

KIT SAFETY DATA SHEET



Kit Product Name Melt Calibration Kit
Kit Catalogue Number(s) 1845020
Revision date 12-Jul-2023

Kit Contents

| Catalogue Number(s) | Product Name |
|----------------------------|-------------------------------|
| 10016289 | Melt Calibration DNA Standard |
| 10021704, 10016273 | Melt Calibration Primers |
| 1725110, 1725112, 10021876 | Precision Melt Supermix |



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
GB/T 16483-2008, GB/T 17519-2013

Product Name Melt Calibration DNA Standard

Revision date 11-Jul-2023

Revision Number 1

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

Product identifier

Product Name Melt Calibration DNA Standard

Catalogue Number(s) 10016289

Other means of identification

Pure substance/mixture Mixture

Details of the supplier of the safety data sheet

Corporate Headquarters

Bio-Rad Laboratories Inc.
1000 Alfred Nobel Drive
Hercules, CA 94547
USA

Manufacturer

Bio-Rad Laboratories, Life Science Group
2000 Alfred Nobel Drive
Hercules, California 94547
USA

Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.
1st and 2nd Floor, Lumpini 1 Building
239/2, Rajdamri Road, Lumpini,
Pathumwan, Bangkok 10330
Thailand

Technical Service +66 2 652 8313
ctsthailand@bio-rad.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Hong Kong: 800-968-793

Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

SECTION 2: Hazards identification

Emergency Overview

No significant adverse health effects

Appearance aqueous solution

Physical state Liquid

Odour Odourless

Classification of the substance or mixture

Not classified

Label elements

Hazard statements

Not classified

Physical and chemical hazards

Not applicable.

Health hazards

Immediate Health Effects: Not applicable.

Chronic effects: Not applicable.

Environmental hazards

Not applicable

Other hazards which do not result in classification

Not applicable

SECTION 3: Composition/information on ingredients**Substance**

Not applicable.

Mixture

Not classified.

SECTION 4: First aid measures**Description of necessary first aid measures**

| | |
|---|--|
| General advice | No hazards which require special first aid measures. |
| Inhalation | Remove to fresh air. |
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor. |
| Skin contact | Wash skin with soap and water. |
| Ingestion | Rinse mouth thoroughly with water. |
| <u>Most important symptoms and effects, both acute and delayed</u> | No information available. |
| <u>For emergency responders</u> | No information available. |
| <u>Note to doctors</u> | Treat symptomatically. |

SECTION 5: Firefighting measures**Extinguishing media**

| | |
|--|---|
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | No information available. |
| <u>Specific hazards arising from the chemical</u> | No information available. |
| <u>Special protective actions for fire-fighters</u> | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

| | |
|--|---|
| Personal precautions | See section 8 for more information. |
| For emergency responders | Use personal protection recommended in Section 8. |
| <u>Environmental precautions</u> | See Section 12 for additional Ecological Information. |
| <u>Methods and material for containment and cleaning up</u> | Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labelled containers. |
| <u>Precautions to prevent secondary hazards</u> | Clean contaminated objects and areas thoroughly observing environmental regulations. |

SECTION 7: Handling and storage

| | |
|--|--|
| <u>Precautions for safe handling</u> | Handle in accordance with good industrial hygiene and safety practice. See Section 8 for information on appropriate personal protective equipment. |
| <u>Conditions for safe storage, including any incompatibilities</u> | Store according to product and label instructions. |
| Incompatible materials | None known based on information supplied. |

SECTION 8: Exposure controls/personal protection**Occupational exposure limits**

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

Note See section 16 for terms and abbreviations

Biological occupational exposure limits

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

Monitoring and observation processes

No applicable information was found.

| | |
|------------------------------------|---|
| <u>Engineering controls</u> | Showers Eyewash stations Ventilation systems. |
|------------------------------------|---|

Individual protection measures, such as personal protective equipment

| | |
|---------------------------------------|--|
| Eye/face protection | Wear safety glasses with side shields (or goggles). |
| Skin and body protection | Wear suitable protective clothing. |
| Hand protection | Wear suitable gloves. |
| Respiratory protection | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| General hygiene considerations | Handle in accordance with good industrial hygiene and safety practice. |

