KIT SAFETY DATA SHEET



Kit Product Name Kit Catalog Number(s) Ligation Module Reagent Refill 1665016, 1665016EDU

Revision date

18-Apr-2023

Kit Contents

Catalog Number(s)	Product Name
1451083, 9703463	Sterile Water
10012350	T4 DNA Ligase
10012351	pJet1.2 Blunted Vector
10013895	2x Ligation Reaction Buffer
10012338	DNA Blunting Enzyme

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SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of: Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 24-Aug-2021

Revision Number 2.1

1. Identification		
Product identifier		
Product Name	Sterile Water	
Other means of identification		
Catalog Number(s)	1451083, 9703463	
Recommended use of the chemical	and restrictions on use	
Recommended use	Laboratory chemicals	
Restrictions on use	No information available	
Details of the supplier of the safety of	data sheet	
Corporate Headquarters Bio-Rad Laboratories Inc. 1000 Alfred Nobel Drive Hercules, CA 94547 USA	<u>Manufacturer Address</u> Bio-Rad Laboratories, Life Science Group 2000 Alfred Nobel Drive Hercules, California 94547 USA	Legal Entity / Contact Address Bio-Rad Laboratories (Canada) Ltd. 1329 Meyerside Drive Mississauga, ON L5T 1C9 Canada
Technical Service	1-800-361-1808 support@bio-rad.com	
Emergency telephone number		
24 Hour Emergency Phone Number	CHEMTREC Canada:1 (800) 424-9300	

2. Hazard(s) identification

Classification

Not classified

Label elements

Hazard statements

Not classified.

Other information

3. Composition/information on ingredients

Sterile Water

Substance

Chemical name	CAS No	Weight-%	Hazardous Material	Date HMIRA filed and
		-	Information Review Act date exemption grante	
			registry number	(if applicable)
			(HMIRA registry #)	
Water	7732-18-5	50 - 100	-	

4. First-aid measures

Description of 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 physician.
Skin contact	Wash skin with soap and water.
Ingestion	Rinse mouth thoroughly with water.
Most important symptoms and effe	cts, 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

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.
Specific hazards arising from the chemical	None known.
Explosion data Sensitivity to mechanical impac Sensitivity to static discharge	t None. None.
Special protective equipment 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 See section 8 for more information.

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 sat	fe handling	3

 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	Wear safety glasses with side shields (or goggles).
Hand protection	Wear suitable gloves.
Skin and body protection	Wear suitable protective clothing.
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.

9. Physical and chemical properties

Information on basic physical and o Physical state Appearance Color	Liquid clear liquid colorless	
Odor	Odorless	
Odor threshold	No information available	
<u>Property</u> pH	Values	Remarks • Method
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 pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Other information		
Explosive properties	Not applicable.	
Oxidizing properties	Not applicable.	
Softening point	Not applicable	
Molecular weight	Not applicable	
VOC content	Not applicable	

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 materials	None known based on information supplied.

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

Sumptoms related to the physical chemical and toxical aginal characteristics	
Ingestion	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Inhalation	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

Water	> 90 mL/kg (Rat)	-	-
7732-18-5			
Delayed and immediate effects	as well as chronic effects from	n short and long-term exposure	<u>e</u>
Skin corrosion/irritation	Based on available data, t	he classification criteria are not m	iet.
Contaura aura dama na laura imitati	an Deceden sveileble dete t	he algorification aritaria are not m	a t
Serious eye damage/eye irritat	ion based on available data, t	he classification criteria are not m	iei.
Respiratory or skin sensitization	n Based on available data t	he classification criteria are not m	let
Respiratory of skill sensitization			
Germ cell mutagenicity	Based on available data. t	he classification criteria are not m	iet.
,			
Carcinogenicity	Based on available data, t	he classification criteria are not m	iet.
Reproductive toxicity	Based on available data, t	he classification criteria are not m	iet.
STOT - single exposure	Based on available data, t	he classification criteria are not m	iet.
	Deceder available data t	he electification exiteria are not re	
STOT - repeated exposure	Based on available data, t	he classification criteria are not m	
Aspiration hazard	Based on available data t	he classification criteria are not m	
Aspiration hazaru	Dased on available data, t		

