



Safety Data Sheet

Copyright, 2019, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilising 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

Document group:	23-1162-9	Version number:	6.00
Revision date:	22/03/2019	Supersedes date:	28/09/2018
Transportation version number:	2.00 (05/03/2016)		

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

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

1.1. Product identifier

3M MLS UHT Dairy Screen Kit (formerly Biotrace(TM) Cogent UHT Dairy Screen Kit, 3000 Tests)

Product Identification Numbers

GH-6205-2253-8

7000034524

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

Identified uses

Microbiological testing

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

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

23-0010-1, 22-9876-8, 22-9955-0, 23-0271-9, 23-0275-0

TRANSPORTATION INFORMATION

GH-6205-2253-8

Not hazardous for transportation

KIT LABEL

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319

Hazardous to the Aquatic Environment (Chronic), Category 3 - Aquatic Chronic 3; H412

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

WARNING.

Symbols:

GHS07 (Exclamation mark) |

Pictograms



HAZARD STATEMENTS:

H319 Causes serious eye irritation.

H412 Harmful to aquatic life with long lasting effects.

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.

Disposal:

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

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

<=125 ml Hazard statements

H412 Harmful to aquatic life with long lasting effects.

No precautionary statements are required for containers <=125 mL.

Revision information:

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

Section 2: <125ml Hazard - Environmental information was added.

Label: CLP <125ml Precautionary - none information was added.



Safety Data Sheet

Copyright, 2015, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilising 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

Document group:	23-0275-0	Version number:	3.00
Revision date:	05/08/2015	Supersedes date:	09/07/2014
Transportation version number:	1.00 (25/07/2011)		

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

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

1.1. Product identifier

3M ATPase - milk

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

Identified uses

Microbiological testing

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

This material is not classified as hazardous according to Regulation (EC) No. 1272/2008, as amended, on classification, labelling, and packaging of substances and mixtures.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

Not applicable

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Albumins, blood serum	9048-46-8	EINECS 232-936-2	45 - 55	
Succinic acid, compound with 2-amino-2-(hydroxymethyl)propane-1,3-diol (1:2)	85169-32-0	EINECS 285-975-2	15 - 25	
Trometamol	77-86-1	EINECS 201-064-4	10 - 20	
Disodium succinate	150-90-3	EINECS 205-778-7	5 - 15	
Non-Hazardous Ingredients	Mixture		1 - 10	
Apyrase	9000-95-7	EINECS 232-569-8	< 1	

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

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

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

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

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

Skin contact

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

Eye contact

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

If swallowed

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

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

See Section 11.1 Information on toxicological effects

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

Not applicable

SECTION 5: Fire-fighting measures**5.1. Extinguishing media**

Material will not burn.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

5.3. Advice 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

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

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

7.3. Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

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

Biological limit values

No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

8.2. Exposure controls

8.2.1. Engineering controls

Use 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:

Safety glasses with side shields.

Skin/hand protection

No chemical protective gloves are required.

Respiratory protection

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

Half facepiece or full facepiece air-purifying respirator suitable for 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	Solid.
Specific Physical Form:	Freeze dried powder.
Appearance/Odour	White odourless
Odour threshold	<i>No data available.</i>
pH	<i>No data available.</i>
Boiling point/boiling range	<i>No data available.</i>
Melting point	<i>No data available.</i>
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	<i>Not applicable.</i>
Autoignition temperature	<i>No data available.</i>
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Vapour pressure	<i>Not applicable.</i>
Relative density	<i>Not applicable.</i>
Water solubility	Complete
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Evaporation rate	<i>Not applicable.</i>
Vapour density	<i>Not applicable.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	<i>No data available.</i>
Density	<i>No data available.</i>

9.2. Other information

Volatile organic compounds (VOC)	<i>No data available.</i>
Percent volatile	<i>No data available.</i>
VOC less H₂O & exempt solvents	<i>No data available.</i>

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

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

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

Heat.

10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products**Substance**

None known.

Condition

Not specified.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

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

Mechanical skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

Eye contact

Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

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

ATE = acute toxicity estimate

Skin Corrosion/Irritation

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

Serious Eye Damage/Irritation

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

Skin Sensitisation

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

3M ATPase - milk

Respiratory Sensitisation

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

Germ Cell Mutagenicity

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

Carcinogenicity

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

Reproductive Toxicity

Reproductive and/or Developmental Effects

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

Target Organ(s)

