

SAFETY DATA SHEET

New Zealand

Section 1. Identification

Product name

Reaction Buffer; part of 'Thermo Sequenase™ DNA Polymerase (with TAP) kit, 10000 units'

Catalogue Number

E79000Z



Component Number

93-79802

Other means of identification

Not available.

Product type

Liquid.

Identified uses

Analytical chemistry.
Laboratory chemicals
Scientific research and development

Supplier

Cytiva
Amersham Place
Little Chalfont
Buckinghamshire
HP7 9NA United Kingdom
+44 1494 508000

Cytiva New Zealand
Buddle Findlay, Level 18, Pricewaterhousecooper Tower,
188 Quay Street,
Auckland, Auckland, 1010
New Zealand

Person who prepared the SDS :

sds_author@cytiva.com

Emergency telephone number (with hours of operation)

0800 733 893
(10am - 7pm)

Section 2. Hazards identification

HSNO Classification

Not classified.

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 96.5%

This material is not classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

GHS label elements

Signal word

No signal word.

Hazard statements

No known significant effects or critical hazards.

Precautionary statements

Prevention

Not applicable.

Response

Not applicable.

Storage

Not applicable.

Disposal

Not applicable.

Other hazards which do not result in classification

None known.



Section 3. Composition/information on ingredients

Substance/mixture Mixture

Other means of identification Not available.

Ingredient name	% (w/w)	Identifiers
2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	<5	CAS: 1185-53-1 EC: 214-684-5
Magnesium chloride	<2	CAS: 7786-30-3 EC: 232-094-6
Polyethylene glycol nonylphenyl ether EO moles (8-10)	0.55	CAS: 9016-45-9 EC: 500-024-6

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Ingestion	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Inhalation	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Eye contact	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation	No specific data.
Ingestion	No specific data.
Skin	No specific data.
Eyes	No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Specific treatments	Not available.
Notes to physician	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable	Use an extinguishing agent suitable for the surrounding fire.
Not suitable	None known.

Specific hazards arising from the chemical In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds
metal oxide/oxides

Hazchem code Not available.



Special precautions for fire-fighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
For emergency responders	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	Do not store above the following temperature: -20°C (-4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Biological exposure indices

No exposure indices known.

Appropriate engineering controls	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
Skin protection	
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.



Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state	Liquid.
Colour	Colourless.
Odour	Odourless.
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Boiling point or initial boiling point and boiling range	Not available.
Flash point	Not applicable.
Burning time	Not applicable.
Burning rate	Not applicable.
Evaporation rate	Not available.
Flammability	Not available.
Lower and upper explosive (flammable) limits	Not available.
Vapour pressure	Not available.

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
water	17.5	2.3				

Relative vapour density	Not available.
Relative density	Not available.

Solubility(ies)

	Media	Result
	cold water hot water	Easily soluble Easily soluble
Solubility in water	Not available.	
Miscible with water	Yes.	
Partition coefficient: n-octanol/ water	Not applicable.	
Auto-ignition temperature	Not available.	
Decomposition temperature	Not available.	
SADT	Not available.	
Viscosity	Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.	
Flow time (ISO 2431)	Not available.	

Particle characteristics

Median particle size	Not applicable.
----------------------	-----------------

Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	No specific data.
Incompatible materials	No specific data.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.



Section 11. Toxicological information

Information on likely routes of exposure

Inhalation	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Eye contact	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	No specific data.
Ingestion	No specific data.
Skin contact	No specific data.
Eye contact	No specific data.

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

Acute toxicity

Product/ingredient name	Result
Magnesium chloride	Rat - Oral - LD50 2800 mg/kg <u>Toxic effects:</u> Behavioral - Convulsions or effect on seizure threshold Cardiac - Other changes Lung, Thorax, or Respiration - Other changes

Conclusion/Summary[Product] Not available.

Skin corrosion/irritation

Product/ingredient name	Result
Polyethylene glycol nonylphenyl ether EO moles (8-10)	Human - Skin - Mild irritant <u>Duration of treatment/exposure:</u> 72 hours <u>Amount/concentration applied:</u> 15 mg l Rabbit - Skin - Mild irritant <u>Amount/concentration applied:</u> 500 mg Rabbit - Skin - Mild irritant <u>Amount/concentration applied:</u> 500 mg Rabbit - Skin - Mild irritant <u>Amount/concentration applied:</u> 500 mg Rabbit - Skin - Mild irritant <u>Amount/concentration applied:</u> 500 mg Rabbit - Skin - Mild irritant <u>Amount/concentration applied:</u> 500 mg Rabbit - Skin - Mild irritant <u>Amount/concentration applied:</u> 500 mg

Conclusion/Summary[Product] Not available.

