

DNA Rapid Ligation Buffer (5X)Version
5.0Revision Date:
10/20/2021Date of last issue: 06/30/2021
Date of first issue: 09/12/2017**SECTION 1. IDENTIFICATION**

Product name : DNA Rapid Ligation Buffer (5X)


Manufacturer or supplier's detailsCompany : Quantabio, LLC.
100 Cummings Center
Suite 407J
Beverly, MA 01915
USA

Telephone : + 1 888 959 5165

Responsible Department :

E-mail : compliance@quantabio.com
addressResponsible/issuing
personEmergency telephone : CHEMTREC
USA & Canada 1-800-424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Laboratory chemicals

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**Specific target organ toxicity : Category 3 (Respiratory system)
- single exposure**GHS label elements**Hazard pictograms : 

Signal Word : Warning

Hazard Statements : H335 May cause respiratory irritation.

Precautionary Statements : **Prevention:**
P280 Wear protective gloves/ protective clothing/ eye protection/
face protection.
Disposal:
P501 Dispose of contents/ container to an approved waste
disposal plant.

DNA Rapid Ligation Buffer (5X)

Version
5.0Revision Date:
10/20/2021Date of last issue: 06/30/2021
Date of first issue: 09/12/2017**Other hazards**

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
poly(ethylene glycol)	25322-68-3	>= 30 - < 50

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	: Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.
If inhaled	: If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
In case of eye contact	: Remove contact lenses. Protect unharmed eye. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	: If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	: May cause respiratory irritation. No information available.
Notes to physician	: No information available.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during fire fighting	: Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Carbon oxides Nitrogen oxides (NO _x) Chlorine compounds Magnesium oxides
Further information	: In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for fire-fighters	: Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

DNA Rapid Ligation Buffer (5X)
Version
5.0Revision Date:
10/20/2021Date of last issue: 06/30/2021
Date of first issue: 09/12/2017

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- Environmental precautions : Do not flush into surface water or sanitary sewer system.
Prevent further leakage or spillage if safe to do so.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Avoid formation of aerosol.
Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
- Further information on storage stability : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
poly(ethylene glycol)	25322-68-3	TWA (aerosol)	10 mg/m ³	US WEEL

Personal protective equipment

- Respiratory protection : In the case of vapor formation use a respirator with an approved filter.
- Hand protection
- Material : Protective gloves
- Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
- Eye protection : Safety glasses
- Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

DNA Rapid Ligation Buffer (5X)

Version
5.0Revision Date:
10/20/2021Date of last issue: 06/30/2021
Date of first issue: 09/12/2017

Hygiene measures : Footwear protecting against chemicals
: Keep away from food and drink.
Wash hands before breaks and at the end of workday.
Ensure adequate ventilation, especially in confined areas.
Avoid contact with the skin and the eyes.
When using do not eat, drink or smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid
Color : clear
Odor : odorless
Odor Threshold : No data available
pH : 7.6 (68 - 72 °F / 20 - 22 °C)
Melting point/range : No data available
Boiling point/boiling range : ca. 212 °F / 100 °C
Flash point : No data available
Evaporation rate : No data available
Burning rate : No data available
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Vapor pressure : No data available
Relative vapor density : No data available
Relative density : No data available
Density : ca. 1 g/cm³ (77 °F / 25 °C)
Solubility(ies)
Water solubility : soluble
Solubility in other solvents : No data available
Partition coefficient: n-octanol/water : No data available
Autoignition temperature : No data available
Decomposition temperature : No data available
Viscosity
Viscosity, dynamic : No data available

DNA Rapid Ligation Buffer (5X)Version
5.0Revision Date:
10/20/2021Date of last issue: 06/30/2021
Date of first issue: 09/12/2017

Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. Hazardous decomposition products formed under fire conditions. Keep away from oxidizing agents, and acidic or alkaline products.
Conditions to avoid	:	No data available
Incompatible materials	:	No data available
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity**

| Not classified based on available information.

Product:

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

Components:**poly(ethylene glycol):**

Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

Skin corrosion/irritation

| Not classified based on available information.

Product:

| Remarks : May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation

| Not classified based on available information.

Respiratory or skin sensitization**Skin sensitization**

| Not classified based on available information.

DNA Rapid Ligation Buffer (5X)Version
5.0Revision Date:
10/20/2021Date of last issue: 06/30/2021
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| Not classified based on available information.

Product:

| Remarks : No data available

Germ cell mutagenicity

| Not classified based on available information.

Carcinogenicity

| Not classified based on available information.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.**Reproductive toxicity**

| Not classified based on available information.

STOT-single exposure

| May cause respiratory irritation.

STOT-repeated exposure

| Not classified based on available information.

Aspiration toxicity

| Not classified based on available information.

Further information**Product:**

| Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:**

| Toxicity to fish : Remarks: No data available

| Toxicity to algae/aquatic plants : Remarks: No data available

| Toxicity to microorganisms : Remarks: No data available

Components:**poly(ethylene glycol):**| Toxicity to fish : (Leuciscus idus (Golden orfe)): > 500 mg/l
Exposure time: 96 h

DNA Rapid Ligation Buffer (5X)Version
5.0Revision Date:
10/20/2021Date of last issue: 06/30/2021
Date of first issue: 09/12/2017

Test Type: static test

Persistence and degradability

No data available

Bioaccumulative potential**Product:**

Bioaccumulation : Remarks: No data available

Mobility in soil

No data available

Other adverse effects**Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82
Protection of Stratospheric Ozone - CAA Section 602 Class I
Substances
Remarks: This product neither contains, nor was
manufactured with a Class I or Class II ODS as defined by the
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +
B).

Additional ecological
information : No data available**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Send to a licensed waste management company.
Dispose of as hazardous waste in compliance with local and
national regulations.

Contaminated packaging : Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied.

Domestic regulation**49 CFR**

Not regulated as a dangerous good

DNA Rapid Ligation Buffer (5X)Version
5.0Revision Date:
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This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Specific target organ toxicity (single or repeated exposure)

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM1

Intermediate or Final VOC's (40 CFR 60.489):

poly(ethylene glycol)	25322-68-3	>= 30 - < 50 %
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Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

Maine Chemicals of High Concern

This product does not contain any chemicals that are listed as Maine Chemicals of High Concern.

Maine Chemicals of High Concern

Product does not contain any listed chemicals

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION**Full text of other abbreviations**

US WEEL	:	USA. Workplace Environmental Exposure Levels (WEEL)
US WEEL / TWA	:	8-hr TWA

DNA Rapid Ligation Buffer (5X)Version
5.0Revision Date:
10/20/2021Date of last issue: 06/30/2021
Date of first issue: 09/12/2017

AICS - Australian Inventory of Chemical Substances; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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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.

US / Z8