 - 1.4 [<i>Ref Std:WATER=1</i>]
Water solubility	Nil
Partition coefficient: n-octanol/water	<i>No data available.</i>
Evaporation rate	<i>Not applicable.</i>
Vapour density	<i>Not applicable.</i>
Viscosity	40 - 150 Pa-s

9.2. Other information

Volatile organic compounds (VOC)	<i>No data available.</i>
Percent volatile	<i>No data available.</i>
VOC less H ₂ O & exempt solvents	<i>No data available.</i>

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is considered to be non reactive under normal use conditions

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

Heat.

10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Eye contact

Moderate eye irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin contact

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Inhalation

Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Ingestion

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause target organ effects after ingestion.

Target Organ Effects:

Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Toxicological Data

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Acute Toxicity

Name	Route	Species	Value	UN GHS Classification
Overall product	Ingestion		No test data available; calculated ATE >5,000 mg/kg	Not classified (32.3% unknown)
Sulphonium salt	Ingestion	Rat	LD50 > 2,000 mg/kg	Category5
Tributyl o-acetylacrylate			No data available	
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg	Not classified
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l	Category5
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	Rat	LD50 > 5,110 mg/kg	Not classified
Kieselguhr, soda ash flux-calcined	Dermal	Rabbit	LD50 > 5,000 mg/kg	Not classified
Kieselguhr, soda ash flux-calcined	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l	Category5
Kieselguhr, soda ash flux-calcined	Ingestion	Rat	LD50 > 5,110 mg/kg	Not classified
Polyethylene-polypropylene glycol	Ingestion	Rat	LD50 5,700 mg/kg	Not classified

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value	UN GHS Classification
Overall product		No test data available; calculated to be mild irritant	Category 3
Sulphonium salt		Mild irritant	Category 3
Tributyl o-acetylacrylate		No data available	
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Rabbit	No significant irritation	Not classified
Kieselguhr, soda ash flux-calcined	Rabbit	No significant irritation	Not classified
Polyethylene-polypropylene glycol		No data available	

Serious Eye Damage/Irritation

Name	Species	Value	UN GHS Classification
Overall product		No test data available; calculated to be moderate irritant	Category 2B
Sulphonium salt		Moderate irritant	Category 2B
Tributyl o-acetylacrylate		No data available	
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Rabbit	No significant irritation	Not classified
Kieselguhr, soda ash flux-calcined	Rabbit	No significant irritation	Not classified
Polyethylene-polypropylene glycol		No data available	

Skin Sensitisation

Name	Species	Value	UN GHS Classification
Overall product		No test data available.	Not classified based on component data
Sulphonium salt		No data available	
Tributyl o-acetylacrylate		No data available	
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Human and animal	Not sensitizing	Not classified

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Kieselguhr, soda ash flux-calcined	Human and animal	Not sensitizing	Not classified
Polyethylene-polypropylene glycol		No data available	

Respiratory Sensitisation

Name	Species	Value	UN GHS Classification
Overall product		No test data available.	Not classified based on component data
Sulphonium salt		No data available	
Tributyl o-acetyl citrate		No data available	
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica		No data available	
Kieselguhr, soda ash flux-calcined		No data available	
Polyethylene-polypropylene glycol		No data available	

Germ Cell Mutagenicity

Name	Route	Value	UN GHS Classification
Overall product		No data available	Overall Germ Cell Mutagenicity classification Not classified
Overall product		No test data available.	
Sulphonium salt	In Vitro	Not mutagenic	Not classified
Tributyl o-acetyl citrate		No data available	
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	In Vitro	Not mutagenic	Not classified
Kieselguhr, soda ash flux-calcined	In Vitro	Not mutagenic	Not classified
Polyethylene-polypropylene glycol		No data available	

Carcinogenicity

Name	Route	Species	Value	UN GHS Classification
Overall product			No test data available.	Not classified based on component data
Sulphonium salt			No data available	
Tributyl o-acetyl citrate			No data available	
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification	Not classified
Kieselguhr, soda ash flux-calcined	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification	Not classified
Polyethylene-polypropylene glycol			No data available	

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test result	Exposure Duration	UN GHS Classification
Overall product		No test data available.				Not classified based on component data
Sulphonium salt		No data available				
Tributyl o-acetyl citrate		No data available				
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-,	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation	

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hydrolysis products with silica						
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation	
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis	
Kieselguhr, soda ash flux-calcined	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation	
Kieselguhr, soda ash flux-calcined	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation	
Kieselguhr, soda ash flux-calcined	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis	
Polyethylene-polypropylene glycol		No data available				