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

| | |
|-----------------|--------------------------|
| Appearance | aqueous solution |
| Colour | colourless |
| Physical state | Liquid |
| Odour | Odourless |
| Odour threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--|----------------------|--------------------------------|
| pH | 8 | |
| Melting point / freezing point | 0 °C | |
| Boiling point / boiling range | 100 °C | |
| Flash point | No data available | None known |
| Evaporation rate | No data available | None known |
| Flammability (solid, gas) | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Vapour pressure | No data available | None known |
| Vapour density | No data available | None known |
| Relative density | No data available | None known |
| Water solubility | Miscible in water | |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | No data available | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |

Additional information

| | |
|----------------------|----------------|
| Explosive properties | Not applicable |
| Oxidising properties | Not applicable |

SECTION 10: Stability and reactivity

Stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Conditions to avoid None known based on information supplied.

Incompatible materials None known based on information supplied.

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

Acute toxicity

Numerical measures of toxicity

Component Information

| | |
|---|---|
| Skin corrosion/irritation | Based on available data, the classification criteria are not met. |
| Serious eye damage/eye irritation | Based on available data, the classification criteria are not met. |
| Respiratory or skin sensitisation | Based on available data, the classification criteria are not met. |
| Germ cell mutagenicity | Based on available data, the classification criteria are not met. |
| Carcinogenicity | Based on available data, the classification criteria are not met. |
| Reproductive toxicity | Based on available data, the classification criteria are not met. |
| Specific target organ toxicity — single exposure | Based on available data, the classification criteria are not met. |
| Specific target organ toxicity — repeated exposure | Based on available data, the classification criteria are not met. |
| Aspiration hazard | Based on available data, the classification criteria are not met. |

SECTION 12: Ecological information

| | |
|---|---|
| <u>Ecotoxicity</u> | The environmental impact of this product has not been fully investigated. |
| <u>Unknown aquatic toxicity</u> | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment |
| <u>Persistence and degradability</u> | No information available. |
| <u>Bioaccumulative potential</u> | No information available. |
| <u>Mobility in soil</u> | No information available. |

SECTION 13: Disposal considerations

| | |
|--------------------------------------|---|
| <u>Waste chemicals</u> | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| <u>Contaminated packaging</u> | Do not reuse empty containers. |

SECTION 14: Transport information

| | |
|--|--------------------------|
| <u>IMDG</u> | Not regulated |
| <u>Transport in bulk according to Annex II of MARPOL and the IBC Code</u> | No information available |
| <u>IATA</u> | Not regulated |
| <u>China</u> | Not regulated |

Special precautions for user
Please refer to the applicable dangerous goods regulations for additional information

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture**National regulations****Law of the People's Republic of China on Prevention and Control of Occupational Diseases**

| | |
|---|-----------------|
| Catalogue of occupational hazard factors: | Not applicable. |
| Catalogue of occupational diseases: | Not applicable. |

Regulations on the Control over Safety of Hazardous Chemicals

| | |
|---|-----------------|
| <u>Inventory of hazardous chemicals</u> | Not applicable. |
|---|-----------------|

| | |
|---|----------------|
| <u>GB 18218-2009 Identification of major hazard installations for dangerous chemicals</u> | Not applicable |
|---|----------------|

| | |
|--|----------------|
| List of hazardous chemicals under priority management | Not applicable |
|--|----------------|

Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used

| | |
|---------------------------------|----------------|
| Inventory of highly toxic goods | Not applicable |
|---------------------------------|----------------|

Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

| | |
|--|----------------|
| List of toxic chemicals severely restricted for import and export in China | Not applicable |
|--|----------------|

Measures for the Environmental Management of New Chemical Substances

| | |
|--|---|
| IECSC - China Inventory of Existing Chemical Substances | Contact supplier for inventory compliance status. |
|--|---|