Serious eye damage/eye irritation

Product/ingredient name	Result
Polyethylene glycol nonylphenyl ether EO moles (8-10)	Guinea pig - Eyes - Severe irritant <u>Amount/concentration applied:</u> 20 mg Mouse - Eyes - Severe irritant <u>Amount/concentration applied:</u> 20 mg Rabbit - Eyes - Severe irritant <u>Amount/concentration applied:</u> 20 mg Rabbit - Eyes - Severe irritant <u>Amount/concentration applied:</u> 5 mg Rabbit - Eyes - Severe irritant <u>Amount/concentration applied:</u> 5 mg Rabbit - Eyes - Severe irritant <u>Amount/concentration applied:</u> 100 mg Rabbit - Eyes - Severe irritant <u>Amount/concentration applied:</u> 5 mg Rabbit - Eyes - Severe irritant <u>Amount/concentration applied:</u> 15 mg

Conclusion/Summary[Product] Not available.

Respiratory corrosion/irritation

Conclusion/Summary[Product] Not available.

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary[Product] Not available.

Respiratory

Conclusion/Summary[Product] Not available.

Potential chronic health effects

General	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Eye contact	No known significant effects or critical hazards.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.

Chronic toxicity

Not available.

Conclusion/Summary[Product] Not available.

Carcinogenicity

Not available.

Conclusion/Summary[Product] Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary[Product] Not available.

Reproductive toxicity

Not available.

Conclusion/Summary[Product] Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Magnesium chloride	2800	N/A	N/A	N/A	N/A
Polyethylene glycol nonylphenyl ether EO moles (8-10)	500	N/A	N/A	N/A	N/A

Section 12. Ecological information

Ecotoxicity No known significant effects or critical hazards.

Aquatic and terrestrial toxicity

Product/ingredient name	Result
2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	EC50 Daphnia >100 mg/l [48 hours]
Magnesium chloride	Acute - LC50 - Fresh water Daphnia - Water flea - <i>Daphnia hyalina</i> - Adult Size: 1.27 mm 32 mg/l [48 hours] Effect: Mortality Acute - LC50 - Fresh water Fish - Fathead minnow - <i>Pimephales promelas</i> Age: 1 to 7 days 2120 mg/l [96 hours] Effect: Mortality Acute - LC50 - Fresh water Fish - Bluegill - <i>Lepomis macrochirus</i> Weight: 1 g 1300 µg/l [96 hours] Effect: Mortality Chronic - NOEC - Fresh water Fish - Medaka, high-eyes - <i>Oryzias latipes</i> - Fry Age: 1 days 35 µg/l [100 days] Effect: Morphology Acute - LC50 - Fresh water Daphnia - Water flea - <i>Daphnia magna</i> - Neonate Age: 24 hours 0.148 mg/l [48 hours] Effect: Mortality Acute - EC50 - Fresh water Algae - Green algae - <i>Raphidocelis subcapitata</i> 12 mg/l [96 hours] Effect: Population Chronic - NOEC - Fresh water Algae - Green algae - <i>Raphidocelis subcapitata</i> 8 mg/l [96 hours] Effect: Population
Polyethylene glycol nonylphenyl ether EO moles (8-10)	

Conclusion/Summary[Product] Not available.

Persistence/degradability

Not available.

Conclusion/Summary[Product] Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Magnesium chloride	-	-	Readily

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient Not available.

Other adverse effects No known significant effects or critical hazards.



Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*
New Zealand Class	Not regulated.	-	-	-
		No.		
IATA Class	Not regulated.	-	-	-
		-		
		No.		
IMDG Class	Not regulated.	-	-	-
		No.		

PG* : Packing group

Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments

Not available.

Section 15. Regulatory information

HSNO Approval Number	HSR002596
HSNO Group Standard	Laboratory Chemicals and Reagent Kits
HSNO Classification	Not classified.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

New Zealand	All components are listed or exempted.
Australia	All components are listed or exempted.
United States	All components are active or exempted.
Canada inventory	All components are listed or exempted.
China	All components are listed or exempted.
Japan	Japan inventory (CSCL): All components are listed or exempted. Japan inventory (ISHL): Not determined.



Section 16. Other information

History

Date of printing	19 February 2026
Date of issue/ Date of revision	19 February 2026
Date of previous issue	5/13/2024
Version	2.03

Key to abbreviations	ADG = Australian Dangerous Goods
	ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
	ATE = Acute Toxicity Estimate
	BCF = Bioconcentration Factor
	GHS = Globally Harmonized System of Classification and Labelling of Chemicals
	IATA = International Air Transport Association
	IBC = Intermediate Bulk Container
	IMDG = International Maritime Dangerous Goods
	LogPow = logarithm of the octanol/water partition coefficient
	MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
	RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
	UN = United Nations

References	Not available.
------------	----------------

 Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

