Safety Data Sheet

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

Document group:	38-9043-1	**Version number:**	1.01
Issue Date:	21/06/2018	**Supersedes date:**	20/06/2018

IDENTIFICATION

1.1. Product identifier
3M™ Sesame Protein ELISA 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 6888 (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:

38-6733-0, 38-6740-5, 38-6173-9, 38-6085-5, 38-5884-2, 38-6302-4, 38-9652-9

TRANSPORT INFORMATION

International Regulations

UN No.: None assigned
UN Proper shipping name: None assigned
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: None assigned

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

Safety Data Sheet

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

Document group:	38-9652-9	**Version number:**	1.01
Issue Date:	25/07/2018	**Supersedes date:**	20/06/2018

SECTION 1: Identification

1.1. Product identifier
3M™ Sesame HRP Conjugate (10X)

1.2. Recommended use and restrictions on use

Recommended use
For allergen detection in an enyzme linked immunosorent assay

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 6888 (8.15am - 5.00pm, Monday - Friday)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Skin Sensitizer: Category 1A.

2.2. Label elements
SIGNAL WORD
WARNING!

Symbols
Exclamation mark |

Pictograms

HAZARD STATEMENTS

H317 May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS
Prevention:
P280E Wear protective gloves.

Response:
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

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

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	87 - 99
Non-hazardous ingredients	Mixture	1 - 13
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	55965-84-9	0.003 0.03
Thiomersal	54-64-8	< 0.001 \Typically 0.000005)

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
No need for first aid is anticipated.

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

Material will not burn.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

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

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. 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 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. Avoid release to the environment. Wash contaminated clothing before reuse.

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
MERCURY, ALKYL COMPOUNDS	54-64-8	ACGIH	TWA(as Hg):0.01 mg/m3;STEL(as Hg):0.03 mg/m3	SKIN
MERCURY, ALKYL COMPOUNDS	54-64-8	Singapore PELs	TWA(8 hours):0.01 mg/m3;STEL(15 minutes):0.03 mg/m3	

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
No engineering controls required.

8.2.2. Personal protective equipment (PPE)

Eye/face protection
None required.

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an Apron - polymer laminate

Respiratory protection
None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Appearance/Odour	green liquid
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 (solid, gas)	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*No data available.*
Vapour density	*No data available.*
Density	*No data available.*
Relative density	1 [*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.*
Viscosity	*No data available.*
Molecular weight	*Not applicable.*
Percent volatile	*No data available.*

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
Not determined

10.5 Incompatible materials
Not determined

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
No known health effects.

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

Ingestion
No known health effects.

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

Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Dermal	Rabbit	LD50 87 mg/kg
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.33 mg/l
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Ingestion	Rat	LD50 40 mg/kg
Thiomersal	Dermal		LD50 estimated to be 0 - 50 mg/kg
Thiomersal	Inhalation-Dust/Mist		LC50 estimated to be 0.05 - 0.5 mg/l
Thiomersal	Ingestion		LD50 estimated to be 5 - 50 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Human and animal	Sensitising

Photosensitisation

Name	Species	Value
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Human and animal	Not sensitizing

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
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	In vivo	Not mutagenic
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Dermal	Mouse	Not carcinogenic
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure

					Duration
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Ingestion	Not classified for female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Ingestion	Not classified for male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Ingestion	Not classified for development	Rat	NOAEL 15 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure
For the component/components, either no data are currently available or the data are not sufficient for classification.

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
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	55965-84-9	Diatom	Experimental	72 hours	EC50	0.021 mg/l
Mixture of 5-	55965-84-9	Water flea	Experimental	48 hours	EC50	0.18 mg/l

chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one						
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	55965-84-9	Diatom	Experimental	72 hours	NOEC	0.01 mg/l
Thiomersal	54-64-8		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	55965-84-9	Data not available-insufficient			N/A	
Thiomersal	54-64-8	Data not available-insufficient			N/A	

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	55965-84-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Thiomersal	54-64-8	Estimated Bioconcentration		Log Kow	-1.88	Other methods

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.

