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Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : 2nd Strand Synthesis Enzyme 2
Product Number : 1010
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8064
Fax : +82-2-6746-8073
E-mail address : Sales@celemics.com
Version : 2
Date of issue : 23/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Unknown acute toxicity 50 % of the mixture consists of ingredient(s) of unknown toxicity
0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
50 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
50 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
50 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances**

Not applicable

Mixtures

The product contains no substances which at their given concentration, are considered to be

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Limits**

Contains no substances with occupational exposure limit values.

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Appearance****State**

Liquid

Color

Colourless

Odour

Mild

Odour threshold

No information available

pH

No information available

Melting point/freezing point

No information available

Initial boiling point and boiling range

No information available

Flash point

No information available

Evaporation rate

No information available

Flammability (solid, gas)

No information available

Upper/lower flammability or explosive limits

No information available

Vapour pressure

No information available

Vapour density

No information available

Relative density

No information available

Water solubility

No information available

Partition coefficient: n-octanol/ water

No information available

Autoignition temperature

No information available

Decomposition temperature

No information available

Viscosity

No information available

Explosive properties

No information available

Oxidizing properties

No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	No information available.
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Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 25,200.00 mg/kg

ATEmix (dermal) 20,000.00 mg/kg

Unknown acute toxicity 50 % of the mixture consists of ingredient(s) of unknown toxicity

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

50 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

50 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

50 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Principal Routes of Exposure

Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Toxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil No information available

Persistence and degradability No information available

Bioaccumulative potential No information available

Results of PBT and vPvB assessment

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

Other adverse effect No information available

Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal

technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)

American supervision information

No information applicable

(Stockholm agreement material)

American supervision information

No information applicable

(Montreal protocol material)

EU Classification information

No information applicable

(Confirmed classification results)

EU Classification information

No information applicable

(Danger expression)

EU Classification information
(Safety expression)

No information applicable

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	24-Nov-2021

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celeemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celeemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : 2nd Strand Synthesis Buffer 2

Product Number : 1011

Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.

19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea

Telephone : +82-2-6746-8064

Fax : +82-2-6746-8073

E-mail address : Sales@celemics.com

Version : 2

Date of issue : 23/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
Glycerol	-	56-81-5	30 - 60
Potassium Chloride	-	7447-40-7	0.1 - 1
Tris-HCl	-	1185-53-1	0.1 - 1
Ethylenediamine tetraacetic acid	-	60-00-4	<0.1
Dithiothreitol	-	3483-12-3	<0.1

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media****Suitable extinguishing media**

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

Ingredient name	Korea	ACGIH TLV
Glycerol	TWA: 10 mg/m ³	-

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Appearance**

State	Liquid
Color	Colourless
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Water solubility	No information available
Partition coefficient: n-octanol/ water	No information available
Autoignition temperature	392.8 ° C / 739 ° F
Decomposition temperature	No information available
Viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

acute toxicity

Toxicity level measurement

The following figures are calculated based on Chapter 3.1 of the GHS document

Estimates of acute toxicity (oral) **25,200.00 mg/kg**

ATEmix (transdermal) **20,000.00 mg/kg**

Ingredient information No information available

Ingredient name	Oral LD50	Dermal LD50	InhalationLC50
Glycerol	= 2600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 570 mg/m ³ (Rat) 1 h
Potassium Chloride	= 2600 mg/kg (Rat)	-	-
Ethylenediamine tetraacetic acid	> 2000 mg/kg (Rat)	-	-

Principal Routes of Exposure

acute toxicity	No information available
Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Target organ effects	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Ecotoxicity

Percentage of unknown hazard 0% of the mixture consists of ingredients of unknown hazard to the aquatic environment

Ingredient name	Algae/Aquatic Plants	Pisces	Microbial toxicity	shellfish
glycerol	-	LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss) -	-	EC50: >500mg/L (24h, Daphnia magna)
Potassium Chloride	EC50: ≈2500mg/L (72h, Desmodemus subspicatus)	LC50: 750 - 1020mg/L (96h, Pimephales promelas) LC50: ≈1060mg/L (96h, Lepomis macrochirus)	-	EC50: ≈83mg/L (48h, Daphnia magna) EC50: ≈825mg/L (48h, Daphnia magna)
Ethylenediamine tetraacetic acid	EC50: ≈1.01mg/L (72h, Desmodemus subspicatus)	LC50: 44.2 - 76.5mg/L (96h, Pimephales promelas) LC50: 34 - 62mg/L (96h,	-	EC50: ≈113mg/L (48h, Daphnia magna)

Lepomis macrochirus)

Mobility in soil	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available

Ingredient name	Partition coefficient
glycerol	-1.76

Results of PBT and vPvB assessment

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

Other adverse effect	No information available
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Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)

American supervision information

No information applicable

(Stockholm agreement material)

American supervision information

No information applicable

(Montreal protocol material)

EU Classification information

No information applicable

(Confirmed classification results)

EU Classification information

No information applicable

(Danger expression)

EU Classification information

No information applicable

(Safety expression)

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	24-Nov-2021

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : 2nd Strand Synthesis Enzyme 3
Product Number : 1012
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8064
Fax : +82-2-6746-8073
E-mail address : Sales@celemics.com
Version : 2
Date of issue : 23/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
Tris-HCl	-	1185-53-1	0.1 - 1
Magnesium Chlorid	-	7786-30-3	1-5
Dithiothreitol	-	3483-12-3	1-5
Adenosine 5'-triphosphate	-	56-65-5	0.1 - 1

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media****Suitable extinguishing media**

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Appearance**

State	Liquid
Color	Colourless
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Water solubility	No information available
Partition coefficient: n-octanol/ water	No information available
Autoignition temperature	392.8 ° C / 739 ° F
Decomposition temperature	No information available
Viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

acute toxicity

Toxicity level measurement

The following figures are calculated based on Chapter 3.1 of the GHS document

Estimates of acute toxicity (oral) 25,200.00 mg/kg

ATEmix (transdermal) 20,000.00 mg/kg

Ingredient information No information available

Ingredient name	Oral LD50	Dermal LD50	InhalationLC50
Magnesium Chloride	= 2800 mg/kg (Rat)	-	-

Principal Routes of Exposure

acute toxicity No information available

Skin corrosion/irritation No information available

Serious eye damage/irritation No information available

Respiratory or skin sensitization No information available

Target organ effects No information available

Carcinogenicity No information available

Germ cell mutagenicity No information available

Reproductive toxicity No information available

Aspiration hazard No information available

Section 12. ECOLOGICAL INFORMATION

Ecotoxicity

Percentage of unknown hazard 0% of the mixture consists of ingredients of unknown hazard to the aquatic environment

