



Safety Data Sheet

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Document group:	18-1013-4	Version number:	3.00
Issue Date:	09/12/2020	Supersedes date:	28/08/2017

This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances (Safety Data Sheets) Notice 2017.

IDENTIFICATION:

1.1. Product identifier

3M™ RelyX™ Temp NE NP (56660)

Product Identification Numbers

70-2011-3591-3

1.2. Recommended use and restrictions on use

Recommended use

Dental Product, Temporary dental luting material.

Restrictions on use

For use by dental professionals only.

1.3. Supplier's details

Address: 3M New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland
Telephone: (09) 477 4040
E Mail: innovation@nz.mmm.com
Website: 3m.co.nz

1.4. Emergency telephone number

24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

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 SDSs for components of this product are:

18-0582-9, 18-0590-2

One or more components of this KIT is classified as a hazardous substance in accordance with the relevant criteria of the HSNO Act 1996, the Hazardous Substances (Classification) Notice 2017 and the Hazardous Substances (Minimum Degrees of Hazard) Notice 2017.

TRANSPORT INFORMATION

The Dangerous Goods Classification for the complete Kit is provided below.

UN No.: UN3077

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (Zinc oxide)

Class/Division: 9

Packing Group: III

Marine Pollutant: Zinc oxide

Hazchem Code: 2Z

IERG: 47

Land Transport Rule: Dangerous Goods - Road/Rail Transport

Special Instructions: Not restricted, environmentally hazardous substance exception.

International Air Transport Association (IATA)- Air Transport

Special Instructions: Not restricted, as per Special Provision A197, environmentally hazardous substance exception.

International Maritime Dangerous Goods Code (IMDG) - Marine Transport

Special Instructions: FORBIDDEN BY THIS MODE OF TRANSPORT, 3M DIVISION POLICY

Revision information:

Complete document review.

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Safety Data Sheet

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Document group: 18-0590-2 **Version number:** 3.00
Issue Date: 09/11/2020 **Supersedes date:** 28/08/2017

This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances (Safety Data Sheets) Notice 2017.

SECTION 1: Identification

1.1. Product identifier

3M™ RELYX™ Temp NE NP Catalyst Paste

1.2. Recommended use and restrictions on use

Recommended use

Dental Material, Temporary luting material

Restrictions on use

For use by dental professionals only.

1.3. Supplier's details

Address: 3M New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland
Telephone: (09) 477 4040
E Mail: innovation@nz.mmm.com
Website: 3m.co.nz

1.4. Emergency telephone number

24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

SECTION 2: Hazard identification

Classified as hazardous in accordance with the relevant criteria of the HSNO Act 1996, the Hazardous Substances (Classification) Notice 2017 and Hazardous Substances (Minimum Degrees of Hazard) Notice 2017. Refer to Section 14 of this Safety Data Sheet for product Dangerous Goods Classification.

2.1. Classification of the substance or mixture

GHS	HSNO
Serious Eye Damage/Irritation: Category 2	6.4A Irritating to the eye
Skin Sensitiser: Category 1	6.5B Skin sensitiser
Acute Aquatic Toxicity: Category 3	9.1D Aquatic toxicity (acute)
No GHS Equivalent	9.4C Terrestrial invertebrate toxicity

2.2. Label elements

SIGNAL WORD

WARNING!

Symbols:

Exclamation mark |

Pictograms



HAZARD STATEMENTS:

H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.

H402 Harmful to aquatic life.
H443 Harmful to terrestrial invertebrates.

PRECAUTIONARY STATEMENTS

Prevention:

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280A Wear eye/face protection.
P280E Wear protective gloves.
P273 Avoid release to the environment.
P264B Wash exposed skin thoroughly after handling.
P272A Contaminated work clothing must not be allowed out of the workplace.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P321 Specific treatment (see Notes to Physician on this label).

Disposal:

P501 Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	% by Weight
Rosin, Reaction Products with Acrylic Acid	83137-13-7	60 - 70
Nonanoic Acid	112-05-0	30 - 40
Silane Treated Silica	68909-20-6	1 - 5

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Remove person to fresh air. If you feel unwell, 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.