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.

SECTION 14: Transport Information

International Regulations

UN No.: None assigned
UN Proper shipping name: None assigned
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: None assigned

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.

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.

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

Safety Data Sheet

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

Document group:	38-6173-9	**Version number:**	3.00
Issue Date:	30/08/2024	**Supersedes date:**	20/03/2024

SECTION 1: Identification

1.1. Product identifier
3M™ Wash Solution (20X)

1.2. Recommended use and restrictions on use

Recommended use
For allergen detection in an enyzme linked immunosorent assay, Professional

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
Skin Sensitizer: Category 1.

2.2. Label elements
SIGNAL WORD
WARNING!

Symbols
Exclamation mark |

Pictograms

HAZARD STATEMENTS

H317 May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS
Prevention:
P280E Wear protective gloves.

Response:
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

2.3. Other hazards
None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Non-hazardous Ingredients	Mixture	80 - 85
Sodium Chloride	7647-14-5	10 - 15
Dipotassium hydrogenorthophosphate	7758-11-4	1 - 2
Sorbitan monolaurate, ethoxylated	9005-64-5	0.5 - 1.25
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	0.001 - 0.03

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
If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, 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

Allergic skin reaction (redness, swelling, blistering, and itching).

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Material will not burn.

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 detergent and water. 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 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. Avoid release to the environment. Wash contaminated clothing before reuse.

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
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
No engineering controls required.

8.2.2. Personal protective equipment (PPE)

Eye/face protection
None required.

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions.

Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an
Apron - polymer laminate

Respiratory protection
None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Color	Green
Odor	Odorless
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 [*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.*
Percent volatile	*No data available.*
Molecular weight	*Not applicable.*

Particle Characteristics	*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
Not determined

10.5 Incompatible materials
Not determined

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
No known health effects.

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

Ingestion
No known health effects.

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
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
Dipotassium hydrogenorthophosphate	Ingestion	Rat	LD50 > 2,000 mg/kg
Dipotassium hydrogenorthophosphate	Dermal	similar compounds	LD50 > 2,000 mg/kg
Sorbitan monolaurate, ethoxylated	Ingestion	Hamster	LD50 18,000 mg/kg
Sorbitan monolaurate, ethoxylated	Dermal	Professional judgeme	LD50 estimated to be > 5,000 mg/kg

		nt	
Sorbitan monolaurate, ethoxylated	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.1 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Dermal	Rabbit	LD50 87 mg/kg
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.171 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Ingestion	Rat	LD50 40 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Sodium Chloride	Rabbit	No significant irritation
Dipotassium hydrogenorthophosphate	Rabbit	No significant irritation
Sorbitan monolaurate, ethoxylated	Rabbit	Minimal irritation
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Sodium Chloride	Rabbit	Mild irritant
Dipotassium hydrogenorthophosphate	Rabbit	Mild irritant
Sorbitan monolaurate, ethoxylated	Rabbit	No significant irritation
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Rabbit	Corrosive

Sensitization:

Skin Sensitisation

Name	Species	Value
Dipotassium hydrogenorthophosphate	similar compounds	Not classified
Sorbitan monolaurate, ethoxylated	Guinea pig	Not classified
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Human and animal	Sensitising

Photosensitisation

Name	Species	Value
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Human and animal	Not sensitizing

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
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

Dipotassium hydrogenorthophosphate	In Vitro	Not mutagenic
Sorbitan monolaurate, ethoxylated	In Vitro	Not mutagenic
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	In vivo	Not mutagenic
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Sodium Chloride	Ingestion	Rat	Not carcinogenic
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Dermal	Mouse	Not carcinogenic
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Dipotassium hydrogenorthophosphate	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Dipotassium hydrogenorthophosphate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	28 days
Dipotassium hydrogenorthophosphate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Sorbitan monolaurate, ethoxylated	Ingestion	Not classified for development	Rat	NOAEL 500 mg/kg/day	during organogenesis
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Ingestion	Not classified for female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Ingestion	Not classified for male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Ingestion	Not classified for development	Rat	NOAEL 15 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
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
Sodium Chloride	Ingestion	liver | respiratory system	Not classified	Rat	NOAEL 33 mg/kg/day	90 days
Dipotassium hydrogenorthophosphate	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for	similar compoun	NOAEL 322.88	90 days

			classification	ds	mg/kg/day	
Sorbitan monolaurate, ethoxylated	Ingestion	heart | endocrine system | gastrointestinal tract | hematopoietic system | liver | muscles | nervous system | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 2,000 mg/kg/day	2 years