Ingredient name	Algae/Aquatic Plants	Pisces	Microbial toxicity	shellfish
Magnesium Chloride	EC50: >82.7mg/L (72h, Pseudokirchneriella subcapitata)	LC50: =4210mg/L (96h, Gambusia affinis) LC50: 1970 - 3880mg/L (96h, Pimephales promelas)	-	EC50: =140mg/L (48h, Daphnia magna) EC50: =1400mg/L (24h, Daphnia magna)

Mobility in soil No information available

Persistence and degradability No information available

Bioaccumulative potential No information available

Results of PBT and vPvB assessment

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

Other adverse effect No information available

Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)

American supervision information

No information applicable

(Stockholm agreement material)

American supervision information

No information applicable

(Montreal protocol material)

EU Classification information

No information applicable

(Confirmed classification results)

EU Classification information

No information applicable

(Danger expression)

EU Classification information

No information applicable

(Safety expression)

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	24-Nov-2021

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celeemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celeemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



CELEMICS

Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Hyb Buffer
Product Number : 4007
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses.

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro,
Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8067
Fax : +82-2-6746-8073
E-mail address : Support@celemics.com
Version : 3.1
Date of issue : 14/March/2023

Section 2. HAZARDS IDENTIFICATION

. GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
Sulfuric acid monododecyl ester sodium salt	dodecyl sulphate sodium salt	151-21-3	>= 1 - < 2.5

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Limits Contains no substances with occupational exposure limit values.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****Appearance**

State	Liquid
Color	Colourless
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Water solubility	No information available
Partition coefficient: n-octanol/ water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Molecular weight	No information available

Section 10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION**Information on toxicological effects**

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION**Toxicity**

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available
Results of PBT and vPvB assessment	
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	
Other adverse effect	No information available

Section 13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION**IATA/ADR/DOT-US/IMDG**

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act**Domestic act****Persistent organic pollutants control Act**

No information available

Foreign Act**American supervision information**

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)**American supervision information**

No information applicable

(Stockholm agreement material)**American supervision information**

No information applicable

(Montreal protocol material)**EU Classification information**

No information applicable

(Confirmed classification results)**EU Classification information**

No information applicable

(Danger expression)**EU Classification information**

No information applicable

(Safety expression)**Section 16. OTHER INFORMATION**

Reason for revision	MSDS updated
Revision number	3.1
Revision date	14-Mar-2023

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Hyb Buffer

Product Number : 4007

Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.

19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea

Telephone : +82-2-6746-8064

Fax : +82-2-6746-8073

E-mail address : Sales@celemics.com

Version : 2

Date of issue : 17/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None

Hazard pictograms

None

Health hazards

Not hazardous

Physical hazards

Not hazardous

Environmental hazards

Not hazardous

Hazard Statements

No information available

Precautionary Statements**Prevention**

No information available

Response

No information available

Storage

No information available

Disposal

No information available

Other hazards

No information available

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
Sulfuric acid monododecyl ester sodium salt	dodecyl sulphate sodium salt	151-21-3	$\geq 1 - < 2.5$

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses.

Ingestion

make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available

Indication of any immediate medical attention and special treatment needed

None

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Specific hazards arising from the substance or mixture

Not combustible. Ambient fire may liberate hazardous vapours.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Do not breathe vapors, aerosols. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions. Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Tightly closed.

Non combustible liquids

Specific end use(s)

For research use only

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Limits Contains no substances with occupational exposure limit values.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Appearance****State**

Liquid

Color

Yellow

Odour

No information available

Odour threshold

No information available

pH

No information available

Melting point/freezing point

No information available

Initial boiling point and boiling range

No information available

Flash point

No information available

Evaporation rate

No information available

Flammability (solid, gas)

No information available

Upper/lower flammability or explosive limits

No information available

Vapour pressure

No information available

Vapour density

No information available

Relative density

No information available

Water solubility

Soluble

Partition coefficient: n-octanol/ water

No information available

Autoignition temperature

Not applicable

Decomposition temperature

No information available

Viscosity

No information available

Explosive properties

No information available

Oxidizing properties

No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

No information available

Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water

Conditions to avoid

No information available

Incompatible products

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulfur oxides, Oxides of phosphorus, Sodium oxides

Other decomposition products - No data available

Thermal decomposition

No information available

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

There is no evidence available indicating acute toxicity.

Acute toxicity

Oral: No data available

Acute toxicity estimate Oral - > 2,000 mg/kg

Inhalation: No data available

Dermal: No data available

Principal Routes of Exposure

Skin corrosion/irritation

No information available

Serious eye damage/irritation

No information available

Respiratory or skin sensitization

No information available

Specific target organ toxicity (STOT) - single exposure

No information available

Specific target organ toxicity (STOT) - repeated exposure

No information available

Carcinogenicity

No information available

Germ cell mutagenicity

No information available

Reproductive toxicity

No information available

Aspiration hazard

No information available

Section 12. ECOLOGICAL INFORMATION

Toxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants

Mobility in soil

No information available

Persistence and degradability

No information available

Bioaccumulative potential

No information available

Other adverse effect

No information available

Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number

No information available

UN proper shipping name

No information available

Transport hazard class(es)

No information available

Packing group

No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available

Dangerous Substances Safety Management Act

No information available

Wastes Control Act

Follow article 13 of the act to dispose the product waste

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)

American supervision information

No information applicable

(Stockholm agreement material)

American supervision information

No information applicable

(Montreal protocol material)

EU Classification information

No information applicable

(Confirmed classification results)

EU Classification information

No information applicable

(Danger expression)

EU Classification information

No information applicable

(Safety expression)

Section 16. OTHER INFORMATION

Reason for revision SDS sections updated

Revision number 2

Revision date 18-Nov-2021

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celeemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celeemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



CELEMICS

Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Wash Buffer #1
Product Number : 4001
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses.

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro,
Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8067
Fax : +82-2-6746-8073
E-mail address : Support@celemics.com
Version : 3.1
Date of issue : 14/March/2023

Section 2. HAZARDS IDENTIFICATION

. GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
No information applicable	-	-	-

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Limits Contains no substances with occupational exposure limit values.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****Appearance**

State	Liquid
Color	Colourless
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Water solubility	No information available
Partition coefficient: n-octanol/ water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Molecular weight	No information available

Section 10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION**Information on toxicological effects**

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION**Toxicity**

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available
Results of PBT and vPvB assessment	
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	
Other adverse effect	No information available

Section 13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION**IATA/ADR/DOT-US/IMDG**

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act**Domestic act****Persistent organic pollutants control Act**

No information available

Foreign Act**American supervision information**

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)**American supervision information**

No information applicable

(Stockholm agreement material)**American supervision information**

No information applicable

(Montreal protocol material)**EU Classification information**

No information applicable

(Confirmed classification results)**EU Classification information**

No information applicable

(Danger expression)**EU Classification information**

No information applicable

(Safety expression)**Section 16. OTHER INFORMATION**

Reason for revision	MSDS updated
Revision number	3.1
Revision date	14-Mar-2023

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celeemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celeemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



CELEMICS

Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Wash Buffer #1
Product Number : 4001
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses.