Eye contact

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

A product risk assessment is recommended to determine if eye wash facilities may be required when using this product in the workplace.

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. Suitable extinguishing media

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

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>
Formaldehyde	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.

5.3. Special protective actions for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

5.4. Hazchem code: Not applicable.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. 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. Seal the container. Dispose of collected material as soon as possible in accordance with

applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

Refer to Section 15 - Controls for more information

7.1. Precautions for safe handling

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. Avoid release to the environment. Wash contaminated clothing before reuse. Do not get in eyes. A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

7.3. Certified handler

Not required

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No occupational exposure limit values exist for any of the components listed in Section 3 of this Safety Data Sheet.

8.2. Exposure controls

8.2.1. Engineering controls

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Safety glasses with side shields.

Refer AS/NZS 1336 - Recommended practices for occupational eye protection and for performance specifications AS/NZS 1337, Parts 1 - 6 - Personal eye-protection.

Skin/hand protection

See Section 7.1 for additional information on skin protection.

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
Colour	Transparent Yellow

3M™ RELYX™ Temp NE NP Catalyst Paste

Odour	Slight Odour, Aromatic Odour
Odour threshold	<i>No data available.</i>
pH	<i>Not applicable.</i>
Melting point/Freezing point	<i>Not applicable.</i>
Boiling point/Initial boiling point/Boiling range	<i>No data available.</i>
Flash point	No flash point
Evaporation rate	<i>Not applicable.</i>
Flammability (solid, gas)	Not classified
Flammable Limits(LEL)	<i>No data available.</i>
Flammable Limits(UEL)	<i>No data available.</i>
Vapour pressure	<i>No data available.</i>
Vapor Density and/or Relative Vapor Density	<i>No data available.</i>
Relative density	> 1 [Ref Std: WATER=1]
Water solubility	Nil
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>Not applicable.</i>
Autoignition temperature	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity/Kinematic Viscosity	> 10,000 mPa-s
Volatile organic compounds (VOC)	<i>No data available.</i>
Percent volatile	<i>No data available.</i>
VOC less H2O & exempt solvents	<i>No data available.</i>
Molecular weight	<i>No data available.</i>

Nanoparticles

This material contains nanoparticles.

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**Substance****Condition**

None known.

Refer to Section 5.2 for hazardous decomposition products during combustion.

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:

Inhalation

This product may have a characteristic odour; however, no adverse health effects are anticipated.

Skin contact

Contact with the skin during product use is not expected to result in significant irritation. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye contact

Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion

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

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Rosin, Reaction Products with Acrylic Acid	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Rosin, Reaction Products with Acrylic Acid	Ingestion	Rat	LD50 > 2,000 mg/kg
Nonanoic Acid	Dermal	Rat	LD50 > 2,000 mg/kg
Nonanoic Acid	Ingestion	Rat	LD50 > 2,000 mg/kg
Silane Treated Silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Silane Treated Silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Silane Treated Silica	Ingestion	Rat	LD50 > 5,110 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	Rabbit	Minimal irritation
Rosin, Reaction Products with Acrylic Acid	Professional judgement	Irritant
Nonanoic Acid	Rabbit	Irritant
Silane Treated Silica	Rabbit	No significant irritation

3M™ RELYX™ Temp NE NP Catalyst Paste**Serious Eye Damage/Irritation**

Name	Species	Value
Rosin, Reaction Products with Acrylic Acid	In vitro data	No significant irritation
Nonanoic Acid	similar health hazards	Corrosive
Silane Treated Silica	Rabbit	No significant irritation

Sensitisation:**Skin Sensitisation**

Name	Species	Value
Rosin, Reaction Products with Acrylic Acid	In vitro data	Sensitising
Nonanoic Acid	Mouse	Not classified
Silane Treated Silica	Human and animal	Not classified

Respiratory Sensitisation

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Rosin, Reaction Products with Acrylic Acid	In Vitro	Not mutagenic
Silane Treated Silica	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Silane Treated Silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification

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

Name	Route	Value	Species	Test result	Exposure Duration
Silane Treated Silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Silane Treated Silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Silane Treated Silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

For the component/components, either no data are currently available or the data are not sufficient for classification.