International Regulations

| | |
|---|----------------|
| The Montreal Protocol on Substances that Deplete the Ozone Layer | Not applicable |
|---|----------------|

| | |
|--|----------------|
| The Stockholm Convention on Persistent Organic Pollutants | Not applicable |
|--|----------------|

| | |
|---------------------------------|----------------|
| The Rotterdam Convention | Not applicable |
|---------------------------------|----------------|

SECTION 16: Other information

| | |
|--------------------|---|
| Prepared By | Bio-Rad Laboratories, Environmental Health and Safety |
|--------------------|---|

| | |
|----------------------|-------------|
| Revision date | 11-Jul-2023 |
|----------------------|-------------|

| | |
|----------------------|--|
| Revision Note | Significant changes throughout SDS. Review all sections. |
|----------------------|--|

Abbreviations and acronyms**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
GB/T 16483-2008, GB/T 17519-2013

Product Name Melt Calibration Primers

Revision date 11-Jul-2023

Revision Number 1

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

Product identifier

Product Name Melt Calibration Primers

Catalogue Number(s) 10021704, 10016273

Other means of identification

Pure substance/mixture Mixture

Details of the supplier of the safety data sheet

Corporate Headquarters

Bio-Rad Laboratories Inc.
1000 Alfred Nobel Drive
Hercules, CA 94547
USA

Manufacturer

Bio-Rad Laboratories, Life Science Group
2000 Alfred Nobel Drive
Hercules, California 94547
USA

Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.
1st and 2nd Floor, Lumpini 1 Building
239/2, Rajdamri Road, Lumpini,
Pathumwan, Bangkok 10330
Thailand

Technical Service +66 2 652 8313
ctsthailand@bio-rad.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Hong Kong: 800-968-793

Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

SECTION 2: Hazards identification

Emergency Overview

No significant adverse health effects

Appearance solid

Physical state Solid

Odour Odourless

Classification of the substance or mixture

Not classified

Label elements

Hazard statements

Not classified

Physical and chemical hazards

Not applicable.

Health hazards

Immediate Health Effects: Not applicable.

Chronic effects: Not applicable.

Environmental hazards

Not applicable

Other hazards which do not result in classification

Not applicable

SECTION 3: Composition/information on ingredients**Substance**

Not applicable.

Mixture

Not classified.

SECTION 4: First aid measures**Description of necessary first aid measures**

| | |
|---|--|
| General advice | No hazards which require special first aid measures. |
| Inhalation | Remove to fresh air. |
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor. |
| Skin contact | Wash skin with soap and water. |
| Ingestion | Rinse mouth thoroughly with water. |
| <u>Most important symptoms and effects, both acute and delayed</u> | No information available. |
| <u>For emergency responders</u> | No information available. |
| <u>Note to doctors</u> | Treat symptomatically. |

SECTION 5: Firefighting measures**Extinguishing media**

| | |
|--|---|
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | No information available. |
| <u>Specific hazards arising from the chemical</u> | No information available. |
| <u>Special protective actions for fire-fighters</u> | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

| | |
|--|---|
| Personal precautions | See section 8 for more information. |
| For emergency responders | Use personal protection recommended in Section 8. |
| <u>Environmental precautions</u> | See Section 12 for additional Ecological Information. |
| <u>Methods and material for containment and cleaning up</u> | Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labelled containers. |
| <u>Precautions to prevent secondary hazards</u> | Clean contaminated objects and areas thoroughly observing environmental regulations. |

SECTION 7: Handling and storage

| | |
|--|--|
| <u>Precautions for safe handling</u> | Handle in accordance with good industrial hygiene and safety practice. See Section 8 for information on appropriate personal protective equipment. |
| <u>Conditions for safe storage, including any incompatibilities</u> | Store according to product and label instructions. |
| Incompatible materials | None known based on information supplied. |

SECTION 8: Exposure controls/personal protection**Occupational exposure limits**

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

Note See section 16 for terms and abbreviations

Biological occupational exposure limits

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

Monitoring and observation processes

No applicable information was found.