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration	UN GHS Classification
Sulphonium salt	Ingestion	central nervous system depression	May cause drowsiness or dizziness		LOAEL 2,000 mg/kg		Category 3
Tributyl o-acetylcitrate			No data available				
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica			No data available				
Kieselguhr, soda ash flux-calcined			No data available				
Polyethylene-polypropylene glycol			No data available				

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration	UN GHS Classification
Overall product			No test data available.				Not classified based on component data
Sulphonium salt			No data available				
Tributyl o-acetylcitrate			No data available				
Silanamine,	Inhalation	respiratory	All data are	Human	NOAEL	occupational	Not classified

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1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica		system silicosis	negative		Not available	exposure	
Kieselguhr, soda ash flux-calcined	Inhalation	respiratory system silicosis	All data are negative	Human	NOAEL Not available	occupational exposure	Not classified
Polyethylene-polypropylene glycol			No data available				

Aspiration Hazard

Name	Value	UN GHS Classification
Overall product	No test data available.	Not classified based on component and/or viscosity data
Sulphonium salt	Not an aspiration hazard	Not classified
Tributyl o-acetylacrylate	Not an aspiration hazard	Not classified
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Not an aspiration hazard	Not classified
Kieselguhr, soda ash flux-calcined	Not an aspiration hazard	Not classified
Polyethylene-polypropylene glycol	Not an aspiration hazard	Not classified

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity**Acute aquatic hazard:**

Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

No component test data available.

12.2. Persistence and degradability

No test data available.

12.3 : Bioaccumulative potential

No test data available.

12.4. Mobility in soil

Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

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No information available at this time, contact manufacturer for more details

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations

Incinerate uncured product in a permitted waste incineration facility. Dispose of completely cured (or polymerised) material in a permitted industrial waste facility. Proper destruction may require the use of additional fuel during incineration processes.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

180106* Chemicals consisting of or containing dangerous substances.

SECTION 14: Transportation information

ADR: Not restricted for transport.

IMDG: Not restricted for transport.

IATA: Not restricted for transport.

SECTION 15: Regulatory information

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

Global inventory status

Contact 3M for more information. The components of this product are in compliance with the new substance notification requirements of CEPA.

15.2. Chemical Safety Assessment

Not applicable

SECTION 16: Other information

List of relevant H statements

H411 Toxic to aquatic life with long lasting effects.

Revision information:

Revision Changes:

Remark (phrase) was modified.

Sections 3 and 9: Odor, color, grade information was modified.

Section 9: pH information was modified.

Supersedes date text was modified.

Section 16: UK disclaimer was modified.

Section 9: Evaporation Rate information was modified.

Section 9: Viscosity information was modified.
Section 3: Composition/ Information of ingredients table was modified.
Section 9: n-octanol/water coefficient information was modified.
Section 9: Boiling point information was modified.
Section 9: Relative density information was modified.
Section 9: Solubility in water text was modified.
Section 12: Contact manufacturer for more detail. was modified.
Section 13: EU waste code (product as sold) information was modified.
Section 14: Transportation classification was modified.
Section 1: Address was modified.
Copyright was modified.
Section 9: Flash point information was modified.
Section 9: Melting point information was modified.
Section 9: Flammable limits (LEL) information was modified.
Section 9: Flammable limits (UEL) information was modified.
Section 9: Vapour density value was modified.
Section 9: Vapour pressure value was modified.
Section 9: Property description for optional properties was modified.
Aspiration Hazard Table was modified.
Section 11: Acute Toxicity table was modified.
Carcinogenicity Table was modified.
Serious Eye Damage/Irritation Table was modified.
Germ Cell Mutagenicity Table was modified.
Skin Sensitisation Table was modified.
Respiratory Sensitisation Table was modified.
Reproductive Toxicity Table was modified.
Skin Corrosion/Irritation Table was modified.
Target Organs - Repeated Table was modified.
Target Organs - Single Table was modified.
Section 11: Health Effects - Skin information was modified.
Section 11: Health Effects - Ingestion information was modified.
Section 12: No PBT/vPvB information available warning was modified.
Section 5: Hazardous combustion products table was modified.
Section 6: Accidental release personal information was modified.
Section 6: Accidental release clean-up information was modified.
Section 7: Precautions safe handling information was modified.
Section 7: Conditions safe storage was modified.
Section 10: Hazardous decomposition or by-products table was modified.
Section 10.1: Reactivity information was modified.
Section 13: Standard Phrase Category Waste GHS was modified.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. was modified.
Company logo was added.
Section 8: OEL table agency column heading was added.
Section 8: OEL table limit type column heading was added.
OEL Ceiling Heading was added.
Section 8: Occupational exposure limit table was added.
Section 8: OEL table Ingredient column heading was added.
Section 8: OEL table Additional Comments column heading was added.
OEL Reg Agency Desc was added.
Section 8: TWA key was added.
Section 8: STEL key was added.
Section 8: mg/m³ key was added.
Section 8: ppm key was added.
Telephone header was added.
Section 8: OEL table CAS No Column heading was added.