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Silane Treated Silica	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

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**Ecotoxic to the aquatic environment.**

Acute Aquatic Toxicity: Category 3 (HSNO 9.1D Aquatic toxicity)

Ecotoxic to terrestrial invertebrates

9.4C Terrestrial invertebrate toxicity

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Rosin, Reaction Products with Acrylic Acid	83137-13-7	Green Algae	Experimental	72 hours	Effect Level 50%	>100 mg/l
Rosin, Reaction Products with Acrylic Acid	83137-13-7	Water flea	Experimental	48 hours	Effect Level 50%	>100 mg/l
Rosin, Reaction Products with Acrylic Acid	83137-13-7	Green Algae	Experimental	72 hours	Effect Concentration 10%	>100 mg/l
Nonanoic Acid	112-05-0	Green Algae	Estimated	72 hours	EC50	60 mg/l
Nonanoic Acid	112-05-0	Fathead minnow	Experimental	96 hours	LC50	104 mg/l
Nonanoic Acid	112-05-0	Water flea	Experimental	48 hours	EC50	96 mg/l
Nonanoic Acid	112-05-0	Green Algae	Estimated	72 hours	NOEC	29 mg/l
Nonanoic Acid	112-05-0	Water flea	Estimated	21 days	NOEC	18 mg/l
Silane Treated Silica	68909-20-6	Algae	Estimated	72 hours	EC50	>100 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Rosin, Reaction Products with Acrylic Acid	83137-13-7	Experimental Biodegradation	28 days	BOD	17- 33 % BOD/ThBOD	OECD 301F - Manometric respirometry
Nonanoic Acid	112-05-0	Experimental Biodegradation	28 days	CO2 evolution	68 % weight	OECD 301B - Modified sturm or CO2

3M™ RELYX™ Temp NE NP Catalyst Paste

Silane Treated Silica	68909-20-6	Data not available - insufficient			N/A	
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12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Rosin, Reaction Products with Acrylic Acid	83137-13-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Nonanoic Acid	112-05-0	Experimental Bioconcentration		Log Kow	3.4	Other methods
Silane Treated Silica	68909-20-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Disposal methods**

In accordance with the Hazardous Substances (Disposal) Notice 2017 and the relevant criteria of the HSNO Act 1996.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste.

Packaging (that may or may not contain any residual substance) may be lawfully disposed of by householders or other consumers through public or commercial waste collection services.

SECTION 14: Transport Information**New Zealand Land Transport Rule: Dangerous Goods - Road/Rail Transport**

UN No.: Not applicable.

Proper Shipping Name: Not applicable.

Class/Division: Not applicable.

Sub Risk: Not applicable.

Packing Group: Not applicable.

Hazchem Code: Not applicable.

IERG: Not applicable.

International Air Transport Association (IATA) - Air Transport

UN No.: Not applicable.

Proper Shipping Name: Not applicable.

Class/Division: Not applicable.

Sub Risk: Not applicable.

3M™ RELYX™ Temp NE NP Catalyst Paste

Packing Group: Not applicable.

International Maritime Dangerous Goods Code (IMDG) - Marine Transport

UN No.: Not applicable.

Proper Shipping Name: Not applicable.

Class/Division: Not applicable.

Sub Risk: Not applicable.

Packing Group: Not applicable.

Marine Pollutant: Not applicable.

SECTION 15: Regulatory information

HSNO Approval number HSR002558
Group standard name Dental Products (Subsidiary Hazard) Group Standard 2017
HSNO Hazard classification Refer to Section 2: Hazard identification

NZ Inventory of Chemicals (NZIoC) Status

All applicable chemical ingredients in this material are in compliance with NZIoC listing requirements.

Controls in accordance with the Health and Safety at Work (Hazardous Substances) Regulations 2017

Certified handler	Not required
Location Compliance Certificate	Not required
Hazardous atmosphere zone	Not required
Fire extinguishers	Not required
Emergency response plan	1,000 L or 1,000 kg (for a HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for a HSNO 6.6A, 6.8A, 6.9A, 8.3A, 9.1D substance)
Secondary containment	1,000 L or 1,000 kg (for a HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for a HSNO 6.6A, 6.8A, 6.9A, 8.3A, 9.1D substance)
Tracking	Not required
Warning signage	10,000 L or 10,000 kg (for a HSNO 6.1D or 9.1D substance)

SECTION 16: Other information**Revision information:**

Complete document review.