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro,
Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8064
Fax : +82-2-6746-8073
E-mail address : Sales@celemics.com
Version : 3
Date of issue : 01/July/2022

Section 2. HAZARDS IDENTIFICATION

. GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
No information applicable	-	-	-

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE FIGHTING MEASURES**Extinguishing media****Suitable extinguishing media**

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Limits Contains no substances with occupational exposure limit values.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Appearance**

State No information available

Color No information available

Odour No information available

Odour threshold No information available

pH No information available

Melting point/freezing point No information available

Initial boiling point and boiling range No information available

Flash point No information available

Evaporation rate No information available

Flammability (solid, gas) No information available

Upper/lower flammability or explosive limits No information available

Vapour pressure No information available

Vapour density No information available

Relative density No information available

Water solubility No information available

Partition coefficient: n-octanol/ water No information available

Autoignition temperature No information available

Decomposition temperature No information available

Viscosity No information available

Explosive properties No information available

Oxidizing properties No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Toxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available
Results of PBT and vPvB assessment	
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	
Other adverse effect	No information available

Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)

American supervision information

No information applicable

(Stockholm agreement material)

American supervision information

No information applicable

(Montreal protocol material)

EU Classification information

No information applicable

(Confirmed classification results)

EU Classification information

No information applicable

(Danger expression)

EU Classification information

No information applicable

(Safety expression)

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	3
Revision date	01-Jul-2022

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



CELEMICS

Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Wash Buffer #2
Product Number : 4002
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses.

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro,
Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8067
Fax : +82-2-6746-8073
E-mail address : Support@celemics.com
Version : 3.1
Date of issue : 14/March/2023

Section 2. HAZARDS IDENTIFICATION

. GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
No information applicable	-	-	-

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Limits Contains no substances with occupational exposure limit values.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****Appearance**

State	Liquid
Color	Colourless
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Water solubility	No information available
Partition coefficient: n-octanol/ water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Molecular weight	No information available

Section 10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION**Information on toxicological effects**

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION**Toxicity**

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available
Results of PBT and vPvB assessment	
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	
Other adverse effect	No information available

Section 13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION**IATA/ADR/DOT-US/IMDG**

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act**Domestic act****Persistent organic pollutants control Act**

No information available

Foreign Act**American supervision information**

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)**American supervision information**

No information applicable

(Stockholm agreement material)**American supervision information**

No information applicable

(Montreal protocol material)**EU Classification information**

No information applicable

(Confirmed classification results)**EU Classification information**

No information applicable

(Danger expression)**EU Classification information**

No information applicable

(Safety expression)**Section 16. OTHER INFORMATION**

Reason for revision	MSDS updated
Revision number	3.1
Revision date	14-Mar-2023

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celeemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celeemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



CELEMICS

Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Wash Buffer #2
Product Number : 4002
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses.

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro,
Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8064
Fax : +82-2-6746-8073
E-mail address : Sales@celemics.com
Version : 3
Date of issue : 01/July/2022

Section 2. HAZARDS IDENTIFICATION

. GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
No information applicable	-	-	-

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE FIGHTING MEASURES**Extinguishing media****Suitable extinguishing media**

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Limits**

Contains no substances with occupational exposure limit values.

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****Appearance**

State No information available

Color No information available

Odour No information available

Odour threshold No information available

pH No information available

Melting point/freezing point No information available

Initial boiling point and boiling range No information available

Flash point No information available

Evaporation rate No information available

Flammability (solid, gas) No information available

Upper/lower flammability or explosive limits No information available

Vapour pressure No information available

Vapour density No information available

Relative density No information available

Water solubility No information available

Partition coefficient: n-octanol/ water No information available

Autoignition temperature No information available

Decomposition temperature No information available

Viscosity No information available

Explosive properties No information available

Oxidizing properties No information available

Section 10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Toxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available
Results of PBT and vPvB assessment	
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	
Other adverse effect	No information available

Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)

American supervision information

No information applicable

(Stockholm agreement material)

American supervision information

No information applicable

(Montreal protocol material)

EU Classification information

No information applicable

(Confirmed classification results)

EU Classification information

No information applicable

(Danger expression)

EU Classification information

No information applicable

(Safety expression)

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	3
Revision date	01-Jul-2022

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



CELEMICS

Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Wash Buffer #3
Product Number : 4003
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses.

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro,
Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8067
Fax : +82-2-6746-8073
E-mail address : Support@celemics.com
Version : 3.1
Date of issue : 14/March/2023

Section 2. HAZARDS IDENTIFICATION

. GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
No information applicable	-	-	-

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Limits Contains no substances with occupational exposure limit values.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****Appearance**

State	Liquid
Color	Colourless
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Water solubility	No information available
Partition coefficient: n-octanol/ water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Molecular weight	No information available

Section 10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION**Information on toxicological effects**

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION**Toxicity**

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available
Results of PBT and vPvB assessment	
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	
Other adverse effect	No information available

Section 13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION**IATA/ADR/DOT-US/IMDG**

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act**Domestic act****Persistent organic pollutants control Act**

No information available

Foreign Act**American supervision information**

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)**American supervision information**

No information applicable

(Stockholm agreement material)**American supervision information**

No information applicable

(Montreal protocol material)**EU Classification information**

No information applicable

(Confirmed classification results)**EU Classification information**

No information applicable

(Danger expression)**EU Classification information**

No information applicable

(Safety expression)**Section 16. OTHER INFORMATION**

Reason for revision	MSDS updated
Revision number	3.1
Revision date	14-Mar-2023

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



CELEMICS

Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Wash Buffer #3
Product Number : 4003
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses.

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro,
Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8064
Fax : +82-2-6746-8073
E-mail address : Sales@celemics.com
Version : 3
Date of issue : 01/July/2022

Section 2. HAZARDS IDENTIFICATION

. GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
No information applicable	-	-	-

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE FIGHTING MEASURES**Extinguishing media****Suitable extinguishing media**

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Limits**

Contains no substances with occupational exposure limit values.