Specific Target Organ Toxicity - single exposure

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

Specific Target Organ Toxicity - repeated exposure

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

Aspiration Hazard

For the component/components, either no data is currently available or the data is 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 agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Succinic acid, compound with 2-amino-2-(hydroxymethyl)propane-1,3-diol (1:2)	85169-32-0	Green algae	Experimental	72 hours	EC50	200 mg/l
Succinic acid, compound with 2-amino-2-(hydroxymethyl)propane-1,3-diol (1:2)	85169-32-0	Water flea	Experimental	48 hours	EC50	374.2 mg/l
Trometamol	77-86-1	Zebra Fish	Experimental	96 hours	LC50	>10,000 mg/l
Trometamol	77-86-1	Green Algae	Experimental	96 hours	NOEC	100 mg/l

3M ATPase - milk

Albumins, blood serum	9048-46-8		Data not available or insufficient for classification			
Apyrase	9000-95-7		Data not available or insufficient for classification			
Disodium succinate	150-90-3		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Albumins, blood serum	9048-46-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Disodium succinate	150-90-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Non-Hazardous Ingredients	Mixture	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Apyrase	9000-95-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Succinic acid, compound with 2-amino-2-(hydroxymethyl)propane-1,3-diol (1:2)	85169-32-0	Experimental Biodegradation	14 days	BOD	78 % weight	OECD 301C - MITI test (I)
Trometamol	77-86-1	Experimental Biodegradation	28 days	BOD	0 % weight	OECD 301D - Closed bottle test
Succinic acid, compound with 2-amino-2-(hydroxymethyl)propane-1,3-diol (1:2)	85169-32-0	Weight of Evidence Biodegradation	28 days	BOD	<60 % weight	OECD 301D - Closed bottle test

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Apyrase	9000-95-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Non-Hazardous	Mixture	Data not	N/A	N/A	N/A	N/A

3M ATPase - milk

Ingredients		available or insufficient for classification				
Disodium succinate	150-90-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Albumins, blood serum	9048-46-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Succinic acid, compound with 2-amino-2-(hydroxymethyl)propane-1,3-diol (1:2)	85169-32-0	Experimental Bioconcentration		Log Kow	-0.59	Other methods
Trometamol	77-86-1	Experimental Bioconcentration		Log Kow	-2.31	Other methods
Succinic acid, compound with 2-amino-2-(hydroxymethyl)propane-1,3-diol (1:2)	85169-32-0	Weight of Evidence Bioconcentration		Log Kow	-2.31	Other methods

12.4. Mobility in soil

Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

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

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

See Section 11.1 Information on toxicological effects

This product has been classified as a non-hazardous waste. Prior to disposal, consult all applicable authorities and regulations to insure proper classification. Dispose of waste product in a permitted industrial waste facility. If no other disposal options are available, waste product may be placed in a landfill properly designed for industrial waste.

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

EU waste code (product as sold)

160509 Discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
180107 Chemicals other than those mentioned in 18 01 06

SECTION 14: Transportation information

ADR/IMDG/IATA: Not restricted for transport.

SECTION 15: Regulatory information

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

Global inventory status

Contact 3M for more information.

15.2. Chemical Safety Assessment

Not applicable

SECTION 16: Other information

Revision information:

Section 1: Product use information information was modified.

Section 2.1: Classification information information was deleted.

Section 03: Reference to H statement explanation in Section 016 information was added.

Section 3: Reference to R and H statement explanation in Section 16 information was deleted.

Section 3: Reference to section 15 for Nota info information was modified.

Section 9: Property description for optional properties information was modified.

Section 11: Aspiration Hazard text information was added.

Section 11: Carcinogenicity text information was added.

Section 11: Germ Cell Mutagenicity text information was added.

Section 11: Respiratory Sensitization text information was added.

Section 11: Serious Eye Damage/Irritation text information was added.

Section 11: Skin Corrosion/Irritation text information was added.

Section 11: Skin Sensitization text information was added.

Section 11: Specific Target Organ Toxicity - repeated exposure text information was added.

Section 11: Specific Target Organ Toxicity - single exposure text information was added.

Section 12: Persistence and Degradability information information was modified.

Section 12: Biocumulative potential information information was modified.

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

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



Safety Data Sheet

Copyright, 2015, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilising 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

Document group:	22-9876-8	Version number:	3.00
Revision date:	05/08/2015	Supersedes date:	09/07/2014
Transportation version number:	1.00 (22/07/2011)		

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

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

1.1. Product identifier

3M Buffer LL1

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

Identified uses

Microbiological testing

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

This material is not classified as hazardous according to Regulation (EC) No. 1272/2008, as amended, on classification, labelling, and packaging of substances and mixtures.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

Not applicable

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Non hazardous ingredients	Mixture		95 - 100	
Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulphonate	75277-39-3	EINECS 278-169-7	< 5	
1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-Acid	7365-45-9	EINECS 230-907-9	< 5	
Sodium Azide	26628-22-8	EINECS 247-852-1	< 1	EUH032; Acute Tox. 2, H300; Aquatic Acute 1, H400,M=1; Aquatic Chronic 1, H410,M=1 (CLP)

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

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

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

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

No need for first aid is anticipated.