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
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
Dipotassium hydrogenorthophosphate	7758-11-4	Green algae	Estimated	72 hours	EC50	>100 mg/l
Dipotassium hydrogenorthophosphate	7758-11-4	Rainbow trout	Estimated	96 hours	LC50	>100 mg/l
Dipotassium hydrogenorthophosphate	7758-11-4	Water flea	Estimated	48 hours	EC50	>100 mg/l
Dipotassium hydrogenorthophosphate	7758-11-4	Activated sludge	Experimental	3 hours	NOEC	1,000 mg/l
Dipotassium hydrogenorthophosphate	7758-11-4	Green algae	Estimated	72 hours	NOEC	100 mg/l
Sorbitan monolaurate, ethoxylated	9005-64-5	Green algae	Estimated	72 hours	EL50	58.84 mg/l

Sorbitan monolaurate, ethoxylated	9005-64-5	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Sorbitan monolaurate, ethoxylated	9005-64-5	Green algae	Estimated	72 hours	EC10	19.05 mg/l
Sorbitan monolaurate, ethoxylated	9005-64-5	Water flea	Experimental	21 days	NOEL	10 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Activated sludge	Experimental	3 hours	NOEC	0.91 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Bacteria	Experimental	16 hours	EC50	5.7 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Copepod	Experimental	48 hours	EC50	0.007 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Diatom	Experimental	72 hours	ErC50	0.0199 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Green algae	Experimental	72 hours	ErC50	0.027 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Rainbow trout	Experimental	96 hours	LC50	0.19 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Sheepshead Minnow	Experimental	96 hours	LC50	0.3 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Water flea	Experimental	48 hours	EC50	0.099 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Diatom	Experimental	48 hours	NOEC	0.00049 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Fathead minnow	Experimental	36 days	NOEL	0.02 mg/l

Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Green algae	Experimental	72 hours	NOEC	0.004 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Water flea	Experimental	21 days	NOEC	0.004 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Sodium Chloride	7647-14-5	Data not available-insufficient	N/A	N/A	N/A	N/A
Dipotassium hydrogenorthophosphate	7758-11-4	Data not available-insufficient	N/A	N/A	N/A	N/A
Sorbitan monolaurate, ethoxylated	9005-64-5	Experimental Biodegradation	28 days	BOD	62.5 %BOD/ThOD	OECD 301F - Manometric respirometry
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Analogous Compound Biodegradation	29 days	CO2 evolution	62 %CO2 evolution/THCO2 evolution (does not pass 10-day window)	OECD 301B - Modified sturm or CO2
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	> 60 days (t 1/2)	

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Sodium Chloride	7647-14-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Dipotassium hydrogenorthophosphate	7758-11-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Sorbitan monolaurate, ethoxylated	9005-64-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	54	OECD305-Bioconcentration
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Analogous Compound Bioconcentration		Log Kow	0.4	

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.

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.

SECTION 14: Transport Information

International Regulations

UN No.: None assigned
UN Proper shipping name: None assigned

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: None assigned

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.

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

Safety Data Sheet

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

Document group:	38-5884-2	**Version number:**	2.00
Issue Date:	20/03/2024	**Supersedes date:**	26/08/2022

SECTION 1: Identification

1.1. Product identifier
3M Diluent (5X)

1.2. Recommended use and restrictions on use

Recommended use
For allergen detection in an enyzme linked immunosorbent assay, Professional

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
Skin Sensitizer: Category 1A.

2.2. Label elements
SIGNAL WORD
WARNING!

Symbols
Exclamation mark |

Pictograms

HAZARD STATEMENTS

H317 May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS
Prevention:
P280E Wear protective gloves.