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Company Telephone was added.

Risk phrase - None was added.

Section 9: Autoignition temperature information was added.

Company Logo was deleted.

Section 3: Ingredient phrase was deleted.

Section 8: Occupational exposure limit table was deleted.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M United Kingdom MSDSs are available at www.3M.com/uk



Safety Data Sheet

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Transportation version number:	1.00 (15/12/2010)		

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

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

1.1. Product identifier

PERMADYNE LOW, PERMADYNE DUENN, PERMADYNE PENTA L BASE

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

Identified uses

Dental Product

1.3. Details of the supplier of the substance or mixture

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.

E Mail: tox.uk@mmm.com

Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

This product is not classified as hazardous according to EU Directive 1999/45/EC.

2.2. Label elements

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

Symbols None.

Contains:

No ingredients are assigned to the label.

PERMADYNE LOW, PERMADYNE DUENN, PERMADYNE PENTA L BASE

Risk phrases None.

Safety phrases None.

Special provisions concerning the labelling of certain substances

Contains 1-Dodecylimidazole May produce an allergic reaction.

This product is exempt from labelling per Directive 1999/45/EC as it is defined as a medical device according to Directive 93/42/EEC and is invasive or comes into contact with the human body.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Polyether	110531-92-5		70 - 80	
Benzene, methylbis(phenylmethyl)-	26898-17-9	EINECS 248-097-0	10 - 20	R53 (Vendor) Aquatic Chronic 4, H413 (Self Classified)
Glycerides, C14-18	67701-27-3	EINECS 266-945-8	1 - 10	
Kieselguhr, soda ash flux-calcined	68855-54-9	EINECS 272-489-0	1 - 10	
Barium zinc sulphate sulphide	1345-05-7	EINECS 215-715-5	1 - 5	
1-Dodecylimidazole	4303-67-7	EINECS 224-314-4	< 1	Xn:R22; R43 (Self Classified) Acute Tox. 4, H302; Skin Sens. 1, H317 (Self Classified)

Please see section 16 for the full text of any R phrases and H statements referred to in this section

Please refer to section 15 for the any applicable Notas that have been applied to the above components

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

SECTION 4: First aid measures**4.1. Description of first aid measures****Eye contact**

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

Skin contact

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Inhalation

Remove person to fresh air. If you feel unwell, get medical attention.

If swallowed

Rinse mouth. If you feel unwell, get medical attention.

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

PERMADYNE LOW, PERMADYNE DUENN, PERMADYNE PENTA L BASE

See Section 11.1 Information on toxicological effects

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.

5.3. Advice for fire-fighters

No unusual fire or explosion hazards are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Dispose of collected material as soon as possible.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid breathing dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Barium, soluble compounds	1345-05-7	Health and Safety Comm. (UK)	TWA(as Ba):0.5 mg/m ³	
Silica, amorphous	68855-54-9	Health and Safety Comm. (UK)	TWA(as inhalable dust):6 mg/m ³ ;TWA(as respirable dust):2.4 mg/m ³	

Health and Safety Comm. (UK) : UK Health and Safety Commission

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

ppm: parts per million

mg/m³: milligrams per cubic metre

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Not applicable.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

The following eye protection(s) are recommended: Safety glasses with side shields.

Skin/hand protection

None required.

Respiratory protection

Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Paste
Appearance/Odour	Orange coloured, characteristic odour.
pH	<i>Not applicable.</i>
Boiling point/boiling range	<i>Not applicable.</i>
Melting point	<i>No data available.</i>
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	<i>Not applicable.</i>
Autoignition temperature	<i>No data available.</i>
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Vapour pressure	<i>Not applicable.</i>
Relative density	1.0 - 1.2 [<i>Ref Std:WATER=1</i>]
Water solubility	Nil
Partition coefficient: n-octanol/water	<i>No data available.</i>

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Evaporation rate	<i>Not applicable.</i>
Vapour density	<i>Not applicable.</i>
Viscosity	40 - 150 Pa-s
Density	<i>No data available.</i>

9.2. Other information

Volatile organic compounds (VOC)	<i>No data available.</i>
Percent volatile	<i>No data available.</i>
VOC less H ₂ O & exempt solvents	<i>No data available.</i>

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is considered to be non reactive under normal use conditions

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Eye contact

Contact with the eyes during product use is not expected to result in significant irritation.

