Safety Data Sheet

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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™ PALGAT PLUS / PALGAT PLUS QUICK POWDER

Product Identification Numbers
70-2011-0630-2

1.2. Recommended use and restrictions on use

Recommended use
Dental Product, Impression material

For use only by dental professionals.

Restrictions on use
For use only by Dental Professionals

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
Acute Toxicity (oral): Category 5	6.1E Acute toxicity (oral)

Serious Eye Damage/Irritation: Category 1	8.3A Corrosive to eye
Skin Sensitiser: Category 1	6.5B Skin sensitiser
Carcinogenicity: Category 1	6.7A Known/presumed human carcinogen
Specific Target Organ Toxicity (repeated exposure): Category 1	6.9A Toxic to human target organs/systems

2.2. Label elements
SIGNAL WORD
DANGER!

Symbols:
Corrosion | Exclamation mark | Health Hazard |

Pictograms

HAZARD STATEMENTS:

H303	May be harmful if swallowed.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H350	May cause cancer.
H372	Causes damage to organs through prolonged or repeated exposure: respiratory system |

PRECAUTIONARY STATEMENTS

Prevention:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280A	Wear eye/face protection.
P280E	Wear protective gloves.
P270	Do not eat, drink or smoke when using this product.
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.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P310	Immediately call a POISON CENTER or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P321	Specific treatment (see Notes to Physician on this label).
P312	Call a POISON CENTRE or doctor/physician if you feel unwell.
P314	Get medical advice/attention if you feel unwell.

Storage:

P405	Store locked up.

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
Inorganic filler	68855-54-9	60 - 75
Calcium sulphate	7778-18-9	15 - 25
Sodium alginate	9005-38-3	10 - 20
Dipotasium hexafluorotitanate	16919-27-0	< 3
Magnesium oxide	1309-48-4	1 - 3
C.I. Pigment red 214	82643-43-4	0 1

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 for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately 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

Substance	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.

Irritant vapours or gases.	During combustion.

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

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
Avoid prolonged or repeated skin contact. Do not handle until all safety precautions have been read and understood. Do not breathe 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. Do not get in eyes. Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container.

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
Calcium sulphate		ACGIH	TWA(inhalable fraction):10 mg/m3	
Calcium sulphate		New Zealand WES	TWA(8 hours):10 mg/m3	
Inorganic filler		New Zealand	TWA(8 hours):10 mg/m3	

Magnesium oxide	WES ACGIH	TWA(inhalable fraction):10 mg/m3	A4: Not class. as human carcinogin
Magnesium oxide	New Zealand WES	TWA(as fume)(8 hours):10 mg/m3	

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/m^3: 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

Respiratory protection is not required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Fine powder (less than 10 microns).
Appearance/Odour	Pink in colour, minty odour.
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*No data available.*
Boiling point/Initial boiling point/Boiling range	*Not applicable.*
Flash point	*Not applicable.*
Evaporation rate	*Not applicable.*
Flammability (solid, gas)	Not classified
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*Not applicable.*
Vapour density	*Not applicable.*
Density	*No data available.*

Relative density	>=1
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*Not applicable.*
Decomposition temperature	*No data available.*
Viscosity	*Not applicable.*
Molecular weight	*No data available.*
Volatile organic compounds (VOC)	*Not applicable.*
Percent volatile	*Not applicable.*
VOC less H2O & exempt solvents	*Not applicable.*

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
None known.

10.5 Incompatible materials
Water

Contact with water causes elastic product formation.

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

Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause additional health effects (see below).

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

Eye contact
Corrosive (eye burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion
May be harmful if swallowed.
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
Silicosis: Signs/symptoms may include breathlessness, weakness, chest pain, persistent cough, increased amounts of sputum, and heart disease.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

