

Table. 8\_Celemics\_met\_illumina

Celemics MSDS_1004_5X ERA-Tailing Enzyme Mix_English_V2.1	1
Celemics MSDS_1005_10X ERA Buffer_English_V2.1	7
Celemics MSDS_1006_WGS Ligase_English_V2.1	13
Celemics MSDS_1007_5X Rapid Ligase Buffer_English_V2.1	19
Celemics MSDS_2001~2024_PCR index primer 1~24_English_V2.1	25
Celemics MSDS_2025_Adapter (U)_English_V2.1	31
Celemics MSDS_2026_USER-English_V2.1	37
Celemics MSDS_2027_Pre Capture PCR Forward Primer_English_V2.1	44
Celemics MSDS_2028-2067_Dual index primer_English_V2.1	50
Celemics MSDS_2068_Short Adapter_English_V3.1	56
Celemics MSDS_2069_UMI Adapter_English_V2.1	62
Celemics MSDS_2070_Methyl Adapter_English_V2.1	68
Celemics MSDS_3001_Block#1_English_V2.1	74
Celemics MSDS_3002_Block#2_English_V2.1	80
Celemics MSDS_3003_Block #3(S)_English_V2.1	86
Celemics MSDS_3004_Block #3(D)_English_V2.1	92
Celemics MSDS_3005_Target Capture Probe #2_English_V2.1	98
Celemics MSDS_3006_Post Capture PCR Forward Primer_English_V2.1	105
Celemics MSDS_3007_Post Capture PCR Reverse Primer_English_V2.1	111
Celemics MSDS_3008_Methyl enhancer_English_V2.1	117
Celemics MSDS_4007_Hyb Buffer_English_V2.1	123
Celemics MSDS_21001-21192_UDI-Primer 1-192_English_V3.1	129
Celemics_MSDS_4001_Wash Buffer #1_English_V3.1	135
Celemics_MSDS_4002_Wash Buffer #2_English_V3.1	141
Celemics_MSDS_4003_Wash Buffer #3_English_V3.1	147
CLM MSDS_CMCB_CeleMag Clean-up Bead_English_V2.1	153
CLM MSDS_CMPF_CLM Polymerase English_V2.1	159



# Material Safety Data Sheet

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

### Identification of the substance or mixture

Product name : 5X ER/A-Tailing Enzyme Mix  
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 : +82-2-6746-8067  
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 (CO<sub>2</sub>). 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**

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#### **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

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

## Section 10. STABILITY AND REACTIVITY

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### 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<sub>x</sub>), 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<sub>x</sub>), Sulphur oxides.

### Thermal decomposition

No information available.

## Section 11. TOXICOLOGICAL INFORMATION

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### Information on toxicological effects

There is no evidence available indicating acute toxicity.

**Principal Routes of Exposure**

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

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

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**IATA/ADR/DOT-US/IMDG**

Not classified as dangerous in the meaning of transport regulations.

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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**

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**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**

<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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 : 10X ERA Buffer  
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 : +82-2-6746-8067  
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 (CO<sub>2</sub>). 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**

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#### **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

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

## Section 10. STABILITY AND REACTIVITY

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### 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<sub>x</sub>), 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<sub>x</sub>), 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**

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

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**Section 12. ECOLOGICAL INFORMATION**

**Toxicity**

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

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

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**Section 14. TRANSPORT INFORMATION**

**IATA/ADR/DOT-US/IMDG**

Not classified as dangerous in the meaning of transport regulations.

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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.

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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**

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**

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<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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 : WGS Ligase  
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 : +82-2-6746-8067  
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 (CO<sub>2</sub>). 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**

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#### **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

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

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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.

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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**

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**

<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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 : 5X Rapid Ligase Buffer  
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 : +82-2-6746-8067  
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 (CO<sub>2</sub>). 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

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

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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**

<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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 : PCR index primer 1~24  
Product Number : 2001~2024  
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 (CO<sub>2</sub>). 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

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

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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**


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<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

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

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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.

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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 : Adapter (U)  
Product Number : 2025  
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 (CO<sub>2</sub>). 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

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

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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**

<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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 : USER  
Product Number : 2026  
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	30 - 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 (CO<sub>2</sub>). 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/m<sup>3</sup> (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

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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**

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

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

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**Section 16. OTHER INFORMATION**

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<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

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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 : Pre Capture PCR Forward Primer  
Product Number : 2027  
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 (CO<sub>2</sub>). 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

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

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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**

<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

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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 : Dual index 501-516 primer  
Dual index 701-724 primer

Product Number : 2028 ~ 2067

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 (CO<sub>2</sub>). 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<sub>x</sub>), 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<sub>x</sub>), 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

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

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

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## Section 14. TRANSPORT INFORMATION

---

### IATA/ADR/DOT-US/IMDG

Not classified as dangerous in the meaning of transport regulations.

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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.