Document group:	18-0590-2	Version number:	3.00
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Key to abbreviations and acronyms

GHS means the Globally Harmonised System of Classification and Labelling of Chemicals, 5th revised edition 2013

HSNO means Hazardous Substances and New Organisms Act 1996

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completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M.

3M New Zealand SDS are available at 3M New Zealand Website: <http://solutions.3mnz.co.nz>

3M™ RELYX™ Temp NE NP Base Paste

WARNING!

Symbols:

Environment |

Pictograms



HAZARD STATEMENTS:

H410 Very toxic to aquatic life with long lasting effects.
H433 Harmful to terrestrial vertebrates.

PRECAUTIONARY STATEMENTS

Prevention:

P273 Avoid release to the environment.

Disposal:

P501 Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Other hazards

Aspiration classification does not apply due to the viscosity of the product.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	% by Weight
Zinc oxide	1314-13-2	80 - 90
White mineral oil (petroleum)	8042-47-5	5 - 15
Petrolatum	8009-03-8	1 - 5

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

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

Skin contact

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

Eye contact

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, 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. Suitable extinguishing media

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

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. Special protective actions for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

5.4. Hazchem code: 2Z

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. 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. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

Refer to Section 15 - Controls for more information

7.1. Precautions for safe handling

Avoid prolonged or repeated skin contact. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

7.3. Certified handler

Not required

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Zinc oxide	1314-13-2	ACGIH	TWA(respirable fraction):2 mg/m ³ ;STEL(respirable fraction):10 mg/m ³	
Zinc oxide	1314-13-2	New Zealand WES	TWA(respirable fume)(8 hours):3 mg/m ³ ;TWA(as dust)(8 hours):10 mg/m ³ ;STEL(as fume)(15 minutes):10 mg/m ³	
Mineral oils (untreated and mildly treated)	8009-03-8	ACGIH	Limit value not established:	A2: Suspected human carcin., Cntrl all exposr-low as possib
Mineral oils, highly-refined oils	8009-03-8	ACGIH	TWA(inhalable fraction):5 mg/m ³	A4: Not class. as human carcinogin
Paraffin oil	8009-03-8	New Zealand WES	TWA(as mist)(8 hours):5 mg/m ³ ;STEL(as mist)(15 minutes):10 mg/m ³	
Mineral oils, highly-refined oils	8042-47-5	ACGIH	TWA(inhalable fraction):5 mg/m ³	A4: Not class. as human carcinogin
Paraffin oil	8042-47-5	New Zealand WES	TWA(as mist)(8 hours):5 mg/m ³ ;STEL(as mist)(15 minutes):10 mg/m ³	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

New Zealand WES : New Zealand Workplace Exposure Standards.

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

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Safety glasses with side shields.

Refer AS/NZS 1336 - Recommended practices for occupational eye protection and for performance specifications AS/NZS 1337, Parts 1 - 6 - Personal eye-protection.

Skin/hand protection

See Section 7.1 for additional information on skin protection.

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
Colour	White
Odour	Odourless
Odour threshold	<i>No data available.</i>
pH	<i>Not applicable.</i>
Melting point/Freezing point	<i>Not applicable.</i>
Boiling point/Initial boiling point/Boiling range	<i>Not applicable.</i>
Flash point	No flash point
Evaporation rate	<i>Not applicable.</i>
Flammability (solid, gas)	Not classified
Flammable Limits(LEL)	<i>No data available.</i>
Flammable Limits(UEL)	<i>No data available.</i>
Vapour pressure	<i>No data available.</i>
Vapor Density and/or Relative Vapor Density	<i>No data available.</i>
Relative density	> 1 [Ref Std: WATER=1]
Water solubility	Nil
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>Not applicable.</i>
Autoignition temperature	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity/Kinematic Viscosity	<i>No data available.</i>
Volatile organic compounds (VOC)	<i>No data available.</i>
Percent volatile	
VOC less H2O & exempt solvents	<i>No data available.</i>
Molecular weight	<i>No data available.</i>

Nanoparticles

This material does not contain nanoparticles.