| | |
|------------------------------------|---|
| <u>Engineering controls</u> | Showers Eyewash stations Ventilation systems. |
|------------------------------------|---|

Individual protection measures, such as personal protective equipment

| | |
|---------------------------------------|--|
| Eye/face protection | Wear safety glasses with side shields (or goggles). |
| Skin and body protection | Wear suitable protective clothing. |
| Hand protection | Wear suitable gloves. |
| Respiratory protection | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| General hygiene considerations | Handle in accordance with good industrial hygiene and safety practice. |

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

| | |
|-----------------|--------------------------|
| Appearance | solid |
| Colour | white |
| Physical state | Solid |
| Odour | Odourless |
| Odour threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--|----------------------|--------------------------------|
| pH | | None known |
| Melting point / freezing point | No data available | None known |
| Boiling point / boiling range | No data available | None known |
| Flash point | No data available | None known |
| Evaporation rate | No data available | None known |
| Flammability (solid, gas) | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Vapour pressure | No data available | None known |
| Vapour density | No data available | None known |
| Relative density | No data available | None known |
| Water solubility | Soluble in water | |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | No data available | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |

Additional information

| | |
|----------------------|----------------|
| Explosive properties | Not applicable |
| Oxidising properties | Not applicable |

SECTION 10: Stability and reactivity

Stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Conditions to avoid None known based on information supplied.

Incompatible materials None known based on information supplied.

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information**Acute toxicity****Numerical measures of toxicity**

No information available

| | |
|---|---|
| Skin corrosion/irritation | Based on available data, the classification criteria are not met. |
| Serious eye damage/eye irritation | Based on available data, the classification criteria are not met. |
| Respiratory or skin sensitisation | Based on available data, the classification criteria are not met. |
| Germ cell mutagenicity | Based on available data, the classification criteria are not met. |
| Carcinogenicity | Based on available data, the classification criteria are not met. |
| Reproductive toxicity | Based on available data, the classification criteria are not met. |
| Specific target organ toxicity — single exposure | Based on available data, the classification criteria are not met. |
| Specific target organ toxicity — repeated exposure | Based on available data, the classification criteria are not met. |
| Aspiration hazard | Based on available data, the classification criteria are not met. |

SECTION 12: Ecological information

| | |
|---|---|
| <u>Ecotoxicity</u> | The environmental impact of this product has not been fully investigated. |
| <u>Unknown aquatic toxicity</u> | 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment |
| <u>Persistence and degradability</u> | No information available. |
| <u>Bioaccumulative potential</u> | No information available. |
| <u>Mobility in soil</u> | No information available. |

SECTION 13: Disposal considerations

| | |
|--------------------------------------|---|
| <u>Waste chemicals</u> | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| <u>Contaminated packaging</u> | Do not reuse empty containers. |

SECTION 14: Transport information

| | |
|---|---|
| <u>IMDG</u> | Not regulated |
| Transport in bulk according to Annex II of MARPOL and the IBC Code | No information available |
| <u>IATA</u> | Not regulated |
| <u>China</u> | Not regulated |
| Special precautions for user | Please refer to the applicable dangerous goods regulations for additional information |

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture**National regulations****Law of the People's Republic of China on Prevention and Control of Occupational Diseases**

| | |
|---|-----------------|
| Catalogue of occupational hazard factors: | Not applicable. |
| Catalogue of occupational diseases: | Not applicable. |

Regulations on the Control over Safety of Hazardous Chemicals

| | |
|---|-----------------|
| <u>Inventory of hazardous chemicals</u> | Not applicable. |
|---|-----------------|

| | |
|---|----------------|
| <u>GB 18218-2009 Identification of major hazard installations for dangerous chemicals</u> | Not applicable |
|---|----------------|

| | |
|--|----------------|
| List of hazardous chemicals under priority management | Not applicable |
|--|----------------|

Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used

| | |
|---------------------------------|----------------|
| Inventory of highly toxic goods | Not applicable |
|---------------------------------|----------------|

Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

| | |
|--|----------------|
| List of toxic chemicals severely restricted for import and export in China | Not applicable |
|--|----------------|

