



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the SS586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods.

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Issue Date:	25/03/2024	Supersedes date:	19/06/2018

IDENTIFICATION

1.1. Product identifier

3M™ Pecan Protein Rapid Kit

1.2. Recommended use and restrictions on use

Recommended use

Screening for the presence of allergens in the food and beverage industry.

1.3. Supplier's details

Address:	3M Technologies (S) Pte Ltd, 10 Ang Mo Kio Street 65, Singapore 569059
Telephone:	+65 6450 8888
Website:	www.3m.com.sg

1.4. Emergency telephone number

Company Emergency Hotline: +65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

This product is a kit or a multipart product which consists of multiple, independently packaged components. An SDS for each of these components is included. Please do not separate the component SDSs from this cover page. The document numbers of the SDSs for components of this product are:

38-5690-3

TRANSPORT INFORMATION

International Regulations

UN No.: Not restricted for transport.

UN Proper shipping name: Not restricted for transport.

Transportation Class (IMO): None assigned

Transportation Class (IATA): None assigned

Other Dangerous Goods Descriptions (IMO): None assigned

Other Dangerous Goods Descriptions (IATA): None assigned

Packing Group: None assigned

Marine pollutant: No

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 Singapore SDSs are available at www.3m.com.sg



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Document group:	38-5690-3	Version number:	2.00
Issue Date:	27/08/2024	Supersedes date:	18/06/2024

SECTION 1: Identification

1.1. Product identifier

3M Extraction Buffer

1.2. Recommended use and restrictions on use

Recommended use

For screening the presence of allergen proteins in the Food and Beverage industry, Industrial use.

1.3. Supplier's details

Address: 3M Technologies (S) Pte Ltd, 10 Ang Mo Kio Street 65, Singapore 569059
Telephone: +65 6450 8888
Website: www.3m.com.sg

1.4. Emergency telephone number

+65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Serious Eye Damage/Irritation: Category 2.

2.2. Label elements

SIGNAL WORD

WARNING!

Symbols

Exclamation mark |

Pictograms



HAZARD STATEMENTS

H319

Causes serious eye irritation.

PRECAUTIONARY STATEMENTS**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.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Water	7732-18-5	50 - 99
GLYCEROL	56-81-5	0 - 15
Urea	57-13-6	0 - 15
Gelatins	9000-70-8	0 - 2
Sodium chloride	7647-14-5	0 - 2

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

No need for first aid is anticipated. If signs/symptoms persist, get medical attention.

Eye contact

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

No critical symptoms or effects. 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.

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.

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

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with water. 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

7.1. Precautions for safe handling

Avoid eye contact. Avoid breathing dust/fume/gas/mist/vapours/spray. 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

No special storage requirements.

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
GLYCEROL	56-81-5	Singapore PELs	TWA(as mist)(8 hours):10 mg/m ³	
Urea	57-13-6	AIHA	TWA(as total particulates):10 mg/m ³	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

Singapore PELs : Singapore, Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

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:

Indirect vented goggles.

Skin/hand protection

No chemical protective gloves are required.

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

Organic vapor cartridges may have short service life.

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Color	Clear Colorless, Light Yellow
Odor	Very Slight Alcohol
Odour threshold	No data available.
pH	No data available.
Melting point/Freezing point	No data available.
Boiling point/Initial boiling point/Boiling range	No data available.
Flash point	Flash point > 93 °C (200 °F) [Test Method: Closed Cup]
Evaporation rate	No data available.
Flammability	Not applicable.
Flammable Limits(LEL)	No data available.
Flammable Limits(UEL)	No data available.
Vapour pressure	No data available.
Vapor Density and/or Relative Vapor Density	No data available.
Density	No data available.
Relative density	1.04 [Ref Std: WATER=1]
Water solubility	Soluble
Solubility- non-water	Complete
Partition coefficient: n-octanol/water	No data available.
Autoignition temperature	No data available.
Decomposition temperature	No data available.
Kinematic Viscosity	No data available.
Volatile organic compounds (VOC)	Not applicable.
Percent volatile	No data available.
VOC less H ₂ O & exempt solvents	Not applicable.
Molecular weight	Not applicable.