Skin contact

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

Eye contact

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

If swallowed

No need for first aid is anticipated.

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

See Section 11.1 Information on toxicological effects

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

Not applicable

SECTION 5: Fire-fighting measures**5.1. Extinguishing media**

Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

5.3. Advice for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

3M Buffer LL1

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. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial or professional use only. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from oxidising agents.

7.3. Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

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	UK HSC	TWA(as NaN ₃):0.1 mg/m ³ ;STEL(as NaN ₃):0.3 mg/m ³	Skin Notation

UK HSC : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

Biological limit values

No biological 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.
Appearance/Odour	Clear solution
Odour threshold	<i>No data available.</i>
pH	7.7 - 7.8
Boiling point/boiling range	<i>No data available.</i>
Melting point	<i>Not applicable.</i>
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	<i>Not applicable.</i>
Autoignition temperature	<i>No data available.</i>
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Relative density	1 [Ref Std:WATER=1]
Water solubility	Complete
Solubility- non-water	<i>No data available.</i>
Evaporation rate	<i>No data available.</i>
Vapour density	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Density	1 g/ml

9.2. Other information

Volatile organic compounds (VOC)	<i>No data available.</i>
Percent volatile	<i>No data available.</i>
VOC less H2O & exempt solvents	<i>No data available.</i>

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

Heat.

10.5 Incompatible materials

Strong oxidising agents.

10.6 Hazardous decomposition products**Substance**

None known.

Condition

Not specified.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

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
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

Skin Sensitisation

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

3M Buffer LL1**Respiratory Sensitisation**

For the component/components, either no data is currently available or the data is 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	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 10 mg/kg/day	during gestation

Lactation

Name	Route	Species	Value
Sodium Azide	Ingestion	Rat	Does not cause 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	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 10 mg/kg/day	103 weeks
Sodium Azide	Ingestion	heart skin endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system muscles kidney and/or bladder	All data are negative	Rat	NOAEL 10 mg/kg/day	103 weeks

Aspiration Hazard

For the component/components, either no data is currently available or the data is 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 agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Sodium Azide	26628-22-8	Water flea	Experimental	48 hours	EC50	4.2 mg/l
Sodium Azide	26628-22-8	Bluegill	Experimental	96 hours	LC50	0.68 mg/l
Sodium Azide	26628-22-8	Green Algae	Experimental	96 hours	EC50	0.348 mg/l
1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-Acid	7365-45-9		Data not available or insufficient for classification			
Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulfonate	75277-39-3		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulfonate	75277-39-3	Estimated Biodegradation	28 days	BOD	34.8 % weight	OECD 301C - MITI test (I)
1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-Acid	7365-45-9	Estimated Biodegradation	28 days	BOD	34.8 % weight	OECD 301C - MITI test (I)
Sodium Azide	26628-22-8	Experimental Biodegradation	28 days	BOD	1 % weight	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulfonate	75277-39-3	Estimated Bioconcentration		Log Kow	-5.75	Other methods
1-	7365-45-9	Estimated		Log Kow	-5.75	Other methods

3M Buffer LL1

Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-Acid		Bioconcentration				
Sodium Azide	26628-22-8	Experimental Bioconcentration		Log Kow	<0.3	Other methods

12.4. Mobility in soil

Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

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

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

See Section 11.1 Information on toxicological effects

This product has been classified as a non-hazardous waste. 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.

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

EU waste code (product as sold)

160509 Discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
180107 Chemicals other than those mentioned in 18 01 06

SECTION 14: Transportation information

ADR/IMDG/IATA: Not restricted for transport.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Global inventory status**

Contact 3M for more information.

15.2. Chemical Safety Assessment

Not applicable

SECTION 16: Other information

List of relevant H statements

EUH032	Contact with acid liberates very toxic gas.
H300	Fatal if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Revision information:

Section 1: Product use information information was modified.
Section 2.1: Classification information information was deleted.
Section 3: Composition/ Information of ingredients table information was modified.
Section 03: Reference to H statement explanation in Section 016 information was added.
Section 3: Reference to R and H statement explanation in Section 16 information was deleted.
Section 3: Reference to section 15 for Nota info information was modified.
Section 8: Occupational exposure limit table information was added.
Section 8: Occupational exposure limit table information was modified.
OEL Reg Agency Desc information was modified.
Section 9: pH information information was modified.
Section 9: Property description for optional properties information was modified.
Section 9: Relative density information information was modified.
Section 11: Aspiration Hazard text information was added.
Section 11: Health Effects - Ingestion information information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 11: Reproductive and/or Developmental Effects text information was added.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Respiratory Sensitization text information was added.
Section 11: Skin Sensitization text information was added.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12: Biocumulative potential information information was modified.
Section 16: List of relevant R phrase information information was deleted.
Section 16: List of relevant R-phrases information was deleted.