12. Ecological information			
Ecotoxicity	The environmental impact of this product has not been fully investigated.		
Persistence and degradability Bioaccumulation	No information available. No information available.		
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

TDG	Not regulated	
DOT	Not regulated	

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

International Inventories

Contact supplier for inventory compliance status

16. Other infor	rmation							
<u>NFPA</u>	Health hazards 0	Flammability	0 Insta	ability 0		Physical and chemical properties -		
HMIS	Health hazards 0	Flammability	0 Phy :	sical hazards	0	Personal protection X		
Key or legend to at	Key or legend to abbreviations and acronyms used in the safety data sheet							
TWA	EXPOSURE CONTROLS/PI TWA (time-weighted average) Maximum limit value		ECTION TEL	STEL (Short Skin designa		Exposure Limit)		
Agency for Toxic Su U.S. Environmental European Food Safe EPA (Environmental Acute Exposure Gui U.S. Environmental V.S. Environmental Food Research Jour Hazardous Substand International Uniform Japan GHS Classific Australia National In NIOSH (National Ins National Library of M National Library of M National Toxicology New Zealand's Cher Organization for Ecco	Protection Agency) deline Level(s) (AEGL(s)) Protection Agency Federal In Protection Agency High Prod rnal ce Database in Chemical Information Datab cation dustrial Chemicals Notificatio stitute for Occupational Safety Medicine's ChemID Plus (NLM Medicine's PubMed database Program (NTP) mical Classification and Inforr ponomic Co-operation and Dev ponomic Co-operation and Dev	ery (ATSDR) v Database secticide, Fungicid uction Volume Che base (IUCLID) n and Assessment r and Health) I CIP) (NLM PUBMED) nation Database (C elopment Environn elopment High Pro elopment Screenin	e, and Rodentic micals Scheme (NICN CCID) nent, Health, an duction Volume	IAS) Id Safety Public Chemicals Pr				
Prepared By	Bio-Rad L	aboratories, Enviro	onmental Health	and Safety.				
Revision date	24-Aug-20)21						
Revision Note	Reformatt	ed and updated ex	isting information	on.				

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 Number 1.1

This safety data sheet was created pursuant to the requirements of: Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 25-Mar-2022

1. Identification			
Product identifier			
Product Name	T4 DNA Ligase		
Other means of identification			
Catalog Number(s)	10012350		
Recommended use of the chemical	and restrictions on use		
Recommended use	Laboratory chemicals		
Restrictions on use	No information available		
Details of the supplier of the safety of	data sheet		
<u>Corporate Headquarters</u> Bio-Rad Laboratories Inc. 1000 Alfred Nobel Drive Hercules, CA 94547 USA	<u>Manufacturer Address</u> Bio-Rad Laboratories, Life Science Group 2000 Alfred Nobel Drive Hercules, California 94547 USA	Legal Entity / Contact Address Bio-Rad Laboratories (Canada) Ltd. 1329 Meyerside Drive Mississauga, ON L5T 1C9 Canada	
Technical Service	1-800-361-1808 support@bio-rad.com		
Emergency telephone number			
24 Hour Emergency Phone Number	CHEMTREC Canada:1 (800) 424-9300		

2. Hazard(s) identification

Classification

Not classified

Label elements

Hazard statements

Not classified.

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

Other information Harmful to aquatic life.

3. Composition/information on ingredients

Substance

Not applicable.

<u>Mixture</u>

Chemical name	CAS No	Weight-%	Hazardous Material	Date HMIRA filed and
		-	Information Review Act date exemption g	
			registry number	(if applicable)
			(HMIRA registry #)	
1,2,3-Propanetriol	56-81-5	50 - 100	-	

4. First-aid measures

Description of 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 physician.
Skin contact	Wash skin with soap and water.
Ingestion	Rinse mouth thoroughly with water.
Most important symptoms and effe	cts, 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

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.
Specific hazards arising from the chemical	None known.
Explosion data Sensitivity to mechanical impac Sensitivity to static discharge	t None. None.
Special protective equipment 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	See section 8 for more information.		
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

Chemical name	Alberta	British Columbia	Ontario	Quebec
1,2,3-Propanetriol	TWA: 10 mg/m ³	TWA: 10 mg/m ³		TWA: 10 mg/m ³
56-81-5	-	TWA: 3 mg/m ³		

Appropriate engineering controls

Engineering controls	Showers
0 0	Eyewash stations
	Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Hand protection	Wear suitable gloves.
Skin and body protection	Wear suitable protective clothing.
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.