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Appearance**

State No information available

Color No information available

Odour No information available

Odour threshold No information available

pH No information available

Melting point/freezing point No information available

Initial boiling point and boiling range No information available

Flash point No information available

Evaporation rate No information available

Flammability (solid, gas) No information available

Upper/lower flammability or explosive limits No information available

Vapour pressure No information available

Vapour density No information available

Relative density No information available

Water solubility No information available

Partition coefficient: n-octanol/ water No information available

Autoignition temperature No information available

Decomposition temperature No information available

Viscosity No information available

Explosive properties No information available

Oxidizing properties No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Toxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available
Results of PBT and vPvB assessment	
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	
Other adverse effect	No information available

Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)

American supervision information

No information applicable

(Stockholm agreement material)

American supervision information

No information applicable

(Montreal protocol material)

EU Classification information

No information applicable

(Confirmed classification results)

EU Classification information

No information applicable

(Danger expression)

EU Classification information

No information applicable

(Safety expression)

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	3
Revision date	01-Jul-2022

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



CELEMICS

Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : CeleMag Clean-up Bead
Product Number : CMCB
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses.

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro,
Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8067
Fax : +82-2-6746-8073
E-mail address : Support@celemics.com
Version : 2.1
Date of issue : 14/March/2023

Section 2. HAZARDS IDENTIFICATION

. GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
No information applicable	-	-	-

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Limits Contains no substances with occupational exposure limit values.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****Appearance**

State	Liquid
Color	Colourless
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Water solubility	No information available
Partition coefficient: n-octanol/ water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Molecular weight	No information available

Section 10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION**Information on toxicological effects**

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION**Toxicity**

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available
Results of PBT and vPvB assessment	
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	
Other adverse effect	No information available

Section 13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION**IATA/ADR/DOT-US/IMDG**

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act**Domestic act****Persistent organic pollutants control Act**

No information available

Foreign Act**American supervision information**

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)**American supervision information**

No information applicable

(Stockholm agreement material)**American supervision information**

No information applicable

(Montreal protocol material)**EU Classification information**

No information applicable

(Confirmed classification results)**EU Classification information**

No information applicable

(Danger expression)**EU Classification information**

No information applicable

(Safety expression)**Section 16. OTHER INFORMATION**

Reason for revision	MSDS updated
Revision number	2.1
Revision date	14-Mar-2023

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : CLM Polymerase
Product Number : CMPF
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro,
Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8067
Fax : +82-2-6746-8073
E-mail address : Support@celemics.com
Version : 2.1
Date of issue : 14/March/2023

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
Glycerol	-	56-81-5	50 - 60

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media****Suitable extinguishing media**

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE

Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

occupational exposure limit

- Glycerol

Glycerin TWA : 10mg/m³ (KR OEL)

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal protective Equipment

Respiratory protection

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

- Glycerol

Appearance

State

Liquid

Color

Colourless

Odour

Odorless

Odour threshold

No information available

pH

5.5 - 8

Melting point/freezing point

18.17 °C

Initial boiling point and boiling range

290 °C(760 mmHg)

Flash point

199 °C at ca.1013.0 hPa - Pensky-Martens closed cup

Evaporation rate

No information available

Flammability (solid, gas)

No information available

Upper/lower flammability or explosive limits

19 / 2.7 %

Vapour pressure

0.003 mmHg (50°C)

Water solubility

1000000 mg/l (25°C)

Vapour density

1.261 g/ml (20°C)

Relative density

3.17

Partition coefficient: n-octanol/ water

-1.75 (log Pow, 25°C)(Log Kow)

Autoignition temperature

370 °C

Decomposition temperature

290 °C

Viscosity

1412 mPa S at 20°C

Molecular weight

92.09

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

- Glycerol

acute toxicity

Toxicity level measurement

LD50 Oral 27,000.00 mg/kg Rat

※Remarks: ECHA

LD50 Dermal 45 ml/kg Guinea pig

※Remarks: ECHA

LC50 Inhalation > 2.75 mg/L / 4Hr

※Remarks: ECHA

Principal Routes of Exposure

Skin corrosion/irritation

Skin - Rabbit - No skin irritation - 24 h

※Remarks: ECHA

Serious eye damage/irritation

Eyes - Rabbit - No eye irritation

※Remarks: ECHA

Respiratory or skin sensitization

No information available

Specific target organ toxicity (STOT) - single exposure

No information available

Specific target organ toxicity (STOT) - repeated exposure

No information available

Carcinogenicity

No information available

Germ cell mutagenicity

in vitro - Bacterial reverse mutation test: negative (regardless of S. typhimurium TA1535, TA1537, TA98, TA100, metabolic system)

Reproductive toxicity

Glycerin was exposed to male and female rats through oral gastrointestinal nutrition over two generations, and as a result, there was no effect on growth, reproduction, and reproductive function through the second generation. did not affect the progeny developmental toxicity of female mice administered glycerin, rat.

Aspiration hazard

No information available

Section 12. ECOLOGICAL INFORMATION

Ecotoxicity effects

-Glycerol

Toxicity to fish

LC50 54000 mg/l 96 hr Oncorhynchus mykiss

Toxicity to daphnia and other aquatic invertebrates

LC50 1955 mg/l 48 hr Daphnia magna

Toxicity to bacteria

EC3 > 10000 mg/l 8day Scenedesmus quadricauda

Elimination information (persistence and degradability)

Persistence

-1.75 log Kow

(log Pow, 25°C)

Degradability

No information available

Bioaccumulative potential

Bioaccumulation

3 BCF

Biodegradation

Aerobic – Exposure time 2d

Result: 90% - Readily biodegradable

Mobility in soil

No information available

Other adverse effect

No information available

Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number

No information available

UN proper shipping name

No information available

Transport hazard class(es)

No information available

Packing group

No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

No information available.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information (Rotterdam agreement material)	No information applicable
American supervision information (Stockholm agreement material)	No information applicable
American supervision information (Montreal protocol material)	No information applicable
EU Classification information (Confirmed classification results)	No information applicable
EU Classification information (Danger expression)	No information applicable
EU Classification information (Safety expression)	No information applicable

Section 16. OTHER INFORMATION

Reason for revision	MSDS updated
Revision number	2.1
Revision date	14-Mar-2023

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Block #2
Product Number : 3002
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8064
Fax : +82-2-6746-8073
E-mail address : Sales@celemics.com
Version : 2
Date of issue : 17/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
No information applicable	-	-	-

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Limits	Contains no substances with occupational exposure limit values.
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Engineering measures	Ensure adequate ventilation, especially in confined areas.
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Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Appearance**