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 ATE2,000 - 5,000 mg/kg
Inorganic filler	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Inorganic filler	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.7 mg/l
Inorganic filler	Ingestion	Rat	LD50 > 2,000 mg/kg
Calcium sulphate	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Calcium sulphate	Ingestion	Rat	LD50 > 5,000 mg/kg
Sodium alginate	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Sodium alginate	Ingestion	Rat	LD50 > 5,000 mg/kg
Magnesium oxide	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
Dipotasium hexafluorotitanate	Ingestion	Rat	LD50 186 mg/kg
Magnesium oxide	Ingestion	Rat	LD50 3,870 mg/kg
C.I. PIGMENT RED 214	Dermal	Professional judgeme	LD50 estimated to be > 5,000 mg/kg

		nt	
C.I. PIGMENT RED 214	Ingestion	similar compounds	LD50 estimated to be > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Inorganic filler	In vitro data	No significant irritation
Magnesium oxide	Professional judgement	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Inorganic filler	Rabbit	Mild irritant

Skin Sensitisation

Name	Species	Value
Inorganic filler	Mouse	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
Inorganic filler	In Vitro	Some positive data exist, but the data are not sufficient for classification
Magnesium oxide	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Inorganic filler	Inhalation	Human and animal	Carcinogenic.
Magnesium oxide	Not specified.	Human and animal	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

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

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Magnesium oxide	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure

						Duration
Inorganic filler	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Inorganic filler	Ingestion	hematopoietic system | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 3,738 mg/kg/day	90 days

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

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Inorganic filler			Data not available or insufficient for classification			
Calcium sulphate		Algae or other aquatic plants	Experimental	96 hours	EC50	3,200 mg/l
Calcium sulphate		Bluegill	Experimental	96 hours	LC50	>2,980 mg/l
Calcium sulphate		Water flea	Experimental	48 hours	LC50	>1,970 mg/l
Calcium sulphate		Water flea	Estimated	21 days	NOEC	1,270 mg/l
Sodium alginate			Data not available or insufficient for classification			
Dipotasium hexafluorotitanate	16919-27-0	Green Algae	Experimental	72 hours	EC50	10.8 mg/l
Dipotasium hexafluorotitanate	16919-27-0	Water flea	Experimental	48 hours	EC50	48.2 mg/l
Dipotasium hexafluorotitanate	16919-27-0	Zebra Fish	Experimental	96 hours	LC50	172.4 mg/l
Dipotasium hexafluorotitanate	16919-27-0	Rainbow trout	Estimated	21 days	NOEC	8.4 mg/l
Dipotasium	16919-27-0	Water flea	Estimated	21 days	NOEC	18.7 mg/l

hexafluorotitanate						
Dipotasium hexafluorotitanate	16919-27-0	Green Algae	Experimental	72 hours	Effect Concentration 10%	1.3 mg/l
Magnesium oxide			Data not available or insufficient for classification			
C.I. PIGMENT RED 214	82643-43-4	Green algae	Estimated	72 hours	EC50	>100 mg/l
C.I. PIGMENT RED 214	82643-43-4	Zebra Fish	Estimated	96 hours	EC50	>100 mg/l
C.I. PIGMENT RED 214	82643-43-4	Water flea	Experimental	48 hours	EC50	>100 mg/l
C.I. PIGMENT RED 214	82643-43-4	Green algae	Estimated	72 hours	Effect Concentration 10%	>100 mg/l
C.I. PIGMENT RED 214	82643-43-4	Water flea	Estimated	21 days	NOEC	>100 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Inorganic filler		Data not availbl-insufficient			N/A	
Calcium sulphate		Data not availbl-insufficient			N/A	
Sodium alginate		Data not availbl-insufficient			N/A	
Dipotasium hexafluorotitanate	16919-27-0	Data not availbl-insufficient			N/A	
Magnesium oxide		Data not availbl-insufficient			N/A	
C.I. PIGMENT RED 214	82643-43-4	Estimated Biodegradation	28 days	BOD	0.46 % weight	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Inorganic filler		Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Calcium sulphate		Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Sodium		Data not	N/A	N/A	N/A	N/A

alginate		available or insufficient for classification				
Dipotasium hexafluorotitanate	16919-27-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Magnesium oxide		Data not available or insufficient for classification	N/A	N/A	N/A	N/A
C.I. PIGMENT RED 214	82643-43-4	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 waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility.

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.
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	HSR002560
Group standard name	Dental Products (Toxic [6.7]) 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 all other substances)
Secondary containment	100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for all other substances)
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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