9. Physical and chemical properties

Information on basic physical and chemical propertiesPhysical stateLiquidAppearanceaqueous solutionColorcolorless

Odor Odor threshold	Odorless No information available	
Property	<u>Values</u> 7.5	Remarks • Method
pH Melting point / freezing point Boiling point / boiling range	No data available > 100 °C / 212 °F	None known
Flash point Evaporation rate	> 160 °C / 320 °F No data available	None known
Flammability (solid, gas) Flammability Limit in Air	No data available	None known None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	N I I
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	392.78 °C / 739 °F	None known None known
Decomposition temperature Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Other information		
Explosive properties	Not applicable.	
Oxidizing properties	Not applicable.	
Softening point	Not applicable	
Molecular weight	Not applicable	
VOC content	Not applicable	

10. Stability and reactivity

Chemical stabilityStable under normal conditions.Possibility of hazardous reactionsNone under normal processing.	Reactivity	No information available.
Possibility of hazardous reactions None under normal processing.	Chemical stability	Stable under normal conditions.
	Possibility of hazardous reactions	None under normal processing.
Conditions to avoid None known based on information supplied.	Conditions to avoid	None known based on information supplied.
Incompatible materials None known based on information supplied.	Incompatible materials	None known based on information supplied.

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

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

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

No information available.

Acute toxicity

Numerical measures of toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
1,2,3-Propanetriol 56-81-5	= 12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 2.75 mg/L (Rat)4 h
50-61-5			

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

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 sensitization	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.
STOT - single exposure	Based on available data, the classification criteria are not met.
STOT - 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.

12. Ecological information

Ecotoxicity

Harmful to aquatic life.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
1,2,3-Propanetriol 56-81-5	-	LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss)	_	-

Persistence and degradability

There is no data for this product.

No information available.

Bioaccumulation

Component Information	
Chemical name	Partition coefficient
1,2,3-Propanetriol	-1.75
56-81-5	

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

TDG	Not regulated
DOT	Not regulated

15. Regulatory information

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

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

International Inventories Contact supplier for inventory compliance status

16. Other inf	ormation				
<u>NFPA</u>	Health hazards 0	Flammability	1 Instabili	t y 0	Physical and chemical properties -
HMIS	Health hazards 0	Flammability	1 Physical	hazards 0	Personal protection X
Key or legend to	abbreviations and acronym	ns used in the safet	y data sheet		
TWA Ceiling Key literature ref Agency for Toxic S U.S. Environmenta European Food Sa EPA (Environment Acute Exposure G U.S. Environmenta V.S. Environmenta Food Research Jo Hazardous Substa International Unifo Japan GHS Class Australia National NIOSH (National I National Library of	ance Database rrm Chemical Information Dat ification Industrial Chemicals Notifica nstitute for Occupational Safe Medicine's ChemID Plus (NI Medicine's PubMed databas	ge) S ata used to compile gistry (ATSDR) iew Database Insecticide, Fungicic oduction Volume Che tabase (IUCLID) tion and Assessment ety and Health) LM CIP)	TEL ST Sk the SDS de, and Rodenticide a emicals	in designation	n Exposure Limit)

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 RTECS (Registry of Toxic Effects of Chemical Substances) World Health Organization

Prepared By	Bio-Rad Laboratories, Environmental Health and Safety.
Revision date	25-Mar-2022
Revision Note <u>Disclaimer</u>	Reformatted and updated existing information.

