KIT SAFETY DATA SHEET



Kit Product Name iProof GC Master Mix, Kit

Kit Catalog Number(s) 1725320

Revision date 30-Aug-2023

Kit Contents

Catalog Number(s)	Product Name
10002430	Dimethylsulfoxide (DMSO)
10002331, 10002440, 1725984	2X iProof GC Master Mix

KITA / EN Page 1/16

SAFETY DATA SHEET



Revision date 30-Aug-2023 Revision Number 1.1

1. Identification

Product identifier

Product Name Dimethylsulfoxide (DMSO)

Other means of identification

Catalog Number(s) 10002430

Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

Details of the supplier of the safety data sheet

<u>Corporate Headquarters</u> <u>Manufacturer Address</u> <u>Legal Entity / Contact Address</u>

Bio-Rad Laboratories Inc.

Bio-Rad Laboratories, Life Science Group Bio-Rad Laboratories

1000 Alfred Nobel Drive 2000 Alfred Nobel Drive Life Science

Hercules, CA 94547 Hercules, California 94547 2000 Alfred Nobel Drive USA Hercules, California 94547 Hercules, California 94547

Technical Service 1-800-424-6723

support@bio-rad.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC USA: 1 (800) 424-9300

2. Hazard(s) identification

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Hazard statements

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

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

Appearance Clear Physical state Liquid Odor Odorless

Other information

No information available.

3. Composition/information on ingredients

Substance

Chemical name	CAS No	Weight-%	Trade secret
Dimethyl sulfoxide	67-68-5	50 - 100	*

^{*}The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of 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 physician.

Skin contact Wash skin with soap and water.

Ingestion Rinse mouth.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

surrounding environment.

Specific hazards arising from the

chemical

No information available.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Methods and material for containment and cleaning up

Dimethylsulfoxide (DMSO)

Revision date 30-Aug-2023

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store according to product and label instructions.

8. Exposure controls/personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational

exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Skin and body protectionNo special protective equipment required.

exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical stateLiquidAppearanceClearColorcolorlessOdorOdorless

Odor threshold No information available

Property Values Remarks • Method

рΗ

Melting point / freezing point

Boiling point / boiling range

Flash point

18.44 °C / 65.2 °F

189 °C / 372.2 °F

95 °C / 203 °F

Evaporation rate No data available None known

Dimethylsulfoxide (DMSO)

Revision date 30-Aug-2023

Flammability (solid, gas) No data available None known Flammability Limit in Air None known

No data available

Upper flammability or explosive

limits

Lower flammability or explosive No data available

limits

Vapor pressure None known No data available Vapor density No data available None known No data available Relative density None known

Miscible in water Water solubility

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

Other information

Explosive properties No information available No information available **Oxidizing properties** Softening point No information available Molecular weight No information available **VOC** content No information available **Liquid Density** No information available **Bulk density** No information available

10. Stability and reactivity

No information available. Reactivity

Stable under normal conditions. **Chemical stability**

Possibility of hazardous reactions None under normal processing.

Conditions to avoid None known based on information supplied.

None known based on information supplied. Incompatible materials

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Inhalation Specific test data for the substance or mixture is not available.

Eve contact Specific test data for the substance or mixture is not available.

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

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Dimethyl sulfoxide	= 28300 mg/kg (Rat)	= 40000 mg/kg (Rat)	> 5.33 mg/L (Rat) 4 h
67-68-5			

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritationNo information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Dimethyl sulfoxide 67-68-5	-	LC50: =34000mg/L (96h, Pimephales promelas) LC50: 33 - 37g/L (96h, Oncorhynchus mykiss) LC50: >40g/L (96h, Lepomis macrochirus) LC50: =41.7g/L (96h, Cyprinus carpio)	-	-

Persistence and degradability No information available.

Bioaccumulation

Component Information

Component information				
Chemical name	Partition coefficient			

Dimethylsulfoxide (DMSO)

Revision date 30-Aug-2023

Dimethyl sulfoxide	-1.35
67-68-5	

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused

products

Dispose of in accordance with local regulations. Dispose of waste in accordance with

environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT Not regulated

TDG Not regulated

MEX Not regulated

IATA Not regulated

IMDG Not regulated

15. Regulatory information

International Inventories Contact supplier for inventory compliance status

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

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

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Dimethyl sulfoxide	X	-	-
67-68-5			

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information	1	l 6 .	Ot	her	info	orm	atio	1
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NFPA Health hazards 0 Flammability 1 Instability 0 Special hazards - HMIS Health hazards 0 Flammability 1 Physical hazards 0 Personal protection X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

Ceiling Maximum limit value * Skin designation

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)

National Institute of Technology and Evaluation (NITE)

Australia 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)

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

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

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

World Health Organization

Revision date 30-Aug-2023

Revision Note Significant changes throughout SDS. Review all sections.