State	Liquid
Color	Colourless
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Water solubility	No information available
Partition coefficient: n-octanol/ water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Section 10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION**Information on toxicological effects**

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
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Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Toxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available
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Persistence and degradability	No information available
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Bioaccumulative potential	No information available
----------------------------------	--------------------------

Results of PBT and vPvB assessment

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

Other adverse effect	No information available
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Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
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UN proper shipping name	No information available
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Transport hazard class(es)	No information available
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Packing group	No information available
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Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)

American supervision information

No information applicable

(Stockholm agreement material)

American supervision information

No information applicable

(Montreal protocol material)

EU Classification information

No information applicable

(Confirmed classification results)

EU Classification information

No information applicable

(Danger expression)

EU Classification information

No information applicable

(Safety expression)

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	18-Nov-2021

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Block #3(I)
Product Number : 3003
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8064
Fax : +82-2-6746-8073
E-mail address : Sales@celemics.com
Version : 2
Date of issue : 17/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
No information applicable	-	-	-

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Limits	Contains no substances with occupational exposure limit values.
------------------------	---

Engineering measures	Ensure adequate ventilation, especially in confined areas.
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Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Appearance**

State	Liquid
Color	Colourless
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Water solubility	No information available
Partition coefficient: n-octanol/ water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Section 10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION**Information on toxicological effects**

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
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Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Toxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available
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Persistence and degradability	No information available
--------------------------------------	--------------------------

Bioaccumulative potential	No information available
----------------------------------	--------------------------

Results of PBT and vPvB assessment

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

Other adverse effect	No information available
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Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
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UN proper shipping name	No information available
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Transport hazard class(es)	No information available
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Packing group	No information available
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Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)

American supervision information

No information applicable

(Stockholm agreement material)

American supervision information

No information applicable

(Montreal protocol material)

EU Classification information

No information applicable

(Confirmed classification results)

EU Classification information

No information applicable

(Danger expression)

EU Classification information

No information applicable

(Safety expression)

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	18-Nov-2021

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Target Capture Probe #2
Product Number : 3005
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8064
Fax : +82-2-6746-8073
E-mail address : Sales@celemics.com
Version : 2
Date of issue : 17/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
No information applicable	-	-	-

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Limits Contains no substances with occupational exposure limit values.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Appearance**

State	Liquid
Color	Colourless
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Water solubility	No information available
Partition coefficient: n-octanol/ water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Section 10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION**Information on toxicological effects**

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
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Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Toxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available
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Persistence and degradability	No information available
--------------------------------------	--------------------------

Bioaccumulative potential	No information available
----------------------------------	--------------------------

Results of PBT and vPvB assessment

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

Other adverse effect	No information available
-----------------------------	--------------------------

Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
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UN proper shipping name	No information available
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Transport hazard class(es)	No information available
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Packing group	No information available
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Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)

American supervision information

No information applicable

(Stockholm agreement material)

American supervision information

No information applicable

(Montreal protocol material)

EU Classification information

No information applicable

(Confirmed classification results)

EU Classification information

No information applicable

(Danger expression)

EU Classification information

No information applicable

(Safety expression)

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	18-Nov-2021

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Hyb Buffer Enhancer
Product Number : 4008
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8064
Fax : +82-2-6746-8073
E-mail address : Sales@celemics.com
Version : 2
Date of issue : 17/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Acute toxicity, Oral (Category 4)
Acute toxicity, Inhalation (Category 4)
Acute toxicity, Dermal (Category 4)
Skin corrosion/irritation (Category 1)
Serious eye damage/eye irritation (Category 1)
Long-term (chronic) aquatic hazard (Category 3)

Signal word

Danger

Hazard pictograms



Hazard Statements

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H332 Harmful if inhaled.

H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements

Prevention

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash the contact area thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P312 + P330

IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

P301 + P330 + P331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 + P310

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.

P305 + P351 + P338 + P310

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

P361 + P364

Take off immediately all contaminated clothing and wash it before reuse.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents and container according to wastes controlact.

Other hazards

No information available

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances/Mixtures

Ingredient name	Usual name	Cas No.	Amount (%)
Guanidinium thiocyanate	Guanidinium thiocyanate	593-84-0	>= 65 - < 70
	Guanidinium rhodanide		
	Guanidinium isothiocyanate		

Guanidine isothiocyanate

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES

Description of first aid measures

Skin contact

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media Dry powder Dry sand.

Unsuitable extinguishing media No information available.

Special hazards arising from the substance or mixture

Combustible.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Never allow product to get in contact with water during storage. Do not store near acids.

Light sensitive.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits Contains no substances with occupational exposure limit values.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal protective Equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and Body protection

Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

State	Liquid
Color	Colourless
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Water solubility	No information available
Partition coefficient: n-octanol/ water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Explosive properties	No information available

Oxidizing properties

No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhalation

Harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion

Harmful if swallowed. Causes burns.

Skin

Harmful if absorbed through skin. Causes skin burns.

Aggravated Medical Condition

May cause nervous system disturbances

Principal Routes of Exposure

Skin corrosion/irritation

No information available

Serious eye damage/irritation

No information available

Respiratory or skin sensitization

No information available

Specific target organ toxicity (STOT) - single exposure

No information available

Specific target organ toxicity (STOT) - repeated exposure

No information available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Germ cell mutagenicity

No information available

Reproductive toxicity

No information available

Aspiration hazard

No information available

Section 12. ECOLOGICAL INFORMATION

Toxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil

No information available

Persistence and degradability

No information available

Bioaccumulative potential

No information available

Results of PBT and vPvB assessment

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

Other adverse effect

No information available

Harmful to aquatic life with long lasting effects.

Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IMDG

UN number: 1760 Class: 8 Packing group: III EMS-No: F-A, S-B

Proper shipping name: CORROSIVE LIQUID, N.O.S. (Guanidinium thiocyanate)

IATA

UN number: 1760 Class: 8 Packing group: III

Proper shipping name: Corrosive liquid, n.o.s. (Guanidinium thiocyanate)

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act
Domestic act
Persistent organic pollutants control Act

No information available

Foreign Act
American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)
American supervision information

No information applicable

(Stockholm agreement material)
American supervision information

No information applicable

(Montreal protocol material)

EU Classification information (Confirmed classification results)	No information applicable
EU Classification information (Danger expression)	No information applicable
EU Classification information (Safety expression)	No information applicable

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	18-Nov-2021

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Primer

Product Number : 1002

Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.