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

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



Safety Data Sheet

Copyright, 2018, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilising 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

Document group:	22-9955-0	Version number:	3.01
Revision date:	23/07/2018	Supersedes date:	23/02/2015
Transportation version number:	1.00 (22/07/2011)		

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

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

1.1. Product identifier

3M ATPase Buffer

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

Identified uses

Intermediate

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

This material is not classified as hazardous according to Regulation (EC) No. 1272/2008, as amended, on classification, labelling, and packaging of substances and mixtures.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

Not applicable

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
Non-Hazardous Ingredients	Mixture			90 - 100	Substance not classified as hazardous

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

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

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

No need for first aid is anticipated.

Skin contact

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

Eye contact

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

If swallowed

No need for first aid is anticipated.

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

See Section 11.1 Information on toxicological effects

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

Not applicable

SECTION 5: Fire-fighting measures**5.1. Extinguishing media**

Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

5.3. Advice 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. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, in accordance with good industrial hygiene practice. Observe precautions from other sections.

6.2. Environmental precautions

Avoid release to the environment.

3M ATPase Buffer

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. 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. Dispose of collected material as soon as possible.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid release to the environment. No specific handling precautions are necessary.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

7.3. Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

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

Biological limit values

No biological 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

Not applicable.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Eye protection not required.

Skin/hand protection

No chemical protective gloves are required.

Respiratory protection

Respiratory protection is not required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

3M ATPase Buffer

Physical state	Liquid.
Appearance/Odour	Odourless clear liquid.
Odour threshold	<i>No data available.</i>
pH	7.7 - 7.8
Boiling point/boiling range	<i>No data available.</i>
Melting point	<i>Not applicable.</i>
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	Flash point > 93 °C (200 °F)
Autoignition temperature	<i>No data available.</i>
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Vapour pressure	<i>No data available.</i>
Relative density	1 [Ref Std:WATER=1]
Water solubility	Complete
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Evaporation rate	<i>No data available.</i>
Vapour density	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	<i>No data available.</i>
Density	1 g/ml

9.2. Other information

EU Volatile Organic Compounds	<i>No data available.</i>
Molecular weight	<i>Not applicable.</i>
Percent volatile	<i>No data available.</i>

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

Heat.

10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	Not specified.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient

classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

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 is currently available or the data is not sufficient for classification.

Serious Eye Damage/Irritation

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

Skin Sensitisation

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

Respiratory Sensitisation

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

Germ Cell Mutagenicity

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

Carcinogenicity

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

Reproductive Toxicity

Reproductive and/or Developmental Effects

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

Target Organ(s)

3M ATPase Buffer

Specific Target Organ Toxicity - single exposure

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

Specific Target Organ Toxicity - repeated exposure

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

Aspiration Hazard

For the component/components, either no data is currently available or the data is 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 agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

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. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

See Section 11.1 Information on toxicological effects

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

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

3M ATPase Buffer

EU waste code (product as sold)

160509	Discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
180107	Chemicals other than those mentioned in 18 01 06

SECTION 14: Transportation information

ADR/IMDG/IATA: Not restricted for transport.

SECTION 15: Regulatory information

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

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the chemical notification requirements of TSCA.

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this substance/mixture in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information

Revision information:

Section 2.1: Classification information information was deleted.
Section 3: Composition/ Information of ingredients table information was added.
Section 3: Composition/ Information of ingredients table information was deleted.
Section 3: Reference to H statement explanation in Section 016 information was added.
Section 3: Reference to R and H statement explanation in Section 16 information was deleted.
Section 3: Reference to section 15 for Nota info information was deleted.
Section 6: Accidental release personal information information was modified.
Section 7: Precautions safe handling information information was modified.
Section 9: Flash point information information was modified.
Section 9: pH information information was modified.
Section 9: Property description for optional properties information was added.
Section 9: Property description for optional properties information was deleted.
Section 12: Component ecotoxicity information information was deleted.
Prints No Data if Bioaccumulative potential information is not present information was added.
Prints No Data if Persistence and Degradability information is not present information was added.
Section 12: No PBT/vPvB information available warning information was modified.
Section 12: Persistence and Degradability information information was deleted.
Section 12: Bioaccumulative potential information information was deleted.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 15: Chemical Safety Assessment information was modified.