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 Number 1

This safety data sheet was created pursuant to the requirements of: Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 03-Jan-2022

1. Identification		
Product identifier		
Product Name	pJet1.2 Blunted Vector	
Other means of identification		
Catalog Number(s)	10012351	
Recommended use of the chemical	and restrictions on use	
Recommended use	Laboratory chemicals	
Restrictions on use	No information available	
Details of the supplier of the safety data sheet		
<u>Corporate Headquarters</u> Bio-Rad Laboratories Inc. 1000 Alfred Nobel Drive Hercules, CA 94547 USA	<u>Manufacturer Address</u> Bio-Rad Laboratories, Life Science Group 2000 Alfred Nobel Drive Hercules, California 94547 USA	Legal Entity / Contact Address Bio-Rad Laboratories (Canada) Ltd. 1329 Meyerside Drive Mississauga, ON L5T 1C9 Canada
Technical Service	1-800-361-1808 support@bio-rad.com	
Emergency telephone number		
24 Hour Emergency Phone Number	CHEMTREC Canada:1 (800) 424-9300	

2. Hazard(s) identification

Classification

Not classified

Label elements

Hazard statements

Not classified.

Other information

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

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

4. First-aid measures

Description of 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 physician.	
Skin contact	Wash skin with soap and water.	
Ingestion	Rinse mouth thoroughly with water.	
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

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.	
Unsuitable extinguishing media	No information available.	
Specific hazards arising from the chemical	None known.	
Explosion data Sensitivity to mechanical impact None. Sensitivity to static discharge None.		
Special protective equipment 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 See section 8 for more information.

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	Wear safety glasses with side shields (or goggles).
Hand protection	Wear suitable gloves.
Skin and body protection	Wear suitable protective clothing.
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.

9. Physical and chemical properties

Information on basic physical and chemical propertiesPhysical stateLiquidAppearanceaqueous solutionColorcolorlessOdorOdorlessOdor thresholdNo information available

Property pH Melting point / freezing point Boiling point / boiling range Flash point Evaporation rate Flammability (solid, gas) Flammability Limit in Air <u>Values</u> 7.5 No data available 100 °C / 212 °F No data available No data available No data available

Remarks • Method

None known

None known None known None known

Upper flammability or explosive	No data available	
limits		
Lower flammability or explosive	No data available	
limits		
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Other information		
Explosive properties	Not applicable.	
Oxidizing properties	Not applicable.	
Softening point	Not applicable	
Molecular weight	Not applicable	
VOC content	Not applicable	

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 materials	None known based on information supplied.

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms related to the physical, chemical and toxicological characteristics	

Symptoms

No information available.

Acute toxicity

Numerical measures of toxicity

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

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 sensitization	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.
STOT - single exposure	Based on available data, the classification criteria are not met.
STOT - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

12. Ecological information	
Ecotoxicity	The environmental impact of this product has not been fully investigated.
Persistence and degradability Bioaccumulation	No information available. No information available.
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

TDG	Not regulated
DOT	Not regulated

15. Regulatory information

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

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

International Inventories

Contact supplier for inventory compliance status

16. Other information				
NFPA	Health hazards 0	Flammability 0	Instability 0	Physical and chemical
HMIS	Health hazards 0	Flammability 0	Physical hazard	properties - s 0 Personal protection X
Key or legend to ab	breviations and acronyms u	ised in the safety d	ata sheet	
TWA 1	EXPOSURE CONTROLS/PE TWA (time-weighted average) Maximum limit value		STEL (Sho	
Prepared By	Bio-Rad La	boratories, Environn	nental Health and Safety.	
Revision date	03-Jan-202	2		
Revision Note <u>Disclaimer</u> The information pro		d and updated existineet is correct to th	5	e, information and belief at the

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 Number 2

This safety data sheet was created pursuant to the requirements of: Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 29-Mar-2022