19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea

Telephone : +82-2-6746-8064

Fax : +82-2-6746-8073

E-mail address : Sales@celemics.com

Version : 2

Date of issue : 23/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
No information applicable	-	-	-

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
Always wear recommended Personal Protective Equipment.
Use personal protection equipment.
See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE

Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits Contains no substances with occupational exposure limit values.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal protective Equipment

Respiratory protection

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

State

Liquid

Color

Colourless

Odour

No information available

Odour threshold

No information available

pH

No information available

Melting point/freezing point

No information available

Initial boiling point and boiling range

No information available

Flash point

No information available

Evaporation rate

No information available

Flammability (solid, gas)

No information available

Upper/lower flammability or explosive limits

No information available

Vapour pressure

No information available

Vapour density

No information available

Relative density

No information available

Water solubility

No information available

Partition coefficient: n-octanol/ water

No information available

Autoignition temperature

No information available

Decomposition temperature

No information available

Viscosity

No information available

Explosive properties

No information available

Oxidizing properties

No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Toxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available
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Persistence and degradability	No information available
--------------------------------------	--------------------------

Bioaccumulative potential	No information available
----------------------------------	--------------------------

Results of PBT and vPvB assessment

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

Other adverse effect	No information available
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Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
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UN proper shipping name	No information available
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Transport hazard class(es)	No information available
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Packing group	No information available
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Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)

American supervision information

No information applicable

(Stockholm agreement material)

American supervision information

No information applicable

(Montreal protocol material)

EU Classification information

No information applicable

(Confirmed classification results)

EU Classification information

No information applicable

(Danger expression)

EU Classification information

No information applicable

(Safety expression)

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	24-Nov-2021

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celeemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celeemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : dNTP Mixture

Product Number : 1003

Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.

19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea

Telephone : +82-2-6746-8064

Fax : +82-2-6746-8073

E-mail address : Sales@celemics.com

Version : 2

Date of issue : 23/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
No information applicable	-	-	-

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media****Suitable extinguishing media**

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE

Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Contains no substances with occupational exposure limit values.

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal protective Equipment

Respiratory protection

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Appearance****State**

Liquid

Color

Colourless

Odour

No information available

Odour threshold

No information available

pH

No information available

Melting point/freezing point

No information available

Initial boiling point and boiling range

No information available

Flash point

No information available

Evaporation rate

No information available

Flammability (solid, gas)

No information available

Upper/lower flammability or explosive limits

No information available

Vapour pressure

No information available

Vapour density

No information available

Relative density

No information available

Water solubility

No information available

Partition coefficient: n-octanol/ water

No information available

Autoignition temperature

No information available

Decomposition temperature

No information available

Viscosity

No information available

Explosive properties

No information available

Oxidizing properties

No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition productsHazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.**Thermal decomposition**

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Toxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available
-------------------------	--------------------------

Persistence and degradability	No information available
--------------------------------------	--------------------------

Bioaccumulative potential	No information available
----------------------------------	--------------------------

Results of PBT and vPvB assessment

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

Other adverse effect	No information available
-----------------------------	--------------------------

Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
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UN proper shipping name	No information available
--------------------------------	--------------------------

Transport hazard class(es)	No information available
-----------------------------------	--------------------------

Packing group	No information available
----------------------	--------------------------

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)

American supervision information

No information applicable

(Stockholm agreement material)

American supervision information

No information applicable

(Montreal protocol material)

EU Classification information

No information applicable

(Confirmed classification results)

EU Classification information

No information applicable

(Danger expression)

EU Classification information

No information applicable

(Safety expression)

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	24-Nov-2021

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : 1st Strand Synthesis Buffer 1

Product Number : 1004

Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.

19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea

Telephone : +82-2-6746-8064

Fax : +82-2-6746-8073

E-mail address : Sales@celemics.com

Version : 2

Date of issue : 23/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
No information applicable	-	-	-

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media****Suitable extinguishing media**

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE

Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Contains no substances with occupational exposure limit values.

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal protective Equipment

Respiratory protection

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

State

Liquid

Color

Colourless

Odour

No information available

Odour threshold

No information available

pH

No information available

Melting point/freezing point

No information available

Initial boiling point and boiling range

No information available

Flash point

No information available

Evaporation rate

No information available

Flammability (solid, gas)

No information available

Upper/lower flammability or explosive limits

No information available

Vapour pressure

No information available

Vapour density

No information available

Relative density

No information available

Water solubility

No information available

Partition coefficient: n-octanol/ water

No information available

Autoignition temperature

No information available

Decomposition temperature

No information available

Viscosity

No information available

Explosive properties

No information available

Oxidizing properties

No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Toxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Mobility in soil	No information available
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Persistence and degradability	No information available
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Bioaccumulative potential	No information available
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Results of PBT and vPvB assessment

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

Other adverse effect	No information available
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Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
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UN proper shipping name	No information available
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Transport hazard class(es)	No information available
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Packing group	No information available
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Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)

American supervision information

No information applicable

(Stockholm agreement material)

American supervision information

No information applicable

(Montreal protocol material)

EU Classification information

No information applicable

(Confirmed classification results)

EU Classification information

No information applicable

(Danger expression)

EU Classification information

No information applicable

(Safety expression)

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	24-Nov-2021

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celeemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celeemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : 1st Strand Synthesis Buffer 2

Product Number : 1005

Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.

19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea

Telephone : +82-2-6746-8064

Fax : +82-2-6746-8073

E-mail address : Sales@celemics.com

Version : 2

Date of issue : 23/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
No information applicable	-	-	-

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media****Suitable extinguishing media**

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE

Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Contains no substances with occupational exposure limit values.

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal protective Equipment

Respiratory protection

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

State

Liquid

Color

Colourless

Odour

No information available

Odour threshold

No information available

pH

No information available

Melting point/freezing point

No information available

Initial boiling point and boiling range

No information available

Flash point

No information available

Evaporation rate

No information available

Flammability (solid, gas)

No information available

Upper/lower flammability or explosive limits

No information available

Vapour pressure

No information available

Vapour density

No information available

Relative density

No information available

Water solubility

No information available

Partition coefficient: n-octanol/ water

No information available

Autoignition temperature

No information available

Decomposition temperature

No information available

Viscosity

No information available

Explosive properties

No information available

Oxidizing properties

No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Toxicity	
Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.	
Mobility in soil	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available
Results of PBT and vPvB assessment	
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	
Other adverse effect	No information available

Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods	
The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.	

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG	
Not classified as dangerous in the meaning of transport regulations.	
UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available
Environmental hazards	
No information available.	
Special precautions for user	
No information available.	
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	
No information available.	

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act	
No information available.	