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



Revision date 05-Oct-2022 Revision Number 1

1. Identification

Product identifier

Product Name 2X iProof GC Master Mix

Other means of identification

Catalog Number(s) 10002331, 10002440, 1725984

Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

Details of the supplier of the safety data sheet

<u>Corporate Headquarters</u> <u>Manufacturer Address</u> <u>Legal Entity / Contact Address</u>

Bio-Rad Laboratories Inc. Bio-Rad Laboratories, Life Science Group Bio-Rad Laboratories

1000 Alfred Nobel Drive 2000 Alfred Nobel Drive Life Science

Hercules, CA 94547 Hercules, California 94547 2000 Alfred Nobel Drive USA Hercules, California 94547 Hercules, California 94547

Technical Service 1-800-424-6723

support@bio-rad.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC USA: 1 (800) 424-9300

2. Hazard(s) identification

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Hazard statements

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

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

Appearance aqueous solution Physical state Liquid Odor Odorless

Other information

AGHS / EN Page 9/16

No information available.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%	Trade secret
Water	7732-18-5	50 - 100	*
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-	77-86-1	1 - 2.5	*
Potassium chloride	7447-40-7	1 - 2.5	*
Diammonium sulfate	7783-20-2	0.3 - 0.99	*
Poly(oxy-1,2-ethanediyl), .alpha[4-(1,1,3,3-tetramethylbutyl)phenyl]omega. -hydroxy-	9002-93-1	0.1 - 0.299	*
Magnesium chloride (MgCl2), hexahydrate	7791-18-6	0.01 - 0.099	*
Thymidine 5-(tetrahydrogen triphosphate), sodium salt (1:?)	18423-43-3	0.01 - 0.099	*
Guanosine 5-(tetrahydrogen triphosphate), 2-deoxy-, trisodium salt	93919-41-6	0.01 - 0.099	*
Cytidine 5-(tetrahydrogen triphosphate), 2-deoxy-, disodium salt	102783-51-7	0.01 - 0.099	*
2-Deoxyadenosine 5-(tetrahydrogen triphosphate)	1927-31-7	0.01 - 0.099	*
Nucleotidyltransferase, deoxyribonucleate	9012-90-2	0.01 - 0.099	*

^{*}The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of 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 physician.

Skin contact Wash skin with soap and water.

Ingestion Rinse mouth.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

5. Fire-fighting measures

surrounding environment.

Specific hazards arising from the No information available.

chemical

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store according to product and label instructions.

8. Exposure controls/personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational

exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Skin and body protectionNo special protective equipment required.

exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid

Appearance aqueous solution colorless
Odor Odorless

Odor threshold No information available

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

pH 8.8

Melting point / freezing point > 0 °C / 32 °F Boiling point / boiling range > 100 °C / 212 °F

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 No data available

limits

Vapor pressureNo data availableNone knownVapor densityNo data availableNone knownRelative densityNo data availableNone known

Water solubility Miscible in water

Solubility(ies) No data available None known No data available Partition coefficient None known No data available None known Autoignition temperature No data available None known **Decomposition temperature** Kinematic viscosity No data available None known Dynamic viscosity No data available None known

Other information

Explosive properties
Oxidizing properties
No information available
VOC content
No information available
Liquid Density
No information available
Bulk density
No information available

10. Stability and reactivity

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid None known based on information supplied.

Incompatible materialsNone known based on information supplied.

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Inhalation Specific test data for the substance or mixture is not available.

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

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

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity

Component Information

Component information			
Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)	-	-
7732-18-5			
1,3-Propanediol,	= 5900 mg/kg (Rat)	> 5000 mg/kg (Rat)	-
2-amino-2-(hydroxymethyl)-			
77-86-1			
Potassium chloride	= 2600 mg/kg (Rat)	-	-
7447-40-7			
Diammonium sulfate	= 2840 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
7783-20-2			
Poly(oxy-1,2-ethanediyl),	= 1800 mg/kg (Rat)	-	-
.alpha[4-(1,1,3,3-tetramethylbu			
tyl)phenyl]omegahydroxy-			
9002-93-1			
Magnesium chloride (MgCl2),	= 8100 mg/kg (Rat)	-	-
hexahydrate			
7791-18-6			

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritationNo information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Potassium chloride 7447-40-7	EC50: =2500mg/L (72h, Desmodesmus subspicatus)	LC50: =1060mg/L (96h, Lepomis macrochirus) LC50: 750 - 1020mg/L (96h, Pimephales promelas)	-	EC50: =825mg/L (48h, Daphnia magna) EC50: =83mg/L (48h, Daphnia magna)
Diammonium sulfate 7783-20-2	-	LC50: =250mg/L (96h, Brachydanio rerio) LC50: =480mg/L (96h, Brachydanio rerio) LC50: =420mg/L (96h, Brachydanio rerio) LC50: =18mg/L (96h, Cyprinus carpio) LC50: 32.2 - 41.9mg/L (96h, Oncorhynchus mykiss) LC50: 5.2 - 8.2mg/L (96h, Oncorhynchus mykiss) LC50: >100mg/L (96h, Pimephales promelas) LC50: 123 - 128mg/L (96h, Poecilia reticulata) LC50: =126mg/L (96h, Poecilia reticulata)	-	LC50: =14mg/L (48h, Daphnia magna)

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Chemical name	Partition coefficient
Diammonium sulfate	-5.1
7783-20-2	

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with

environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOTNot regulatedTDGNot regulatedMEXNot regulatedIATANot regulatedIMDGNot regulated

15. Regulatory information

International Inventories Contact supplier for inventory compliance status

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Diammonium sulfate - 7783-20-2	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

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

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Water	-	-	X
7732-18-5			
Diammonium sulfate 7783-20-2	-	Х	Х

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA Health hazards 0 Flammability 0 Instability 0 Special hazards - Hallth hazards 0 Flammability 0 Physical hazards 0 Personal protection X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

Ceiling Maximum limit value * Skin designation

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)

National Institute of Technology and Evaluation (NITE)

Australia 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)

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

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

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

World Health Organization

Revision date 05-Oct-2022

Revision Note Reformatted and updated existing information.

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