Particle Characteristics	Not applicable.
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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**Substance****Condition**

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:

Inhalation

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

Skin contact

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

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	Ingestion		No data available; calculated ATE >5,000 mg/kg
GLYCEROL	Dermal	Rabbit	LD50 estimated to be > 5,000 mg/kg

3M Extraction Buffer

GLYCEROL	Ingestion	Rat	LD50 > 5,000 mg/kg
Urea	Dermal		LD50 estimated to be > 5,000 mg/kg
Urea	Ingestion	Rat	LD50 14,300 mg/kg
Gelatins	Ingestion	similar compounds	LD50 > 2,500 mg/kg
Gelatins	Dermal	similar health hazards	LD50 estimated to be > 5,000 mg/kg
Sodium chloride	Dermal	Rabbit	LD50 > 10,000 mg/kg
Sodium chloride	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 10.5 mg/l
Sodium chloride	Ingestion	Rat	LD50 3,550 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
GLYCEROL	Rabbit	No significant irritation
Urea	Rabbit	No significant irritation
Gelatins	similar compounds	No significant irritation
Sodium chloride	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
GLYCEROL	Rabbit	No significant irritation
Urea	Rabbit	Moderate irritant
Gelatins	similar compounds	Mild irritant
Sodium chloride	Rabbit	Mild irritant

Sensitization:**Skin Sensitisation**

Name	Species	Value
GLYCEROL	Guinea pig	Not classified
Gelatins	similar compounds	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
Urea	In Vitro	Some positive data exist, but the data are not sufficient for classification
Urea	In vivo	Some positive data exist, but the data are not sufficient for classification
Gelatins	In Vitro	Not mutagenic
Sodium chloride	In Vitro	Some positive data exist, but the data are not sufficient for classification
Sodium chloride	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
GLYCEROL	Ingestion	Mouse	Some positive data exist, but the data are not sufficient for classification
Urea	Ingestion	Multiple animal species	Not carcinogenic
Sodium chloride	Ingestion	Rat	Not carcinogenic

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

Name	Route	Value	Species	Test result	Exposure Duration
GLYCEROL	Ingestion	Not classified for female reproduction	Rat	NOAEL 2,000 mg/kg/day	2 generation
GLYCEROL	Ingestion	Not classified for male reproduction	Rat	NOAEL 2,000 mg/kg/day	2 generation
GLYCEROL	Ingestion	Not classified for development	Rat	NOAEL 2,000 mg/kg/day	2 generation

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

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Urea	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Professional judgement	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
GLYCEROL	Inhalation	respiratory system heart liver kidney and/or bladder	Not classified	Rat	NOAEL 3.91 mg/l	14 days
GLYCEROL	Ingestion	endocrine system hematopoietic system liver kidney and/or bladder	Not classified	Rat	NOAEL 10,000 mg/kg/day	2 years
Urea	Dermal	heart endocrine system hematopoietic system liver immune system nervous system kidney and/or bladder	Not classified	Rat	NOAEL Not available	25 weeks
Urea	Ingestion	liver endocrine system kidney and/or bladder	Not classified	Rat	NOAEL 2,700 mg/kg/day	28 days
Gelatins	Ingestion	bone, teeth, nails, and/or hair	Not classified	Human	NOAEL Not available	4 months
Sodium chloride	Ingestion	blood kidney and/or bladder vascular system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,240 mg/kg/day	9 months
Sodium chloride	Ingestion	nervous system eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	90 days