Response:
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

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	80 - 90
Sodium chloride	7647-14-5	1 - 5
BSA	9048-46-8	1 - 5
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	0.001 - 0.01

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
If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, 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

Allergic skin reaction (redness, swelling, blistering, and itching).

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Material will not burn.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

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

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. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

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 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. Avoid release to the environment. Wash contaminated clothing before reuse.

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
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
No engineering controls required.

8.2.2. Personal protective equipment (PPE)

Eye/face protection
None required.

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective

clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an
Apron - polymer laminate

Respiratory protection
None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Color	Green
Odor	Odourless
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 (solid, gas)	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 [*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.*
Viscosity/Kinematic Viscosity	*No data available.*
Volatile organic compounds (VOC)	*No data available.*
Percent volatile	*No data available.*
VOC less H2O & exempt solvents	*No data available.*
Molecular weight	*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
Not determined

10.5 Incompatible materials
Not determined

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
No known health effects.

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

Ingestion
No known health effects.

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
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
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Dermal	Rabbit	LD50 87 mg/kg
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.171 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Ingestion	Rat	LD50 40 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Sodium chloride	Rabbit	No significant irritation
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Sodium chloride	Rabbit	Mild irritant
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Rabbit	Corrosive

Sensitization:

Skin Sensitisation

Name	Species	Value
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Human and animal	Sensitising

Photosensitisation

Name	Species	Value
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Human and animal	Not sensitizing

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
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
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	In vivo	Not mutagenic
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Sodium chloride	Ingestion	Rat	Not carcinogenic
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Dermal	Mouse	Not carcinogenic
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Ingestion	Not classified for female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
Reaction mass of: 5-chloro-2-methyl-4-	Ingestion	Not classified for male reproduction	Rat	NOAEL 10	2 generation

isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)				mg/kg/day	
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Ingestion	Not classified for development	Rat	NOAEL 15 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
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
Sodium chloride	Ingestion	liver | respiratory system	Not classified	Rat	NOAEL 33 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

Acute aquatic hazard:
GHS Acute 3: Harmful to aquatic life.

Chronic aquatic hazard:
GHS Chronic 3: Harmful to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
BSA	9048-46-8	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
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Activated sludge	Experimental	3 hours	NOEC	0.91 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Bacteria	Experimental	16 hours	EC50	5.7 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Copepod	Experimental	48 hours	EC50	0.007 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Diatom	Experimental	72 hours	ErC50	0.0199 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Green algae	Experimental	72 hours	ErC50	0.027 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Rainbow trout	Experimental	96 hours	LC50	0.19 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Sheepshead Minnow	Experimental	96 hours	LC50	0.3 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Water flea	Experimental	48 hours	EC50	0.099 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Diatom	Experimental	48 hours	NOEC	0.00049 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Fathead minnow	Experimental	36 days	NOEL	0.02 mg/l
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Green algae	Experimental	72 hours	NOEC	0.004 mg/l

Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Water flea	Experimental	21 days	NOEC	0.004 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
BSA	9048-46-8	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
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Analogous Compound Biodegradation	29 days	CO2 evolution	62 %CO2 evolution/THCO2 evolution (does not pass 10-day window)	OECD 301B - Modified sturm or CO2
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	> 60 days (t 1/2)	

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
BSA	9048-46-8	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
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	54	OECD305-Bioconcentration
Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)	55965-84-9	Analogous Compound Bioconcentration		Log Kow	0.4	

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.

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.

SECTION 14: Transport Information

International Regulations

UN No.: None assigned
UN Proper shipping name: None assigned

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: None assigned

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.