1. Identification		
Product identifier		
Product Name	2x Ligation Reaction Buffer	
Other means of identification		
Catalog Number(s)	10013895	
Recommended use of the chemical	and restrictions on use	
Recommended use	Laboratory chemicals	
Restrictions on use	No information available	
Details of the supplier of the safety data sheet		
Corporate Headquarters Bio-Rad Laboratories Inc. 1000 Alfred Nobel Drive Hercules, CA 94547 USA	<u>Manufacturer Address</u> Bio-Rad Laboratories, Life Science Group 2000 Alfred Nobel Drive Hercules, California 94547 USA	Legal Entity / Contact Address Bio-Rad Laboratories (Canada) Ltd. 1329 Meyerside Drive Mississauga, ON L5T 1C9 Canada
Technical Service	1-800-361-1808 support@bio-rad.com	
Emergency telephone number		
24 Hour Emergency Phone Number	CHEMTREC Canada:1 (800) 424-9300	

2. Hazard(s) identification

Classification

Not classified

Label elements

Hazard statements

Not classified.

Other information

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

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

4. First-aid measures

Description of 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 physician.	
Skin contact	Wash skin with soap and water.	
Ingestion	Rinse mouth thoroughly with water.	
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

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.
Specific hazards arising from the chemical	None known.
Explosion data Sensitivity to mechanical impac Sensitivity to static discharge	t None. None.
Special protective equipment 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 See section 8 for more information.

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 LimitsThis 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	Wear safety glasses with side shields (or goggles).
Hand protection	Wear suitable gloves.
Skin and body protection	Wear suitable protective clothing.
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.

9. Physical and chemical properties

Information on basic physical and	I chemical properties	
Physical state	Liquid	
Appearance	aqueous solution	
Color	colorless	
Odor	Odorless	
Odor threshold	No information available	
Property_	<u>Values</u>	Rer
pH	7	
Melting point / freezing point	No data available	Nor
Boiling point / boiling range	No data available	Nor
Flash point	No data available	Nor
Evaporation rate	No data available	Nor
Flammability (solid, gas)	No data available	Nor
Flammability Limit in Air		Nor
-		

Remarks • Method

None known None known None known None known None known

Upper flammability or explosive	No data available	
limits		
Lower flammability or explosive	No data available	
limits		
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Other information		
Explosive properties	Not applicable.	
Oxidizing properties	Not applicable.	
Softening point	Not applicable	
Molecular weight	Not applicable	
VOC content	Not applicable	

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 materials	None known based on information supplied.

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms related to the physical, chemical and toxicological characteristics	

Symptoms

No information available.

Acute toxicity

Numerical measures of toxicity

Component Information

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

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 sensitization	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.
STOT - single exposure	Based on available data, the classification criteria are not met.
STOT - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity	The environmental impact of this product has not been fully investigated.
Persistence and degradability Bioaccumulation	No information available. No information available.
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

TDG	Not regulated
DOT	Not regulated

15. Regulatory information

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

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

International Inventories

Contact supplier for inventory compliance status

16. Other information							
<u>NFPA</u>	Health hazards	0	Flammability	0	Instability	0	Physical and chemical properties -
HMIS	Health hazards	0	Flammability	0	Physical h	azards 0	Personal protection X
Key or legend to a	abbreviations and acro	onyms use	ed in the safe	ety data sh	eet		
Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION TWA TWA (time-weighted average) STEL Ceiling Maximum limit value * Skin designation Skin designation							
TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)							
Prepared By		-Mar-2022	oratories, Envi	Torinerial		alety.	
Revision date							
Revision Note	Re	formatted	and updated e	existing info	ormation.		

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 Number 1

This safety data sheet was created pursuant to the requirements of: Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision date 29-Mar-2022

1. Identification			
Product identifier			
Product Name	DNA Blunting Enzyme		
Other means of identification			
Catalog Number(s)	10012338		
Recommended use of the chemical	and restrictions on use		
Recommended use	Laboratory chemicals		
Restrictions on use	No information available		
Details of the supplier of the safety	data sheet		
Corporate Headquarters Bio-Rad Laboratories Inc. 1000 Alfred Nobel Drive Hercules, CA 94547 USA	<u>Manufacturer Address</u> Bio-Rad Laboratories, Life Science Group 2000 Alfred Nobel Drive Hercules, California 94547 USA	Legal Entity / Contact Address Bio-Rad Laboratories (Canada) Ltd. 1329 Meyerside Drive Mississauga, ON L5T 1C9 Canada	
Technical Service	1-800-361-1808 support@bio-rad.com		
Emergency telephone number			
24 Hour Emergency Phone Number	CHEMTREC Canada:1 (800) 424-9300		

2. Hazard(s) identification

Classification

Not classified

Label elements

Hazard statements

Not classified.