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)

American supervision information

No information applicable

(Stockholm agreement material)

American supervision information

No information applicable

(Montreal protocol material)

EU Classification information

No information applicable

(Confirmed classification results)

EU Classification information

No information applicable

(Danger expression)

EU Classification information

No information applicable

(Safety expression)

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	24-Nov-2021

For research use only. Not for use in diagnostic procedures.

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End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : RNase Inhibitor

Product Number : 1006

Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.

19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea

Telephone : +82-2-6746-8064

Fax : +82-2-6746-8073

E-mail address : Sales@celemics.com

Version : 2

Date of issue : 23/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
glycerol	-	56-81-5	40-70

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media****Suitable extinguishing media**

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE

Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Ingredient name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
glycerol	15 mg/m3 5 mg/m3	-	-	-

Ingredient name	Brazil - OEL - TWAs (LTs)	Brazil - OEL - Ceilings	Brazil - OEL - Skin Designations
glycerol	15 mg/m3 5 mg/m3	-	-

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal protective Equipment

Respiratory protection

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

State	Liquid
Color	Colourless
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Water solubility	No information available
Partition coefficient: n-octanol/ water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Ingredient name	Oral LD50	Dermal LD50	InhalationLC50
glycerol	= 12600 mg/kg Oral	-	>570mg/m3 (Rat)

Principal Routes of Exposure

acute toxicity	No information available
Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Ingredient name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Microtox Data	log Pow
glycerol	-	Daphnia magna EC50>500 mg/L (24 h)	-	-	-

Mobility in soil	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available
Results of PBT and vPvB assessment	
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	
Other adverse effect	No information available

Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Ingredient name	US TSCA
glycerol	Listed

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act
Domestic act
Persistent organic pollutants control Act

No information available

Foreign Act
American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)
American supervision information

No information applicable

(Stockholm agreement material)
American supervision information

No information applicable

(Montreal protocol material)
EU Classification information

No information applicable

(Confirmed classification results)
EU Classification information

No information applicable

(Danger expression)

EU Classification information
(Safety expression)

No information applicable

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	24-Nov-2021

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celeemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celeemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : Reverse Transcriptase

Product Number : 1007

Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.

19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea

Telephone : +82-2-6746-8064

Fax : +82-2-6746-8073

E-mail address : Sales@celemics.com

Version : 2

Date of issue : 23/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
glycerol	-	56-81-5	40-70
Triton X-100	-	9002-93-1	=/>0.1 - <0.9

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE

Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Ingredient name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
glycerol	15 mg/m ³ 5 mg/m ³	-	-	-
Triton X-100	-	-	-	-

Ingredient name	Brazil - OEL - TWAs (LTs)	Brazil - OEL - Ceilings	Brazil - OEL - Skin Designations
glycerol	-	-	-
Triton X-100	-	-	-

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal protective Equipment

Respiratory protection

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Appearance**

State	Liquid
Color	Colourless
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Water solubility	No information available
Partition coefficient: n-octanol/ water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Ingredient name	Oral LD50	Dermal LD50	InhalationLC50
glycerol	= 12600 mg/kg Oral	> 10 g/kg(Rabbit	>570mg/m3 (Rat)
Triton X-100	= 1800 mg/kg (Rat)	-	-

Principal Routes of Exposure

acute toxicity	No information available
Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	No information available
Specific target organ toxicity (STOT) - single exposure	No information available
Specific target organ toxicity (STOT) - repeated exposure	No information available
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Ingredient name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Microtox Data	log Pow
glycerol	-	-	-	-	logPow-1.76
Triton X-100	-	-	-	-	-

Mobility in soil	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available
Results of PBT and vPvB assessment	
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	
Other adverse effect	No information available

Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Ingredient name	US TSCA
glycerol	Listed
Triton X-100	Listed

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

No information applicable

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)	
American supervision information	No information applicable
(Stockholm agreement material)	
American supervision information	No information applicable
(Montreal protocol material)	
EU Classification information	No information applicable
(Confirmed classification results)	
EU Classification information	No information applicable
(Danger expression)	
EU Classification information	No information applicable
(Safety expression)	

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	24-Nov-2021

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celeemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celeemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : 2nd Strand Synthesis 10X Buffer 1
Product Number : 1008
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8064
Fax : +82-2-6746-8073
E-mail address : Sales@celemics.com
Version : 2
Date of issue : 23/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
Potassium Chloride	-	7447-40-7	3 - 7

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media****Suitable extinguishing media**

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE

Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal protective Equipment

Respiratory protection

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

State

Liquid

Color

Colourless

Odour

Mild

Odour threshold

No information available

pH

No information available

Melting point/freezing point

No information available

Initial boiling point and boiling range

No information available

Flash point

No information available

Evaporation rate

No information available

Flammability (solid, gas)

No information available

Upper/lower flammability or explosive limits

No information available

Vapour pressure

No information available

Vapour density

No information available

Relative density

No information available

Water solubility

No information available

Partition coefficient: n-octanol/ water

No information available

Autoignition temperature

No information available

Decomposition temperature

No information available

Viscosity

No information available

Explosive properties

No information available

Oxidizing properties

No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Ingredient name	Oral LD50	Dermal LD50	InhalationLC50
Potassium Chloride	= 2600 mg/kg (Rat)	-	-

Principal Routes of Exposure

acute toxicity	No information available
Skin corrosion/irritation	Mild
Serious eye damage/irritation	Mild
Respiratory or skin sensitization	No information available
Target organ effects	Kidneys, Eyes, Skin, Respiratory system.
Carcinogenicity	No information available
Germ cell mutagenicity	No information available
Reproductive toxicity	No information available
Aspiration hazard	No information available

Section 12. ECOLOGICAL INFORMATION

Ecotoxicity	No information available
9.422% of the mixture consists of components(s) of unknown hazards to the aquatic environment.	
Mobility in soil	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available
Results of PBT and vPvB assessment	
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	
Other adverse effect	No information available

Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

DOT	Not regulated
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Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act

Domestic act

Persistent organic pollutants control Act

No information available

Foreign Act

American supervision information

No information applicable

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)**American supervision information**

No information applicable

(Stockholm agreement material)**American supervision information**

No information applicable

(Montreal protocol material)**EU Classification information**

No information applicable

(Confirmed classification results)**EU Classification information**

No information applicable

(Danger expression)**EU Classification information**

No information applicable

(Safety expression)

Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	24-Nov-2021

For research use only. Not for use in diagnostic procedures.

The information presented above is based on Celemics' state of knowledge at the time of preparation. The information shall not be taken as being all inclusive, and is to be used only as a guide. The information in this MSDS does not represent any guarantee of the properties or fitness for any particular purpose. Since personnel handling this material must make independent determinations of the actual methods and volume, Celemics, Inc. shall not be held liable for any damages resulting from handling or contact with this product.