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

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



Safety Data Sheet

Copyright, 2019, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilising 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

Document group:	23-0010-1	Version number:	6.01
Revision date:	04/03/2019	Supersedes date:	28/09/2018
Transportation version number:	1.00 (22/07/2011)		

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

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

1.1. Product identifier

3M UHT Extractant

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

Identified uses

Microbiological testing

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319

Hazardous to the Aquatic Environment (Chronic), Category 3 - Aquatic Chronic 3; H412

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

WARNING.

Symbols:

3M UHT Extractant

GHS07 (Exclamation mark) |

Pictograms**HAZARD STATEMENTS:**

H319 Causes serious eye irritation.
 H412 Harmful to aquatic life with long lasting effects.

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.

Disposal:

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

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

<=125 ml Hazard statements

H412 Harmful to aquatic life with long lasting effects.

No precautionary statements are required for containers <=125 mL.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
Non-Hazardous Ingredients	Mixture			90 - 100	Substance not classified as hazardous
4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid	7365-45-9	230-907-9		< 1	Substance not classified as hazardous
Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulphonate	75277-39-3	278-169-7		< 1	Substance not classified as hazardous
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	18472-51-0	242-354-0		< 1	Aquatic Acute 1, H400,M=10; Aquatic Chronic 1, H410,M=1 Eye Dam. 1, H318
POLY(OXY-1,2-ETHANEDIYL),.ALPHA.-(4-NONYLPHENYL)-.OMEGA.-HYDROXY-,BRANCHED	127087-87-0	500-315-8		< 1	Aquatic Acute 1, H400,M=1; Aquatic Chronic 1, H410,M=1

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

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

No need for first aid is anticipated.

Skin contact

No need for first aid is anticipated.

Eye contact

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

If swallowed

No need for first aid is anticipated.

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

See Section 11.1 Information on toxicological effects

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Hydrogen Chloride	During combustion.
Oxides of nitrogen.	During combustion.
Oxides of sulphur.	During combustion.

5.3. Advice 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 vapours, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for

3M UHT Extractant

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.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid eye contact. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from oxidising agents.

7.3. Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

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

Biological limit values

No biological 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

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.

Applicable Norms/Standards

Use eye protection conforming to EN 166

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.
Appearance/Odour	Clear liquid
Odour threshold	<i>No data available.</i>
pH	7.7 - 7.8
Boiling point/boiling range	<i>No data available.</i>
Melting point	<i>Not applicable.</i>
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	No flash point
Autoignition temperature	<i>No data available.</i>
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Relative density	1.1 [Ref Std:WATER=1]
Water solubility	Complete
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Evaporation rate	<i>No data available.</i>
Vapour density	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	<i>No data available.</i>
Density	1.1 g/ml

9.2. Other information

EU Volatile Organic Compounds	<i>No data available.</i>
Molecular weight	<i>Not applicable.</i>
Percent volatile	<i>No data available.</i>

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

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

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

Heat.

10.5 Incompatible materials

3M UHT Extractant

Strong oxidising agents.

10.6 Hazardous decomposition products

Substance

None known.

Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

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) in sensitive people: Signs/symptoms may include redness, swelling, blistering, and itching.

Eye contact

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

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
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	Dermal	Rabbit	LD50 > 5,000 mg/kg
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	Ingestion	Rat	LD50 2,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
------	---------	-------

3M UHT Extractant

D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	Rabbit	Corrosive
-------------------------------------------------------------------------------------------------------------------	--------	-----------

Skin Sensitisation

Name	Species	Value
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	Human and animal	Some positive data exist, but the data are not sufficient for classification

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	In Vitro	Not mutagenic
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	Ingestion	Multiple animal species	Not carcinogenic

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

Name	Route	Value	Species	Test result	Exposure Duration
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	Ingestion	Not classified for development	Rat	NOAEL 30 mg/kg/day	during gestation

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

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	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

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 0.89 mg/kg/day	1 years
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	Ingestion	immune system	Not classified	Rabbit	NOAEL 71 mg/kg/day	2 years

3M UHT Extractant

ne (2:1)						
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	Ingestion	hematopoietic system kidney and/or bladder	Not classified	Rat	NOAEL 71 mg/kg/day	2 years