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

Safety Data Sheet

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

Document group:	38-6085-5	**Version number:**	3.00
Issue Date:	30/08/2024	**Supersedes date:**	20/03/2024

SECTION 1: Identification

1.1. Product identifier
3M Stop Solution

1.2. Recommended use and restrictions on use

Recommended use
For allergen detection in an enyzme linked immunosorbent assay, Professional

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	< 98
Sulfuric Acid	7664-93-9	< 3

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

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

Material will not burn.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

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
STRONG INORGANIC ACID MISTS CONTAINING SULFURIC ACID	7664-93-9	ACGIH	Limit value not established:	A2: Suspected human carcin.
Sulfuric Acid	7664-93-9	ACGIH	TWA(thoracic fraction):0.2 mg/m3	
Sulfuric Acid	7664-93-9	Singapore PELs	TWA(8 hours):1 mg/m3;STEL(15 minutes):3 mg/m3	

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
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl rubber.
Fluoroelastomer
Polyethylene

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

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	Green
Odor	Very Slight Sulfuric acid
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)
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 [*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.*
Percent volatile	*No data available.*
Molecular weight	*Not applicable.*

Particle Characteristics	*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
Not determined

10.5 Incompatible materials
Not determined

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

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
Sulfuric Acid	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.375 mg/l
Sulfuric Acid	Ingestion	Rat	LD50 2,140 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Sulfuric Acid	Professional judgement	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Sulfuric Acid	Rabbit	Corrosive

Sensitization:

Skin Sensitisation

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

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
Sulfuric Acid	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Sulfuric Acid	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Sulfuric Acid	Inhalation	Human	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
Sulfuric Acid	Inhalation	Not classified for development	Rat	NOAEL 19.3 mg/m³	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Sulfuric Acid	Inhalation	respiratory irritation	May cause respiratory irritation	Rat	NOAEL Not available.	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Sulfuric Acid	Inhalation	respiratory system	Not classified	Rat	NOAEL 5.52 mg/m3	28 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

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
Sulfuric Acid	7664-93-9	Green algae	Experimental	72 hours	EC50	>100 mg/l
Sulfuric Acid	7664-93-9	Water flea	Experimental	48 hours	EC50	>100 mg/l
Sulfuric Acid	7664-93-9	Green algae	Experimental	72 hours	NOEC	100 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Sulfuric Acid	7664-93-9	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
Sulfuric Acid	7664-93-9	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. 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.: None assigned
UN Proper shipping name: None assigned

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: None assigned

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.
Environmental Protection and Management (Hazardous Substances) Regulations: This product is subject to the requirements in the 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.

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

Safety Data Sheet

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

Document group:	38-6302-4	**Version number:**	3.00
Issue Date:	30/08/2024	**Supersedes date:**	20/03/2024

SECTION 1: Identification

1.1. Product identifier
3M™ Extraction Buffer E26 (4X)

1.2. Recommended use and restrictions on use

Recommended use
For allergen detection in an enyzme linked immunosorent assay, Professional

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
Skin Sensitizer: Category 1.

2.2. Label elements
SIGNAL WORD
WARNING!

Symbols
Exclamation mark |

Pictograms

HAZARD STATEMENTS

H317 May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS
Prevention:
P280E Wear protective gloves.

Response:
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

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	70 - 80
Fish Gelatin	9000-70-8	15 - 25
1-Ethenyl-2-pyrrolidinone homopolymer; Poly(vinylpyrrolidone), Povidone	9003-39-8	1 - 5
Sodium hydrogen carbonate	144-55-8	1 - 5
ProClin 300	55965-84-9	0.001 - 0.01

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
If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, 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. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

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 detergent and 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 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. Avoid release to the environment. Wash contaminated clothing before reuse.

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
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
No engineering controls required.

8.2.2. Personal protective equipment (PPE)

Eye/face protection
None required.

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective

clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an
Apron - polymer laminate

Respiratory protection
None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Color	Green
Odor	Very Faint Fish
Odour threshold	*No data available.*
pH	8.5
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 [*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.*
Percent volatile	*No data available.*
Molecular weight	*Not applicable.*

Particle Characteristics	*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

Not determined

10.5 Incompatible materials
Not determined

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
No known health effects.

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

Ingestion
No known health effects.