Skin contact

Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

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Inhalation

Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Ingestion

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.

Toxicological Data

Acute Toxicity

Name	Route	Species	Value	UN GHS Classification
Overall product	Ingestion		No test data available; calculated ATE >5,000 mg/kg	Not classified (22.9% unknown)
Polyether	Ingestion	Rat	LD50 > 2,000 mg/kg	Not classified
Benzene, methylbis(phenylmethyl)-Glycerides, C14-18			No data available	
Kieselguhr, soda ash flux-calcined	Dermal	Rabbit	LD50 > 5,000 mg/kg	Not classified
Kieselguhr, soda ash flux-calcined	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l	Category5
Kieselguhr, soda ash flux-calcined	Ingestion	Rat	LD50 > 5,110 mg/kg	Not classified
Barium zinc sulphate sulphide			No data available	
1-Dodecylimidazole	Ingestion	Rat	LD50 641 mg/kg	Category4

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value	UN GHS Classification
Overall product		No test data available; calculated to cause no significant irritation	Not classified
Polyether		No data available	
Benzene, methylbis(phenylmethyl)-Glycerides, C14-18		No data available	
Kieselguhr, soda ash flux-calcined		No significant irritation	Not classified
Barium zinc sulphate sulphide		No data available	
1-Dodecylimidazole		Mild irritant	Category 3

Serious Eye Damage/Irritation

Name	Species	Value	UN GHS Classification
Overall product		No test data available; calculated to cause no significant irritation	Not classified
Polyether		No data available	
Benzene, methylbis(phenylmethyl)-Glycerides, C14-18		No data available	
Kieselguhr, soda ash flux-calcined		No data available	
Barium zinc sulphate sulphide		No data available	
1-Dodecylimidazole		Moderate irritant	Category 2B

Skin Sensitisation

Name	Species	Value	UN GHS Classification
Overall product		No test data available.	Category 1 based on component data
Polyether		Not sensitizing	Not classified
Benzene, methylbis(phenylmethyl)-Glycerides, C14-18		No data available	
Kieselguhr, soda ash flux-calcined		Not sensitizing	Not classified

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Barium zinc sulphate sulphide		No data available	
1-Dodecylimidazole		Sensitising	Category 1

Respiratory Sensitisation

Name	Species	Value	UN GHS Classification
Overall product		No test data available.	Not classified based on component data
Polyether		No data available	
Benzene, methylbis(phenylmethyl)-Glycerides, C14-18		No data available	
Kieselguhr, soda ash flux-calcined		No data available	
Barium zinc sulphate sulphide		No data available	
1-Dodecylimidazole		No data available	

Germ Cell Mutagenicity

Name	Route	Value	UN GHS Classification
Overall product		No data available	Overall Germ Cell Mutagenicity classification Not classified
Overall product		No test data available.	
Polyether	In Vitro	Not mutagenic	Not classified
Benzene, methylbis(phenylmethyl)-Glycerides, C14-18		No data available	
Kieselguhr, soda ash flux-calcined	In Vitro	Not mutagenic	Not classified
Barium zinc sulphate sulphide		No data available	
1-Dodecylimidazole	In Vitro	Not mutagenic	Not classified

Carcinogenicity

Name	Route	Species	Value	UN GHS Classification
Overall product			No test data available.	Not classified based on component data
Polyether			No data available	
Benzene, methylbis(phenylmethyl)-Glycerides, C14-18			No data available	
Kieselguhr, soda ash flux-calcined	Not specified.		Some positive data exist, but the data are not sufficient for classification	Not classified
Barium zinc sulphate sulphide			No data available	
1-Dodecylimidazole			No data available	

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration	UN GHS Classification
Overall product		No test data available.				Not classified based on component data
Polyether		No data available				
Benzene, methylbis(phenylmethyl)-Glycerides, C14-18		No data available				
Kieselguhr, soda ash flux-calcined	Ingestion	Not toxic to reproduction and/or development		NOAEL 1,350 mg/kg		
Barium zinc sulphate sulphide		No data available				
1-Dodecylimidazole		No data available				

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration	UN GHS Classification
Polyether			No data available				
Benzene, methylbis(phenylmethyl)-			No data available				
Glycerides, C14-18			No data available				
Kieselguhr, soda ash flux-calcined	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		Irritation Positive		Not classified
Barium zinc sulphate sulphide			No data available				
1-Dodecylimidazole			No data available				