Aspiration Hazard

For the component/components, either no data is currently available or the data is 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 agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid	7365-45-9	Green Algae	Experimental	72 hours	EC50	>100 mg/l
4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid	7365-45-9	Water flea	Experimental	48 hours	EC50	>100 mg/l
4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid	7365-45-9	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid	7365-45-9	Green Algae	Experimental	72 hours	NOEC	100 mg/l
Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulphonate	75277-39-3	Green Algae	Estimated	72 hours	EC50	>100 mg/l
Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulphonate	75277-39-3	Zebra Fish	Estimated	96 hours	LC50	>100 mg/l
Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulphonate	75277-39-3	Green Algae	Estimated	72 hours	NOEC	100 mg/l
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	18472-51-0	Green algae	Experimental	72 hours	EC50	0.081 mg/l
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	18472-51-0	Water flea	Experimental	48 hours	EC50	0.087 mg/l

3M UHT Extractant

D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	18472-51-0	Zebra Fish	Experimental	96 hours	LC50	2.08 mg/l
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	18472-51-0	Green algae	Experimental	72 hours	NOEC	0.007 mg/l
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	18472-51-0	Water flea	Experimental	21 days	NOEC	0.021 mg/l
POLY(OXY-1,2-ETHANEDIYL),.ALPHA-(4-NONYLPHENYL)-OMEGA-HYDROXY-,BRANCHED	127087-87-0	Bluegill	Experimental	96	LC50	1.3 mg/l
POLY(OXY-1,2-ETHANEDIYL),.ALPHA-(4-NONYLPHENYL)-OMEGA-HYDROXY-,BRANCHED	127087-87-0	Green algae	Experimental	72	EC50	1 mg/l
POLY(OXY-1,2-ETHANEDIYL),.ALPHA-(4-NONYLPHENYL)-OMEGA-HYDROXY-,BRANCHED	127087-87-0	Water flea	Experimental	48	EC50	0.148 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid	7365-45-9	Experimental Biodegradation	28 days	BOD	-2 % weight	OECD 301D - Closed bottle test
Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulphonate	75277-39-3	Estimated Biodegradation	28 days	BOD	0 % weight	OECD 301D - Closed bottle test
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	18472-51-0	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	71 % weight	OECD 301A - DOC Die Away Test
POLY(OXY-1,2-ETHANEDIYL),.ALPHA-(4-NONYLPHENYL)-OMEGA-HYDROXY-,BRANCHED	127087-87-0	Estimated Biodegradation	21 days	BOD	0 % weight	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
4-(2-hydroxyethyl)piperazin-1-	7365-45-9	Estimated Bioconcentration		Log Kow	<-3.85	Estimated: Octanol-water partition coefficient

3M UHT Extractant

ylethanesulphonic acid						
Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulphonate	75277-39-3	Estimated Bioconcentration		Log Kow	<-3.85	Estimated: Octanol-water partition coefficient
D-gluconic acid, compound with N,N"-bis(4-chlorophenyl)-3,12-diimino-2,4,11,13-tetraazatetradecanediamidine (2:1)	18472-51-0	Experimental Bioconcentration		Log Kow	-1.81	Other methods
POLY(OXY-1,2-ETHANEDIYL),.ALPHA.-(4-NONYLPHENYL)-.OMEGA.-HYDROXY-,BRANCHED	127087-87-0	Estimated BCF - Other		Bioaccumulation factor	422	Other methods

12.4. Mobility in soil

Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

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

EU waste code (product as sold)

- 160506* Laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
- 180106* Chemicals consisting of or containing dangerous substances.

SECTION 14: Transportation information

ADR/IMDG/IATA: Not restricted for transport.

SECTION 15: Regulatory information

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

3M UHT Extractant

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory.

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this substance/mixture in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information

List of relevant H statements

H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Revision information:

Section 2: <125ml Hazard - Environmental information was added.

Label: CLP <125ml Precautionary - none information was added.

Section 11: Reproductive and/or Developmental Effects text information was deleted.

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

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



Safety Data Sheet

Copyright,2020, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

Document group:	23-0271-9	Version number:	3.02
Revision date:	10/12/2020	Supersedes date:	23/07/2018
Transportation version number:	1.00 (22/07/2011)		

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

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

1.1. Product identifier

3M Enzyme LL1

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

Identified uses

Microbiological testing

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

This material is not classified as hazardous according to Regulation (EC) No. 1272/2008, as amended, on classification, labelling, and packaging of substances and mixtures.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

Not applicable

SUPPLEMENTAL INFORMATION:

Supplemental Hazard Statements:

EUH210 Safety data sheet available on request.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulphonate	75277-39-3	278-169-7		50 - 70	Substance not classified as hazardous
Magnesium Sulfate	7487-88-9	231-298-2		10 - 20	Substance not classified as hazardous
4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid	7365-45-9	230-907-9		5 - 15	Substance not classified as hazardous
Non-Hazardous Ingredients	7732-18-5	231-791-2		1 - 10	Substance not classified as hazardous
Albumins, blood serum	9048-46-8	232-936-2		1 - 5	Substance not classified as hazardous
(R*,R*)-1,4-dimercaptobutane-2,3-diol	3483-12-3	222-468-7		1 - 5	Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335
edetic acid	60-00-4	200-449-4		1 - 5	Eye Irrit. 2, H319

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

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

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

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

Skin contact

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

Eye contact

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

If swallowed

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

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

See Section 11.1 Information on toxicological effects

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. 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. Advice 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 vapours, in accordance with good industrial hygiene practice. Observe precautions from other sections.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from oxidising agents.