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
Fish Gelatin	Ingestion	similar compounds	LD50 > 2,500 mg/kg
Fish Gelatin	Dermal	similar health hazards	LD50 estimated to be > 5,000 mg/kg
1-Ethenyl-2-pyrrolidinone homopolymer; Poly(vinylpyrrolidone), Povidone	Dermal		LD50 estimated to be > 5,000 mg/kg
1-Ethenyl-2-pyrrolidinone homopolymer; Poly(vinylpyrrolidone), Povidone	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.2 mg/l
1-Ethenyl-2-pyrrolidinone homopolymer; Poly(vinylpyrrolidone), Povidone	Ingestion	Rat	LD50 100,000 mg/kg

Sodium hydrogen carbonate	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Sodium hydrogen carbonate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4.211 mg/l
Sodium hydrogen carbonate	Ingestion	Rat	LD50 4,220 mg/kg
ProClin 300	Dermal	Rabbit	LD50 87 mg/kg
ProClin 300	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.171 mg/l
ProClin 300	Ingestion	Rat	LD50 40 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Fish Gelatin	similar compounds	No significant irritation
1-Ethenyl-2-pyrrolidinone homopolymer; Poly(vinylpyrrolidone), Povidone	Rabbit	No significant irritation
ProClin 300	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Fish Gelatin	similar compounds	Mild irritant
ProClin 300	Rabbit	Corrosive

Sensitization:

Skin Sensitisation

Name	Species	Value
Fish Gelatin	similar compounds	Not classified
1-Ethenyl-2-pyrrolidinone homopolymer; Poly(vinylpyrrolidone), Povidone	Human	Not classified
ProClin 300	Human and animal	Sensitising

Photosensitisation

Name	Species	Value
ProClin 300	Human and animal	Not sensitizing

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
Fish Gelatin	In Vitro	Not mutagenic
1-Ethenyl-2-pyrrolidinone homopolymer; Poly(vinylpyrrolidone), Povidone	In Vitro	Not mutagenic
ProClin 300	In vivo	Not mutagenic
ProClin 300	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
1-Ethenyl-2-pyrrolidinone homopolymer; Poly(vinylpyrrolidone), Povidone	Ingestion	Rat	Not carcinogenic
ProClin 300	Dermal	Mouse	Not carcinogenic
ProClin 300	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
1-Ethenyl-2-pyrrolidinone homopolymer; Poly(vinylpyrrolidone), Povidone	Ingestion	Not classified for development	Rat	NOAEL 5,000 mg/kg/day	during gestation
ProClin 300	Ingestion	Not classified for female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
ProClin 300	Ingestion	Not classified for male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
ProClin 300	Ingestion	Not classified for development	Rat	NOAEL 15 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
ProClin 300	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Fish Gelatin	Ingestion	bone, teeth, nails, and/or hair	Not classified	Human	NOAEL Not available	4 months

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:
GHS Acute 3: Harmful to aquatic life.