End of Safety Data Sheet



Material Safety Data Sheet

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : 2nd Strand Synthesis Enzyme 1
Product Number : 1009
Brand : Celemics

Recommended use of the chemical and restrictions on use

Identified uses : For research use only. Not for pharmaceutical, household or other uses

Details of the supplier of the safety data sheet

Company : Celemics. Inc.
19F, Bldg. A, BYC Highcity, 131, Gasandigital 1-ro, Geumcheon-gu, Seoul, 153-718, Korea
Telephone : +82-2-6746-8064
Fax : +82-2-6746-8073
E-mail address : Sales@celemics.com
Version : 2
Date of issue : 23/November/2021

Section 2. HAZARDS IDENTIFICATION

GHS - Classification

Signal word

None.

Hazard pictograms

None.

Hazard Statements

No information available.

Precautionary Statements

Prevention

No information available.

Response

No information available.

Storage

No information available.

Disposal

No information available.

Other hazards

No information available.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances/Mixtures**

Ingredient name	Usual name	Cas No.	Amount (%)
Glycerol	-	56-81-5	30 - 60
Potassium Chloride	-	7447-40-7	0.1 - 1
Tris-HCl	-	1185-53-1	0.1 - 1
Bovine Serum Albumin	-	9048-46-8	<0.1
Ethylenediamine tetraacetic acid	-	60-00-4	<0.1
Dithiothreitol	-	3483-12-3	<0.1

There are no additional ingredients present which at their given concentration, are considered to be hazardous to health.

Section 4. FIRST AID MEASURES**Description of first aid measures****Skin contact**

Rinse with plenty of water. Immediate medical attention is not required.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth with water. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration or oxygen by trained personnel.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

None.

Section 5. FIRE-FIGHTING MEASURES**Extinguishing media****Suitable extinguishing media**

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the substance or mixture

Not known.

Advice for fire-fighters

Standard procedure for chemical fires.

Section 6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Always wear recommended Personal Protective Equipment.

Use personal protection equipment.

See section 8 for more detail.

Environmental precautions

No special environmental precautions required.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

Section 7. HANDLING AND STORAGE**Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s)

For research use only.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

Ingredient name	Korea	ACGIH TLV
Glycerol	TWA: 10 mg/m3	-

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls**Personal protective Equipment****Respiratory protection**

Respiratory protection not required. Use appropriate respirators and components according to known or anticipated exposure levels if a risk assessment indicates this is necessary.

Hand protection

Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection

Tight sealing safety goggles.

Skin and Body protection

Wear suitable protective clothing.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Appearance**

State	Liquid
Color	Colourless
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	No information available
Water solubility	No information available
Partition coefficient: n-octanol/ water	No information available
Autoignition temperature	392.8 ° C / 739 ° F
Decomposition temperature	No information available
Viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Section 10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

No information available.

Incompatible products

Strong acids, Strong oxidizing agents, Cyanides.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen cyanide (hydrocyanic acid), Ammonia.

Other decomposition products - No information available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides.

Thermal decomposition

No information available.

Section 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

acute toxicity

Toxicity level measurement

The following figures are calculated based on Chapter 3.1 of the GHS document

Estimates of acute toxicity (oral) **25,200.00 mg/kg**

ATEmix (transdermal) **20,000.00 mg/kg**

Ingredient information No information available

Ingredient name	Oral LD50	Dermal LD50	InhalationLC50
Glycerol	= 2600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 570 mg/m3 (Rat) 1 h
Potassium Chloride	= 2600 mg/kg (Rat)	-	-
Ethylenediamine tetraacetic acid	> 2000 mg/kg (Rat)	-	-

Principal Routes of Exposure

acute toxicity

No information available

Skin corrosion/irritation

No information available

Serious eye damage/irritation

No information available

Respiratory or skin sensitization

No information available

Target organ effects

No information available

Carcinogenicity

No information available

Germ cell mutagenicity

No information available

Reproductive toxicity

No information available

Aspiration hazard

No information available

Section 12. ECOLOGICAL INFORMATION

Ecotoxicity

Percentage of unknown hazard 0% of the mixture consists of ingredients of unknown hazard to the aquatic environment

Ingredient name	Algae/Aquatic Plants	Pisces	Microbial toxicity	shellfish
glycerol	-	LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss) -	-	EC50: >500mg/L (24h, Daphnia magna)
Potassium Chloride	EC50: =2500mg/L (72h, Desmodesmus subspicatus)	LC50: 750 - 1020mg/L (96h, Pimephales promelas) LC50: =1060mg/L (96h, Lepomis macrochirus)	-	EC50: =83mg/L (48h, Daphnia magna) EC50: =825mg/L (48h, Daphnia magna)

Ethylenediamine	EC50: =1.01mg/L (72h,	LC50: 44.2 - 76.5mg/L (96h,	EC50: =113mg/L (48h,
tetraacetic acid	Desmodemus subspicatus)	Pimephales promelas)	Daphnia magna)
		LC50: 34 - 62mg/L (96h,	-
		Lepomis macrochirus)	

Mobility in soil	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available

Ingredient name	Partition coefficient
glycerol	-1.76

Results of PBT and vPvB assessment

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

Other adverse effect	No information available
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Section 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

Section 14. TRANSPORT INFORMATION

IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

UN number	No information available
UN proper shipping name	No information available
Transport hazard class(es)	No information available
Packing group	No information available

Environmental hazards

No information available.

Special precautions for user

No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Section 15. REGULATORY INFORMATION

Regulation under the Occupational Safety and Health Act

No information available.

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

No information available.

Dangerous Substances Safety Management Act

No information available.

Wastes Control Act

Follow article 13 of the act to dispose the product waste.

Regulations of other domestic and international Act
Domestic act
Persistent organic pollutants control Act

No information available

Foreign Act
American supervision information

No information applicable

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

EPCRA 302

No information applicable

EPCRA 304

No information applicable

EPCRA 313

No information applicable

American supervision information

No information applicable

(Rotterdam agreement material)
American supervision information

No information applicable

(Stockholm agreement material)
American supervision information

No information applicable

(Montreal protocol material)
EU Classification information

No information applicable

(Confirmed classification results)
EU Classification information

No information applicable

(Danger expression)
EU Classification information

No information applicable

(Safety expression)
Section 16. OTHER INFORMATION

Reason for revision	SDS sections updated
Revision number	2
Revision date	24-Nov-2021

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End of Safety Data Sheet