3M Extraction Buffer

Sodium chloride	Ingestion	liver respiratory system	Not classified	Rat	NOAEL 33 mg/kg/day	90 days
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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**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.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
GLYCEROL	56-81-5	Bacteria	Experimental	16 hours	NOEC	10,000 mg/l
GLYCEROL	56-81-5	Rainbow trout	Experimental	96 hours	LC50	54,000 mg/l
GLYCEROL	56-81-5	Water flea	Experimental	48 hours	LC50	1,955 mg/l
Urea	57-13-6	Fish	Experimental	96 hours	LC50	139.4 mg/l
Urea	57-13-6	Green algae	Experimental	72 hours	ErC50	24,541.9 mg/l
Urea	57-13-6	Water flea	Experimental	48 hours	EC50	6,600 mg/l
Urea	57-13-6	Green algae	Experimental	72 hours	ErC10	6,895.8 mg/l
Urea	57-13-6	Water flea	Experimental	21 days	NOEC	140.7 mg/l
Urea	57-13-6	Bacteria	Experimental	16 hours	NOEC	10,000 mg/l
Urea	57-13-6	Domestic Chicken	Experimental	21 days	LC50	150,000 ppm diet
Urea	57-13-6	Redworm	Experimental	14 days	LC50	>2,000 mg/kg (Dry Weight)
Urea	57-13-6	Redworm	Experimental	60 days	EC10	160 mg/kg (Dry Weight)
Urea	57-13-6	Soil microbes	Experimental	24 days	NOEC	2,358 mg/kg (Dry Weight)
Urea	57-13-6	Sugar beet	Experimental	49 days	NOEC	675 mg/kg (Dry Weight)
Gelatins	9000-70-8	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Sodium chloride	7647-14-5	Activated sludge	Experimental	N/A	NOEC	8,000 mg/l
Sodium chloride	7647-14-5	Algae or other aquatic plants	Experimental	96 hours	EC50	2,430 mg/l
Sodium chloride	7647-14-5	Bluegill	Experimental	96 hours	LC50	5,840 mg/l
Sodium chloride	7647-14-5	Water flea	Experimental	48 hours	LC50	874 mg/l
Sodium chloride	7647-14-5	Fathead minnow	Experimental	33 days	NOEC	252 mg/l
Sodium chloride	7647-14-5	Water flea	Experimental	21 days	NOEC	314 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol

3M Extraction Buffer

GLYCEROL	56-81-5	Experimental Biodegradation	14 days	BOD	63 %BOD/ThOD	OECD 301C - MITI test (I)
Urea	57-13-6	Analogous Compound Biodegradation	21 days	Dissolv. Organic Carbon Deplet	90-100 %removal of DOC	OECD 301A - DOC Die Away Test
Urea	57-13-6	Experimental Aquatic Inherent Biodegrad.	16 days	Dissolv. Organic Carbon Deplet	96 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
Gelatins	9000-70-8	Data not available-insufficient	N/A	N/A	N/A	N/A
Sodium chloride	7647-14-5	Data not available-insufficient	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
GLYCEROL	56-81-5	Experimental Bioconcentration		Log Kow	-1.76	
Urea	57-13-6	Experimental Bioconcentration		Log Kow	-1.73	EC A.8 Partition Coefficient
Gelatins	9000-70-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Sodium chloride	7647-14-5	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**

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

Prior to disposal, consult all applicable authorities and regulations to insure proper classification. Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Empty and clean product containers may be disposed as non-hazardous waste. Consult your specific regulations and service providers to determine available options and requirements.

SECTION 14: Transport Information**International Regulations**

UN No.: Not restricted for transport.

UN Proper shipping name: Not restricted for transport.

Transportation Class (IMO): None assigned

Transportation Class (IATA): None assigned

Other Dangerous Goods Descriptions (IMO): None assigned

Other Dangerous Goods Descriptions (IATA): None assigned

Packing Group: None assigned

Marine pollutant: No

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.

This product may contain component(s) that are regulated by the following:

Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations: this product is subject to SDS, labelling, PEL and other requirements in the Act/Regulations.

SECTION 16: Other information

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.

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