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**Section 15. REGULATORY INFORMATION**

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**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)**

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**Section 16. OTHER INFORMATION**

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**Reason for revision**            **MSDS updated****Revision number**            **2.1****Revision date**                **14-Mar-2023****For research use only. Not for use in diagnostic procedures.**

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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.

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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 : Short Adapter  
Product Number : 2068  
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 (CO<sub>2</sub>). 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

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

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

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

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**Section 14. TRANSPORT INFORMATION**

**IATA/ADR/DOT-US/IMDG**

Not classified as dangerous in the meaning of transport regulations.

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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**


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<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>3.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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 : UMI Adapter  
Product Number : 2069  
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 (CO<sub>2</sub>). 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

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

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

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

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**Section 14. TRANSPORT INFORMATION**

**IATA/ADR/DOT-US/IMDG**

Not classified as dangerous in the meaning of transport regulations.

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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**

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<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

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

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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.

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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 : Methyl Adapter  
Product Number : 2070  
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 (CO<sub>2</sub>). 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

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

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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**

<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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 : Block #1  
Product Number : 3001  
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 (CO<sub>2</sub>). 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

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

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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**

<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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 : 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 : +82-2-6746-8067  
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 (CO<sub>2</sub>). 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

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

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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**


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<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

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

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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(S)  
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 : +82-2-6746-8067  
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 (CO<sub>2</sub>). 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

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

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

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

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**Section 14. TRANSPORT INFORMATION**

**IATA/ADR/DOT-US/IMDG**

Not classified as dangerous in the meaning of transport regulations.

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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.

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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**

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**

<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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(D)  
Product Number : 3004  
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 (CO<sub>2</sub>). 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

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

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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**

<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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 : +82-2-6746-8067

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	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 (CO<sub>2</sub>). 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/m<sup>3</sup> (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



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

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**Section 16. OTHER INFORMATION**

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<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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 : Post Capture PCR Forward Primer  
Product Number : 3006  
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 (CO<sub>2</sub>). 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

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

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

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

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**Section 14. TRANSPORT INFORMATION**

**IATA/ADR/DOT-US/IMDG**

Not classified as dangerous in the meaning of transport regulations.

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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.

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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**

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**

<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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 : Post Capture PCR Reverse Primer  
Product Number : 3007  
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 (CO<sub>2</sub>). 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

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

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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.

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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**

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**


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<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

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

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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.

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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 : Methyl enhancer  
Product Number : 3008  
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 (CO<sub>2</sub>). 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

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

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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.

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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**

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**

<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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 : +82-2-6746-8067  
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 (CO<sub>2</sub>). 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<sub>x</sub>), 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<sub>x</sub>), 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**

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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**

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<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>3.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

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

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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.

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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 : UDI-Primer 1-192  
Product Number : 21001-21192  
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 (CO<sub>2</sub>). 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

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

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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**


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<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>3.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

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

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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.

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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 : 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 (CO<sub>2</sub>). 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

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

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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.

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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**

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**

<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>3.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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 : 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 (CO<sub>2</sub>). 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

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

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

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

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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.

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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**

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**


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<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>3.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

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

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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.

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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 : 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 (CO<sub>2</sub>). 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

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

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

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

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**Section 14. TRANSPORT INFORMATION**

**IATA/ADR/DOT-US/IMDG**

Not classified as dangerous in the meaning of transport regulations.

<b>UN number</b>	No information available
<b>UN proper shipping name</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	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**

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<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>3.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

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

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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 : 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 (CO<sub>2</sub>). 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

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

## Section 10. STABILITY AND REACTIVITY

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### 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<sub>x</sub>), 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<sub>x</sub>), Sulphur oxides.

### Thermal decomposition

No information available.

## Section 11. TOXICOLOGICAL INFORMATION

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### Information on toxicological effects

There is no evidence available indicating acute toxicity.

**Principal Routes of Exposure**

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

### Section 12. ECOLOGICAL INFORMATION

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**Toxicity**

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

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

### Section 13. DISPOSAL CONSIDERATIONS

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**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

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**IATA/ADR/DOT-US/IMDG**

Not classified as dangerous in the meaning of transport regulations.

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

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**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**

<b>Reason for revision</b>	<b>MSDS updated</b>
<b>Revision number</b>	<b>2.1</b>
<b>Revision date</b>	<b>14-Mar-2023</b>

**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 : 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 (CO<sub>2</sub>). 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.

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## Section 6. ACCIDENTAL RELEASE MEASURES

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### 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.

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## Section 7. HANDLING AND STORAGE

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### 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.

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## Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Control parameters

#### Exposure Limits

##### occupational exposure limit

- Glycerol

Glycerin TWA : 10mg/m<sup>3</sup> (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

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#### 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

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**Section 13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

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**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.

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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**

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**Wastes Control Act**

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**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

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

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**Section 16. OTHER INFORMATION**

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<b>Reason for revision</b>	<b>MSDS updated</b>
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<b>Revision date</b>	<b>14-Mar-2023</b>

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**End of Safety Data Sheet**