SECTION 10: Stability and reactivity**10.1 Reactivity**

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

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

Substance

None known.

Condition

Refer to Section 5.2 for hazardous decomposition products during combustion.

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:

Inhalation

No known health effects.

Skin contact

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

Eye contact

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

Ingestion

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

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Zinc oxide	Dermal		LD50 estimated to be > 5,000 mg/kg
Zinc oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.7 mg/l
Zinc oxide	Ingestion	Rat	LD50 > 5,000 mg/kg
White mineral oil (petroleum)	Dermal	Rabbit	LD50 > 2,000 mg/kg
White mineral oil (petroleum)	Ingestion	Rat	LD50 > 5,000 mg/kg
Petrolatum	Dermal		LD50 estimated to be > 5,000 mg/kg
Petrolatum	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Zinc oxide	Human and animal	No significant irritation
White mineral oil (petroleum)	Rabbit	No significant irritation

3M™ RELYX™ Temp NE NP Base Paste**Serious Eye Damage/Irritation**

Name	Species	Value
Zinc oxide	Rabbit	Mild irritant
White mineral oil (petroleum)	Rabbit	Mild irritant

Sensitisation:**Skin Sensitisation**

Name	Species	Value
Zinc oxide	Guinea pig	Not classified
White mineral oil (petroleum)	Guinea pig	Not classified

Respiratory Sensitisation

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Zinc oxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
Zinc oxide	In vivo	Some positive data exist, but the data are not sufficient for classification
White mineral oil (petroleum)	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
White mineral oil (petroleum)	Dermal	Mouse	Not carcinogenic
White mineral oil (petroleum)	Inhalation	Multiple animal species	Not carcinogenic

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

Name	Route	Value	Species	Test result	Exposure Duration
Zinc oxide	Ingestion	Not classified for reproduction and/or development	Multiple animal species	NOAEL 125 mg/kg/day	pre mating & during gestation
White mineral oil (petroleum)	Ingestion	Not classified for female reproduction	Rat	NOAEL 4,350 mg/kg/day	13 weeks
White mineral oil (petroleum)	Ingestion	Not classified for male reproduction	Rat	NOAEL 4,350 mg/kg/day	13 weeks
White mineral oil (petroleum)	Ingestion	Not classified for development	Rat	NOAEL 4,350 mg/kg/day	during gestation

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

For the component/components, either no data are currently available or the data are not sufficient for classification.

Specific Target Organ Toxicity - repeated exposure

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Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Zinc oxide	Ingestion	nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	10 days
Zinc oxide	Ingestion	endocrine system hematopoietic system kidney and/or bladder	Not classified	Other	NOAEL 500 mg/kg/day	6 months
White mineral oil (petroleum)	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,381 mg/kg/day	90 days
White mineral oil (petroleum)	Ingestion	liver immune system	Not classified	Rat	NOAEL 1,336 mg/kg/day	90 days

Aspiration Hazard

Name	Value
White mineral oil (petroleum)	Aspiration hazard

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**Ecotoxic to the aquatic environment.**

Acute Aquatic Toxicity: Category 1 (HSNO 9.1A Aquatic toxicity)

Chronic Aquatic Toxicity: Category 1 (HSNO 9.1A Aquatic toxicity)