Measures for the Environmental Management of New Chemical Substances

| | |
|--|---|
| IECSC - China Inventory of Existing Chemical Substances | Contact supplier for inventory compliance status. |
|--|---|

International Regulations

| | |
|---|----------------|
| The Montreal Protocol on Substances that Deplete the Ozone Layer | Not applicable |
|---|----------------|

| | |
|--|----------------|
| The Stockholm Convention on Persistent Organic Pollutants | Not applicable |
|--|----------------|

| | |
|---------------------------------|----------------|
| The Rotterdam Convention | Not applicable |
|---------------------------------|----------------|

SECTION 16: Other information

| | |
|--------------------|---|
| Prepared By | Bio-Rad Laboratories, Environmental Health and Safety |
|--------------------|---|

| | |
|----------------------|-------------|
| Revision date | 11-Jul-2023 |
|----------------------|-------------|

| | |
|----------------------|--|
| Revision Note | Significant changes throughout SDS. Review all sections. |
|----------------------|--|

Abbreviations and acronyms**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications

Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme

Organisation for Economic Co-operation and Development Screening Information Data Set

RTECS (Registry of Toxic Effects of Chemical Substances)

World Health Organization

Disclaimer

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End of Safety Data Sheet



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
GB/T 16483-2008, GB/T 17519-2013

Product Name Precision Melt Supermix

Revision date 11-Jul-2023

Revision Number 1

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

Product identifier

Product Name Precision Melt Supermix

Catalogue Number(s) 1725110, 1725112, 10021876

Other means of identification

Pure substance/mixture Mixture

Details of the supplier of the safety data sheet

Corporate Headquarters

Bio-Rad Laboratories Inc.
1000 Alfred Nobel Drive
Hercules, CA 94547
USA

Manufacturer

Bio-Rad Laboratories, Life Science Group
2000 Alfred Nobel Drive
Hercules, California 94547
USA

Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.
1st and 2nd Floor, Lumpini 1 Building
239/2, Rajdamri Road, Lumpini,
Pathumwan, Bangkok 10330
Thailand

Technical Service +66 2 652 8313
ctsthailand@bio-rad.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Hong Kong: 800-968-793

Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

SECTION 2: Hazards identification

Emergency Overview

Irritating to skin
Irritating to eyes

Appearance aqueous solution **Physical state** Liquid **Odour** Odourless

Classification of the substance or mixture

| | |
|--|-------------|
| Skin corrosion/irritation | Category 3 |
| Serious eye damage/eye irritation | Category 2A |
| Hazardous to the Aquatic Environment - Chronic Hazard | Category 3 |

Label elements

**Signal word**

Warning

Hazard statements

Causes mild skin irritation

Causes serious eye irritation

Harmful to aquatic life with long lasting effects

Precautionary statements**Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Avoid release to the environment

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

Response

If skin irritation occurs: Get medical advice/attention

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

If eye irritation persists: Get medical advice/attention

Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Physical and chemical hazards

Not applicable.

Health hazards

Immediate Health Effects: Causes skin irritation (pain, redness and swelling). Causes severe irritation (tears, blurred vision and redness). Irritating, but will not permanently injure eye tissue.

Chronic effects: Not applicable.

Environmental hazards

This material is a water pollutant. Keep out of drains, sewers, ditches and waterways. Minimise use of water to prevent environmental contamination

Other hazards which do not result in classification

Not applicable

SECTION 3: Composition/information on ingredients**Substance**

Not applicable.