7.3. Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

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

Biological limit values

No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

8.2. Exposure controls

8.2.1. Engineering controls

Use 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:
Safety glasses with side shields.

Applicable Norms/Standards

Use eye protection conforming to EN 166

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:

Material	Thickness (mm)	Breakthrough Time
Nitrile rubber.	No data available	No data available

Applicable Norms/Standards

Use gloves tested to EN 374

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 particulates

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

Applicable Norms/Standards

Use a respirator conforming to EN 140 or EN 136: filter type P

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state

Solid.

Colour

Green

Specific Physical Form:

Freeze-dried lyophilized powder.

Odor

Dithiothreitol

Odour threshold

No data available.

pH

Not applicable.

Boiling point/boiling range

No data available.

Melting point

No data available.

Flammability (solid, gas)

Not classified

Explosive properties

Not classified

Oxidising properties	Not classified
Flash point	No flash point
Autoignition temperature	<i>No data available.</i>
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Vapour pressure	<i>No data available.</i>
Relative density	<i>No data available.</i>
Water solubility	Complete
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Evaporation rate	<i>No data available.</i>
Vapour density	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	<i>No data available.</i>
Density	<i>No data available.</i>

9.2. Other information

EU Volatile Organic Compounds	<i>No data available.</i>
Molecular weight	<i>No data available.</i>
Percent volatile	<i>No data available.</i>

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

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

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

Heat.

10.5 Incompatible materials

Strong oxidising agents.

10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	Not specified.
Carbon dioxide.	Not specified.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from internal hazard assessments.

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:

3M Enzyme LL1**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 localised redness, swelling, itching, and dryness.

Eye contact

Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

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
Magnesium Sulfate	Dermal		LD50 estimated to be > 5,000 mg/kg
Magnesium Sulfate	Ingestion	Mouse	LD50 > 5,000 mg/kg
edetic acid	Dermal		LD50 estimated to be > 5,000 mg/kg
edetic acid	Ingestion	Rat	LD50 > 2,000 mg/kg
(R*,R*)-1,4-dimercaptobutane-2,3-diol	Ingestion	Rat	LD50 400 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
(R*,R*)-1,4-dimercaptobutane-2,3-diol	Professional judgement	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
(R*,R*)-1,4-dimercaptobutane-2,3-diol	Professional judgement	Severe irritant

Skin Sensitisation

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

Respiratory Sensitisation

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

Germ Cell Mutagenicity

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

Carcinogenicity

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

3M Enzyme LL1**Reproductive Toxicity****Reproductive and/or Developmental Effects**

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

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

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
(R*,R*)-1,4-dimercaptobutane-2,3-diol	Inhalation	respiratory irritation	May cause respiratory irritation	Professional judgement	NOAEL not available	

Specific Target Organ Toxicity - repeated exposure

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

Aspiration Hazard

For the component/components, either no data is currently available or the data is 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 agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
Sodium 4-(2-hydroxyethyl)piperazine-1-ylethanesulphonate	75277-39-3	Green Algae	Estimated	72 hours	EC50	>100 mg/l
Sodium 4-(2-hydroxyethyl)piperazine-1-ylethanesulphonate	75277-39-3	Zebra Fish	Estimated	96 hours	LC50	>100 mg/l
Sodium 4-(2-hydroxyethyl)piperazine-1-ylethanesulphonate	75277-39-3	Green Algae	Estimated	72 hours	NOEC	100 mg/l
Magnesium Sulfate	7487-88-9	Algae other	Experimental	72 hours	IC50	1,215 mg/l
Magnesium Sulfate	7487-88-9	Fathead minnow	Experimental	96 hours	LC50	2,820 mg/l
Magnesium Sulfate	7487-88-9	Water flea	Experimental	48 hours	EC50	344 mg/l
Magnesium Sulfate	7487-88-9	Algae other	Experimental	72 hours	Inhibitory Concentration 10%	43 mg/l
4-(2-hydroxyethyl)piperazine-1-ylethanesulphonic acid	7365-45-9	Green Algae	Experimental	72 hours	EC50	>100 mg/l
4-(2-hydroxyethyl)piperazine-1-ylethanesulphonic acid	7365-45-9	Water flea	Experimental	48 hours	EC50	>100 mg/l