Ecotoxic to terrestrial vertebrates

9.3C Terrestrial vertebrate toxicity

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Zinc oxide	1314-13-2	Green Algae	Estimated	72 hours	EC50	0.052 mg/l
Zinc oxide	1314-13-2	Rainbow trout	Estimated	96 hours	LC50	0.21 mg/l
Zinc oxide	1314-13-2	Water flea	Estimated	48 hours	EC50	0.07 mg/l
Zinc oxide	1314-13-2	Green Algae	Estimated	72 hours	NOEC	0.006 mg/l
Zinc oxide	1314-13-2	Water flea	Estimated	7 days	NOEC	0.02 mg/l
White mineral oil (petroleum)	8042-47-5	Water flea	Estimated	48 hours	Effect Level 50%	>100 mg/l
White mineral oil (petroleum)	8042-47-5	Bluegill	Experimental	96 hours	Lethal Level 50%	>100 mg/l
White mineral oil (petroleum)	8042-47-5	Green algae	Estimated	72 hours	No obs Effect Level	>100 mg/l
White mineral oil (petroleum)	8042-47-5	Water flea	Estimated	21 days	No obs Effect Level	>100 mg/l
Petrolatum	8009-03-8	Fathead minnow	Estimated	96 hours	Lethal Level 50%	>100 mg/l
Petrolatum	8009-03-8	Water flea	Estimated	48 hours	Effect Level	>10,000 mg/l

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					50%	
Petrolatum	8009-03-8	Green Algae	Estimated	72 hours	No obs Effect Level	100 mg/l
Petrolatum	8009-03-8	Water flea	Estimated	21 days	No obs Effect Level	10 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Zinc oxide	1314-13-2	Data not availbl-insufficient			N/A	
White mineral oil (petroleum)	8042-47-5	Experimental Biodegradation	28 days	CO2 evolution	0 % weight	OECD 301B - Modified sturm or CO2
Petrolatum	8009-03-8	Estimated Biodegradation	28 days	BOD	31 %BOD/CO D	OECD 301F - Manometric respirometry

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Zinc oxide	1314-13-2	Experimental BCF-Carp	56 days	Bioaccumulation factor	≤217	OECD 305E - Bioaccumulation flow-through fish test
White mineral oil (petroleum)	8042-47-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Petrolatum	8009-03-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Disposal methods**

In accordance with the Hazardous Substances (Disposal) Notice 2017 and the relevant criteria of the HSNO Act 1996.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste.

Packaging (that may or may not contain any residual substance) may be lawfully disposed of by householders or other consumers through public or commercial waste collection services.

SECTION 14: Transport Information

New Zealand Land Transport Rule: Dangerous Goods - Road/Rail Transport

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UN No.: UN3077

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , (ZINC OXIDE)

Class/Division: 9

Sub Risk: Not applicable.

Packing Group: III

Special Instructions: Not restricted, environmentally hazardous substance exception.

Hazchem Code: 2Z

IERG: 47

International Air Transport Association (IATA) - Air Transport

UN No.: UN3077

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , (ZINC OXIDE)

Class/Division: 9

Sub Risk: Not applicable.

Packing Group: III

Special Instructions: Not restricted, as per Special Provision A197, environmentally hazardous substance exception.

International Maritime Dangerous Goods Code (IMDG) - Marine Transport

UN No.: UN3077

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , (ZINC OXIDE)

Class/Division: 9

Sub Risk: Not applicable.

Packing Group: III

Marine Pollutant: Not applicable.

Special Instructions: FORBIDDEN BY THIS MODE OF TRANSPORT, 3M DIVISION POLICY

SECTION 15: Regulatory information

HSNO Approval number HSR002558

Group standard name Dental Products (Subsidiary Hazard) Group Standard 2017

HSNO Hazard classification Refer to Section 2: Hazard identification

NZ Inventory of Chemicals (NZIoC) Status

All applicable chemical ingredients in this material are in compliance with NZIoC listing requirements.

Controls in accordance with the Health and Safety at Work (Hazardous Substances) Regulations 2017

Certified handler Not required

Location Compliance Certificate Not required

Hazardous atmosphere zone Not required

Fire extinguishers Not required

Emergency response plan 100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for a HSNO 6.6A, 6.8A, 6.9A, 8.3A, 9.1D substance)

Secondary containment 100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for a HSNO 6.6A, 6.8A, 6.9A, 8.3A, 9.1D substance)

Tracking Not required

Warning signage 100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a HSNO 8.3A, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for a HSNO 6.1D or 9.1D substance)

SECTION 16: Other information

Revision information:

Complete document review.

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Key to abbreviations and acronyms

GHS means the Globally Harmonised System of Classification and Labelling of Chemicals, 5th revised edition 2013

HSNO means Hazardous Substances and New Organisms Act 1996

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