Mixture

| Chemical name | Weight-% | CAS No |
|--------------------|----------|-----------|
| Potassium acetate | 1 - 2.5 | 127-08-2 |
| Trade secret | 1 - 2.5 | - |
| Magnesium chloride | 1 - 2.5 | 7786-30-3 |
| Trade secret | 1 - 2.5 | - |
| Trade secret | 1 - 2.5 | - |

SECTION 4: First aid measures

Description of necessary first aid measures

| | |
|---|---|
| General advice | Show this safety data sheet to the doctor in attendance. |
| Inhalation | Remove to fresh air. |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists. |
| Skin contact | Wash skin with soap and water. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor. |
| <u>Most important symptoms and effects, both acute and delayed</u> | May cause redness and tearing of the eyes. Burning sensation. Prolonged contact may cause redness and irritation. |
| <u>For emergency responders</u> | Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). |
| <u>Note to doctors</u> | Treat symptomatically. |

SECTION 5: Firefighting measures**Extinguishing media**

| | |
|--|--|
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | No information available. |
| <u>Specific hazards arising from the chemical</u> | No information available. |
| <u>Special protective actions for fire-fighters</u> | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

| | |
|--|---|
| Personal precautions | Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. |
| Other information | Refer to protective measures listed in Sections 7 and 8. |
| For emergency responders | Use personal protection recommended in Section 8. |
| <u>Environmental precautions</u> | See Section 12 for additional Ecological Information. |
| <u>Methods and material for containment and cleaning up</u> | Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labelled containers. |
| <u>Precautions to prevent secondary hazards</u> | Clean contaminated objects and areas thoroughly observing environmental regulations. |

SECTION 7: Handling and storage

| | |
|---|---|
| <u>Precautions for safe handling</u> | Handle in accordance with good industrial hygiene and safety practice. Avoid contact with |
|---|---|

skin, eyes or clothing. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. See Section 8 for information on appropriate personal protective equipment.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Store according to product and label instructions.

Incompatible materials

None known based on information supplied.

SECTION 8: Exposure controls/personal protection

Occupational exposure limits

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

Note

See section 16 for terms and abbreviations

Biological occupational exposure limits

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

Monitoring and observation processes

No applicable information was found.

Engineering controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear suitable protective clothing.

Hand protection

Wear suitable gloves.

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

| | |
|-----------------|--------------------------|
| Appearance | aqueous solution |
| Colour | clear |
| Physical state | Liquid |
| Odour | Odourless |
| Odour threshold | No information available |

Property

Values

Remarks • Method

| | | |
|---------------------------------|-------------------|------------|
| pH | 8.5 | |
| Melting point / freezing point | No data available | None known |
| Boiling point / boiling range | > 100 °C | |
| Flash point | No data available | None known |
| Evaporation rate | No data available | None known |
| Flammability (solid, gas) | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive | No data available | |

| | | |
|---|-------------------|------------|
| limits | | |
| Lower flammability or explosive limits | No data available | |
| Vapour pressure | No data available | None known |
| Vapour density | No data available | None known |
| Relative density | No data available | None known |
| Water solubility | Miscible in water | |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | No data available | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |

Additional information

| | |
|-----------------------------|----------------|
| Explosive properties | Not applicable |
| Oxidising properties | Not applicable |

SECTION 10: Stability and reactivity

Stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Conditions to avoid None known based on information supplied.

Incompatible materials None known based on information supplied.

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information**Acute toxicity****Numerical measures of toxicity**

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

ATEmix (oral) 47,919.70 mg/kg

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--------------------|-----------------------|--------------------------|-------------------------|
| Potassium acetate | = 3250 mg/kg (Rat) | > 20000 mg/kg (Rabbit) | - |
| Trade secret | = 1800 mg/kg (Rat) | - | - |
| Magnesium chloride | = 2800 mg/kg (Rat) | > 2000 mg/kg (Rat) | - |
| Trade secret | = 2840 mg/kg (Rat) | > 2000 mg/kg (Rat) | - |
| Trade secret | = 12600 mg/kg (Rat) | > 10 g/kg (Rabbit) | > 2.75 mg/L (Rat) 4 h |

Skin corrosion/irritation May cause skin irritation. Classification based on data available for ingredients.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye irritation.