Chronic aquatic hazard:
GHS Chronic 3: Harmful to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Fish Gelatin	9000-70-8	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
1-Ethenyl-2-pyrrolidinone homopolymer; Poly(vinylpyrrolidone), Povidone	9003-39-8	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Sodium hydrogen carbonate	144-55-8	African clawed frog	Experimental	96 hours	LC50	1,940 mg/l
Sodium hydrogen carbonate	144-55-8	Bluegill	Experimental	96 hours	LC50	7,100 mg/l
Sodium hydrogen carbonate	144-55-8	Water flea	Experimental	48 hours	EC50	4,100 mg/l
Sodium hydrogen carbonate	144-55-8	Water flea	Experimental	21 days	NOEC	>576 mg/l
ProClin 300	55965-84-9	Activated sludge	Experimental	3 hours	NOEC	0.91 mg/l
ProClin 300	55965-84-9	Bacteria	Experimental	16 hours	EC50	5.7 mg/l
ProClin 300	55965-84-9	Copepod	Experimental	48 hours	EC50	0.007 mg/l
ProClin 300	55965-84-9	Diatom	Experimental	72 hours	ErC50	0.0199 mg/l
ProClin 300	55965-84-9	Green algae	Experimental	72 hours	ErC50	0.027 mg/l
ProClin 300	55965-84-9	Rainbow trout	Experimental	96 hours	LC50	0.19 mg/l
ProClin 300	55965-84-9	Sheepshead Minnow	Experimental	96 hours	LC50	0.3 mg/l
ProClin 300	55965-84-9	Water flea	Experimental	48 hours	EC50	0.099 mg/l
ProClin 300	55965-84-9	Diatom	Experimental	48 hours	NOEC	0.00049 mg/l
ProClin 300	55965-84-9	Fathead minnow	Experimental	36 days	NOEL	0.02 mg/l
ProClin 300	55965-84-9	Green algae	Experimental	72 hours	NOEC	0.004 mg/l
ProClin 300	55965-84-9	Water flea	Experimental	21 days	NOEC	0.004 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Fish Gelatin	9000-70-8	Data not available-insufficient	N/A	N/A	N/A	N/A
1-Ethenyl-2-pyrrolidinone homopolymer; Poly(vinylpyrrolidone), Povidone	9003-39-8	Data not available-insufficient	N/A	N/A	N/A	N/A
Sodium hydrogen carbonate	144-55-8	Data not available-insufficient	N/A	N/A	N/A	N/A
ProClin 300	55965-84-9	Analogous Compound Biodegradation	29 days	CO2 evolution	62 %CO2 evolution/THCO2 evolution (does not pass 10-day window)	OECD 301B - Modified sturm or CO2
ProClin 300	55965-84-9	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	> 60 days (t 1/2)	

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Fish Gelatin	9000-70-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

1-Ethenyl-2-pyrrolidinone homopolymer; Poly(vinylpyrrolidone), Povidone	9003-39-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Sodium hydrogen carbonate	144-55-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
ProClin 300	55965-84-9	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	54	OECD305-Bioconcentration
ProClin 300	55965-84-9	Analogous Compound Bioconcentration		Log Kow	0.4	

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.

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, utilize an acceptable permitted waste disposal 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.

SECTION 14: Transport Information

International Regulations

UN No.: None assigned
UN Proper shipping name: None assigned

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: None assigned

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.

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

Safety Data Sheet

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

Document group:	38-6740-5	**Version number:**	3.00
Issue Date:	27/08/2024	**Supersedes date:**	18/06/2024

SECTION 1: Identification

1.1. Product identifier
3M Allergen Protein Standard Concentrate

1.2. Recommended use and restrictions on use

Recommended use
For allergen detection in an enyzme linked immunosorent assay, Professional

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
This product is not classified as hazardous per GHS criteria as implemented by Singapore Standard SS586: 2022.

2.2. Label elements
SIGNAL WORD
Not applicable.

Symbols
Not applicable

Pictograms
Not applicable

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
Buffer	None	0.001 - 49
Albumins	94349-60-7	0.001 - 49
Various Food Protein	None	1 - 18
Sodium Azide	26628-22-8	<= 0.1

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
No need for first aid is anticipated. If symptoms develop, remove the affected person to fresh air. Get medical attention.

Skin contact
If exposed, wash with soap and water. If signs/symptoms develop, get medical attention.

Eye contact
If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, get medical attention.

If swallowed
Do not induce vomiting. 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
Material will not burn.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Ventilate the area with fresh air. Observe precautions from other sections.

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. 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 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
Sodium Azide	26628-22-8	ACGIH	CEIL(as NaN3):0.29 mg/m3;CEIL(as hydrazoic acid vapor):0.11 ppm	A4: Not class. as human carcin
Sodium Azide	26628-22-8	Singapore PELs	STEL(as vapor)(15 minutes):0.11 ppm;STEL(as HN3)(15 minutes):0.29 mg/m3	

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
No engineering controls required.

8.2.2. Personal protective equipment (PPE)

Eye/face protection
None required.

Skin/hand protection
No chemical protective gloves are required.

Respiratory protection
None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Color	Green
Odor	Odorless
Odour threshold	*No data available.*

pH	6 - 8
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 [*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.*
Percent volatile	*No data available.*
Molecular weight	*Not applicable.*

Particle Characteristics	*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
Not determined

10.5 Incompatible materials
Not determined

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
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
No known health effects.