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration	UN GHS Classification
Overall product			No test data available.				Not classified based on component data
Polyether			No data available				
Benzene, methylbis(phenylmethyl)-			No data available				
Glycerides, C14-18			No data available				
Kieselguhr, soda ash flux-calcined	Inhalation	respiratory system silicosis	Some positive data exist, but the data are not sufficient for classification		NOEL N/A		Not classified
Barium zinc sulphate sulphide			No data available				
1-Dodecylimidazole			No data available				

Aspiration Hazard

Name	Value	UN GHS Classification
Overall product	No test data available.	Not classified based on component and/or viscosity data
Polyether	Not an aspiration hazard	Not classified
Benzene, methylbis(phenylmethyl)-	Not an aspiration hazard	Not classified
Glycerides, C14-18	Not an aspiration hazard	Not classified
Kieselguhr, soda ash flux-calcined	Not an aspiration hazard	Not classified
Barium zinc sulphate sulphide	Not an aspiration hazard	Not classified
1-Dodecylimidazole	Not an aspiration hazard	Not classified

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:

Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

No component test data available.

12.2. Persistence and degradability

No test data available.

12.3 : Bioaccumulative potential

No test data available.

12.4. Mobility in soil

Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

No information available at this time, contact manufacturer for more details

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, Dispose of waste product in a permitted industrial waste facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

180106* Chemicals consisting of or containing dangerous substances.

SECTION 14: Transportation information

ADR, IATA, IMDG Not restricted for transport.

SECTION 15: Regulatory information

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

Global inventory status

Contact 3M for more information. The components of this product are in compliance with the new substance notification requirements of CEPA.

15.2. Chemical Safety Assessment

Not applicable

SECTION 16: Other information

List of relevant H statements

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H413	May cause long lasting harmful effects to aquatic life.

List of relevant R-phrases

R22	Harmful if swallowed.
R43	May cause sensitisation by skin contact.
R53	May cause long-term adverse effects in the aquatic environment.

Revision information:

Revision Changes:

Remark (phrase) was modified.

Section 9: pH information was modified.

Section 16: UK disclaimer was modified.

Section 9: Evaporation Rate information was modified.

Section 9: Viscosity information was modified.

Section 16: List of relevant R phrase information was modified.

Section 3: Composition/ Information of ingredients table was modified.

Section 9: n-octanol/water coefficient information was modified.

Section 9: Boiling point information was modified.

Section 9: Relative density information was modified.

Section 9: Solubility in water text was modified.

Section 8: Respiratory protection information was deleted.

Section 8: Skin/hand protection information was added.

Section 13: EU waste code (product as sold) information was modified.

Section 12: Acute aquatic hazard information was modified.

Section 12: Chronic aquatic hazard information was modified.

Section 16: Regulations – Inventories – EU ONLY was modified.

Copyright was modified.

Section 9: Flash point information was modified.

Section 9: Melting point information was modified.

Section 9: Flammable limits (LEL) information was modified.
Section 9: Flammable limits (UEL) information was modified.
Section 9: Vapour density value was modified.
Section 9: Vapour pressure value was modified.
Section 9: Density information was modified.
Section 9: Property description for optional properties was modified.
Section 8: Occupational exposure limit table was modified.
Section 8: mg/m³ key was modified.
Aspiration Hazard Table was modified.
Section 11: Acute Toxicity table was modified.
Carcinogenicity Table was modified.
Serious Eye Damage/Irritation Table was modified.
Germ Cell Mutagenicity Table was modified.
Skin Sensitisation Table was modified.
Respiratory Sensitisation Table was modified.
Reproductive Toxicity Table was modified.
Skin Corrosion/Irritation Table was modified.
Target Organs - Repeated Table was modified.
Target Organs - Single Table was modified.
Section 5: Hazardous combustion products table was modified.
Section 6: Accidental release personal information was modified.
Section 6: Accidental release clean-up information was modified.
Section 7: Precautions safe handling information was modified.
Section 7: Conditions safe storage was modified.
Section 8: Appropriate Engineering controls information was added.
Section 8: Personal Protection - Skin/hand information was deleted.
Section 8: Personal Protection - Respiratory Information was added.
Section 10: Hazardous decomposition or by-products table was modified.
Section 10.1: Reactivity information was modified.
Section 13: Standard Phrase Category Waste GHS was modified.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. was modified.
Section 9: Autoignition temperature information was added.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M United Kingdom MSDSs are available at www.3M.com/uk