| | |
|---|---|
| Respiratory or skin sensitisation | Based on available data, the classification criteria are not met. |
| Germ cell mutagenicity | Based on available data, the classification criteria are not met. |
| Carcinogenicity | Based on available data, the classification criteria are not met. |
| Reproductive toxicity | Based on available data, the classification criteria are not met. |
| Specific target organ toxicity — single exposure | Based on available data, the classification criteria are not met. |
| Specific target organ toxicity — repeated exposure | Based on available data, the classification criteria are not met. |
| Target organ effects | Kidney. Respiratory system. Eyes. Skin. |
| Aspiration hazard | Based on available data, the classification criteria are not met. |

SECTION 12: Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

| Chemical name | Algae/aquatic plants | Fish | Crustacea |
|--------------------|--|---|---|
| Potassium acetate | - | LC50: =6800mg/L (96h, <i>Oncorhynchus mykiss</i>) | - |
| Magnesium chloride | EC50: >82.7mg/L (72h, <i>Pseudokirchneriella subcapitata</i>) | LC50: 1970 - 3880mg/L (96h, <i>Pimephales promelas</i>) | EC50: =140mg/L (48h, <i>Daphnia magna</i>) |
| Trade secret | - | LC50: =250mg/L (96h, <i>Brachydanio rerio</i>) LC50: =480mg/L (96h, <i>Brachydanio rerio</i>) LC50: =420mg/L (96h, <i>Brachydanio rerio</i>) LC50: =18mg/L (96h, <i>Cyprinus carpio</i>) LC50: 32.2 - 41.9mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: 5.2 - 8.2mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: >100mg/L (96h, <i>Pimephales promelas</i>) LC50: 123 - 128mg/L (96h, <i>Poecilia reticulata</i>) LC50: =126mg/L (96h, <i>Poecilia reticulata</i>) | LC50: =14mg/L (48h, <i>Daphnia magna</i>) |
| Trade secret | - | LC50: 51 - 57mL/L (96h, <i>Oncorhynchus mykiss</i>) | - |

Persistence and degradability No information available.

Bioaccumulative potential There is no data for this product.

Component Information

| Chemical name | Partition coefficient |
|---------------|-----------------------|
| Trade secret | -5.1 |
| Trade secret | -1.75 |

Mobility in soil No information available.

SECTION 13: Disposal considerations

| | |
|-------------------------------|---|
| <u>Waste chemicals</u> | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| <u>Contaminated packaging</u> | Do not reuse empty containers. |

SECTION 14: Transport information

| | |
|--|--------------------------|
| <u>IMDG</u> | Not regulated |
| <u>Transport in bulk according to Annex II of MARPOL and the IBC Code</u> | No information available |
| <u>IATA</u> | Not regulated |
| <u>China</u> | Not regulated |
| Special precautions for user Please refer to the applicable dangerous goods regulations for additional information | |

SECTION 15: Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Law of the People's Republic of China on Prevention and Control of Occupational Diseases**

| | |
|---|-----------------|
| Catalogue of occupational hazard factors: | Not applicable. |
| Catalogue of occupational diseases: | Not applicable. |

Regulations on the Control over Safety of Hazardous Chemicals

| | |
|---|-----------------|
| <u>Inventory of hazardous chemicals</u> | Not applicable. |
|---|-----------------|

| | |
|---|----------------|
| <u>GB 18218-2009 Identification of major hazard installations for dangerous chemicals</u> | Not applicable |
|---|----------------|

| | |
|--|----------------|
| List of hazardous chemicals under priority management | Not applicable |
|--|----------------|

Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used

| | |
|---------------------------------|----------------|
| Inventory of highly toxic goods | Not applicable |
|---------------------------------|----------------|

Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

| | |
|--|----------------|
| List of toxic chemicals severely restricted for import and export in China | Not applicable |
|--|----------------|

Measures for the Environmental Management of New Chemical Substances

| | |
|--|---|
| IECSC - China Inventory of Existing Chemical Substances | Contact supplier for inventory compliance status. |
|--|---|

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

SECTION 16: Other information

Prepared By Bio-Rad Laboratories, Environmental Health and Safety

Revision date 11-Jul-2023

Revision Note Significant changes throughout SDS. Review all sections.

Abbreviations and acronymsLegend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Disclaimer

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End of Safety Data Sheet