Precautionary Statements - Disposal

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

Other information

Harmful to aquatic life.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%	Information Review Act registry number	Date HMIRA filed and date exemption granted (if applicable)
			(HMIRA registry #)	
1,2,3-Propanetriol	56-81-5	50 - 100	-	

4. First-aid measures **Description of first aid measures** No hazards which require special first aid measures. **General advice** Inhalation Remove to fresh air. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Eye contact Consult a physician. Skin contact Wash skin with soap and water. Ingestion Rinse mouth thoroughly with water. 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

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.
Specific hazards arising from the chemical	None known.
Explosion data Sensitivity to mechanical impac Sensitivity to static discharge	t None. None.
Special protective equipment 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 See section 8 for more information.

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
 Handle in accordance with good industrial hygiene and safety practice.

 Conditions for safe storage, including any incompatibilities
 Storage Conditions.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	Alberta	British Columbia	Ontario	Quebec
1,2,3-Propanetriol	TWA: 10 mg/m ³	TWA: 10 mg/m ³		TWA: 10 mg/m ³
56-81-5		TWA: 3 mg/m ³		_

Appropriate engineering controls

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).	
Hand protection	Wear suitable gloves.	
Skin and body protection	Wear suitable protective clothing.	
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.	

9. Physical and chemical properties

Information on basic physical and chemical properties Physical state Liquid

Appearance Color Odor Odor threshold	aqueous solution colorless Odorless No information available	
Property	Values	Remarks • Method
рН	7	
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	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Other information Explosive properties Oxidizing properties Softening point Molecular weight VOC content	Not applicable. Not applicable. Not applicable Not applicable Not applicable	

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 materials	None known based on information supplied.

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

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

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
1,2,3-Propanetriol 56-81-5	= 12600 mg/kg(Rat)	> 10 g/kg (Rabbit)	> 2.75 mg/L (Rat)4 h

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

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 sensitization	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.
STOT - single exposure	Based on available data, the classification criteria are not met.
STOT - 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.

12. Ecological information

Ecotoxicity

Harmful to aquatic life.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
1,2,3-Propanetriol 56-81-5	-	LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss)	-	-

Persistence and degradability

No information available.

Bioaccumulation

There is no data for this product.

Component Information

Chemical name	Partition coefficient
1,2,3-Propanetriol	-1.75
56-81-5	

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

TDG	Not regulated
DOT	Not regulated

15. Regulatory information Safety, health and environmental regulations/legislation specific for the substance or mixture

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

International Inventories

Contact supplier for inventory compliance status

16. Other information					
NFPA	Health hazards 0	Flammability		Instability 0	Physical and chemical properties -
HMIS Chronic Hazard Star	Health hazards 0	Flammability Health Hazard	1	Physical hazards 0	Personal protection X
Key or legend to abbreviations and acronyms used in the safety data sheet					
Legend Section 8 TWA	3: EXPOSURE CONTROLS/PE		E ction Tel	STEL (Short Torm	Exposure Limit)
Ceiling	TWA (time-weighted average) Maximum limit value	*	IEL	STEL (Short Term Skin designation	r Exposure Limit)
Agency for Toxic S U.S. Environmenta European Food Sa EPA (Environmenta Acute Exposure Gu U.S. Environmenta U.S. Environmenta Food Research Jon Hazardous Substal International Unifor Japan GHS Classif Australia National I	nce Database m Chemical Information Databa	ry (ATSDR) Database secticide, Fungicid uction Volume Che ase (IUCLID) n and Assessment	le, and Roo emicals		

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 RTECS (Registry of Toxic Effects of Chemical Substances) World Health Organization

Prepared By	Bio-Rad Laboratories, Environmental Health and Safety.
Revision date	29-Mar-2022
Revision Note	Reformatted and updated existing information.

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End of Safety Data Sheet