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
Sodium Azide	Dermal	Rabbit	LD50 20 mg/kg
Sodium Azide	Ingestion	Rat	LD50 42 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Sodium Azide	Not available	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Sodium Azide	Not available	Moderate irritant

Sensitization:

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

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
Sodium Azide	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Sodium Azide	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Sodium Azide	Ingestion	Not classified for development	Rat	NOAEL 10 mg/kg/day	during gestation

Lactation

Name	Route	Species	Value
Sodium Azide	Ingestion	Rat	Not classified for effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Sodium Azide	Inhalation	vascular system	Causes damage to organs	Human	NOAEL NA	occupational exposure
Sodium Azide	Ingestion	vascular system	Causes damage to organs	Human	NOAEL NA	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Sodium Azide	Ingestion	vascular system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL NA	2.5 years
Sodium Azide	Ingestion	central nervous system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 5 mg/kg/day	103 weeks
Sodium Azide	Ingestion	liver | respiratory system | heart | skin | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | immune system | muscles | kidney and/or bladder	Not classified	Rat	NOAEL 10 mg/kg/day	103 weeks

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
Albumins	94349-60-7	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Sodium Azide	26628-22-8	Activated sludge	Experimental	3 hours	NOEC	0.03 mg/l
Sodium Azide	26628-22-8	Green algae	Experimental	96 hours	EC50	0.35 mg/l
Sodium Azide	26628-22-8	Rainbow trout	Experimental	96 hours	LC50	2.96 mg/l
Sodium Azide	26628-22-8	Water flea	Experimental	48 hours	EC50	4.2 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Albumins	94349-60-7	Data not available-insufficient	N/A	N/A	N/A	N/A
Sodium Azide	26628-22-8	Experimental Biodegradation	28 days	BOD	1 %BOD/ThOD	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Albumins	94349-60-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Sodium Azide	26628-22-8	Experimental Bioconcentration		Log Kow	<0.3	

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. 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.: None assigned
UN Proper shipping name: None assigned

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: None assigned

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.
Environmental Protection and Management (Hazardous Substances) Regulations: This product is subject to the requirements in the 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.

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

Safety Data Sheet

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

Document group:	38-6733-0	**Version number:**	2.00
Issue Date:	30/08/2024	**Supersedes date:**	23/08/2022

SECTION 1: Identification

1.1. Product identifier
3M™ Chromogenic Substrate Solution

1.2. Recommended use and restrictions on use

Recommended use
For allergen detection in an enyzme linked immunosorent assay, Professional

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
This product is not classified as hazardous per GHS criteria as implemented by Singapore Standard SS586: 2022.

2.2. Label elements
SIGNAL WORD
Not applicable.

Symbols
Not applicable

Pictograms
Not applicable

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	80 - 99
stabilizer	None	1 - 20

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
No need for first aid is anticipated. If symptoms develop, remove the affected person to fresh air. Get medical attention.

Skin contact
If exposed, wash with soap and water. If signs/symptoms develop, get medical attention.

Eye contact
If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, get medical attention.

If swallowed
Do not induce vomiting. 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
Material will not burn.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Ventilate the area with fresh air. Observe precautions from other sections.

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. 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 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
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
No engineering controls required.

8.2.2. Personal protective equipment (PPE)

Eye/face protection
None required.

Skin/hand protection
No chemical protective gloves are required.

Respiratory protection
None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Color	Green
Odor	Odorless
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 [*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.*
Percent volatile	*No data available.*
Molecular weight	*Not applicable.*

Particle Characteristics	*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
Not determined

10.5 Incompatible materials
Not determined

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
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
No known health effects.

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

ATE = acute toxicity estimate

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

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

Sensitization:

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

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

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

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

Specific Target Organ Toxicity - repeated exposure
For the component/components, either no data are currently available or the data are not sufficient for classification.

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.

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 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. 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.: None assigned
UN Proper shipping name: None assigned

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: None assigned

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.

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