3M Enzyme LL1

4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid	7365-45-9	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid	7365-45-9	Green Algae	Experimental	72 hours	NOEC	100 mg/l
(R*,R*)-1,4-dimercaptobutane-2,3-diol	3483-12-3	Water flea	Experimental	48 hours	LC50	27 mg/l
Albumins, blood serum	9048-46-8		Data not available or insufficient for classification			
edetic acid	60-00-4	Bluegill	Estimated	96 hours	LC50	792 mg/l
edetic acid	60-00-4	Water flea	Estimated	24 hours	EC50	794 mg/l
edetic acid	60-00-4	Water flea	Estimated	21 days	NOEC	22 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulphonate	75277-39-3	Estimated Biodegradation	28 days	BOD	0 % weight	OECD 301D - Closed bottle test
Magnesium Sulfate	7487-88-9	Data not availbl-insufficient			N/A	
4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid	7365-45-9	Experimental Biodegradation	28 days	BOD	-2 % weight	OECD 301D - Closed bottle test
(R*,R*)-1,4-dimercaptobutane-2,3-diol	3483-12-3	Experimental Chemical Degradation		Half-life (t 1/2)	10 hours (t 1/2)	Other methods
Albumins, blood serum	9048-46-8	Data not availbl-insufficient			N/A	
edetic acid	60-00-4	Experimental Aquatic Biodegrad. - Aerobic	28 days	BOD	0 % BOD/ThBOD	OECD 301D - Closed bottle test

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Sodium 4-(2-hydroxyethyl)piperazin-1-ylethanesulphonate	75277-39-3	Estimated Bioconcentration		Log Kow	<-3.85	Estimated: Octanol-water partition coefficient
Magnesium Sulfate	7487-88-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid	7365-45-9	Estimated Bioconcentration		Log Kow	<-3.85	Estimated: Octanol-water partition coefficient
(R*,R*)-1,4-dimercaptobutane-2,3-diol	3483-12-3	Estimated Bioconcentration		Bioaccumulation factor	2.5	Estimated: Bioconcentration factor
Albumins, blood serum	9048-46-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
edetic acid	60-00-4	Experimental BCF - Bluegill	28 days	Bioaccumulation factor	1.8	Bioconcentration: Flow-through

12.4. Mobility in soil

Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

This product has been classified as a non-hazardous waste. Prior to disposal, consult all applicable authorities and regulations to insure proper classification. Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. If no other disposal options are available, waste product may be placed in a landfill properly designed for industrial waste.

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

EU waste code (product as sold)

160509	Discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
180107	Chemicals other than those mentioned in 18 01 06

SECTION 14: Transportation information

ADR/IMDG/IATA: Not restricted for transport.

SECTION 15: Regulatory information

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

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information

List of relevant H statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Revision information:

Section 02: CLP Classification Statements information was added.

Label: CLP Classification information was deleted.
Section 3: Composition/ Information of ingredients table information was modified.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 5: Fire - Extinguishing media information information was modified.
Section 7: Precautions safe handling information information was modified.
Section 8: Occupational exposure limit table information was deleted.
Section 8: Occupational exposure limit table information was modified.
OEL Reg Agency Desc information was deleted.
Section 8: STEL key information was deleted.
Section 8: TWA key information was deleted.
Section 09: Color information was added.
Section 9: Flash point information information was modified.
Section 09: Odor information was added.
Sections 3 and 9: Odour, colour, grade information information was deleted.
Section 10: Hazardous decomposition or by-products table information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Carcinogenicity Table information was deleted.
Section 11: Carcinogenicity text information was added.
Section 11: Classification disclaimer information was modified.
Section 11: Germ Cell Mutagenicity Table information was deleted.
Section 11: Germ Cell Mutagenicity text information was added.
Section 11: Health Effects - Skin information information was modified.
Section 11: Reproductive and/or Developmental Effects text information was deleted.
Section 11: Reproductive Toxicity Table information was deleted.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was deleted.
Section 11: Skin Sensitization text information was added.
Section 11: Specific Target Organ Toxicity - repeated exposure text information was added.
Section 11: Specific Target Organ Toxicity - single exposure text information was added.
Section 11: Target Organs - Repeated Table information was deleted.
Section 11: Target Organs - Single Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12: Biocumulative potential information information was modified.
Section 13: 13.1. Waste disposal note information was modified.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 15: Chemical Safety Assessment information was modified.
Section 15: Regulations - Inventories information was deleted.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material.
information was modified.
Section 16: UK disclaimer information was deleted.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

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