GE Healthcare

Material Safety Data Sheet

Australia
English

1 . Identification of the material and supplier

Product name **T4 DNA Ligase; part of 'pMOSBlue Blunt Cloning Kit'**

Catalogue Number RPN5110

Component Number NIF1279

Company details

Manufacturer
GE Healthcare UK Ltd
Amersham Place
Little Chalfont
Buckinghamshire HP7 9NA
England
+44 0870 606 1921

Supplier
GE Healthcare Bio-Sciences
Building 4B, Parklands Estate
21 South Street
Rydalmere NSW 2116
Australia
+61 2 8820 8299

Emergency telephone number **000** and +61 2 9846 4000

ADG -

Uses

Area of application Industrial applications.
Material uses Analytical chemistry. Research.
Product type Liquid.

2 . Hazards identification

Classification Xi; R36/37/38

Risk phrases R36/37/38- Irritating to eyes, respiratory system and skin.

Statement of hazardous/dangerous nature

HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

3 . Composition/information on ingredients

Mixture Yes.

Ingredient name	CAS number	Concentration
glycerol	56-81-5	50

Additional information

Other ingredients, determined not to be hazardous according to Safe Work Australia criteria, and not dangerous according to the ADG Code, make up the product concentration to 100%.

4 . First-aid measures

First-aid measures

Eye contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Skin contact Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Ingestion	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

5 . Fire-fighting measures

Extinguishing media

Suitable	Use an extinguishing agent suitable for the surrounding fire.
Not suitable	None known.
Special exposure hazards	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. In a fire or if heated, a pressure increase will occur and the container may burst.
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.
Hazardous combustion products	Decomposition products may include the following materials: carbon dioxide carbon monoxide

6 . Accidental release measures

Personal precautions	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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
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 for cleaning up	Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. 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 (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.
Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7 . Handling and storage

Handling	Put on appropriate personal protective equipment (see Section 8). 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. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Storage	Do not store above the following temperature: -70°C (-94°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.

8 . Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
glycerol	**Safe Work Australia (Australia, 8/2005).** TWA: 10 mg/m³ 8 hour(s).

Recommended monitoring procedures If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.

Personal protection

Eyes 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 or dusts.

Hands 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.

Respiratory Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin 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.

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.

9 . Physical and chemical properties

Physical state Liquid.

Colour Colourless.

Odour Odourless.

Flash point [Product does not sustain combustion.]

Solubility Easily soluble in the following materials: cold water and hot water.

10 . Stability and reactivity

Stability The product is stable.

Materials to avoid No specific data.

11 . Toxicological information

Potential acute health effects

Inhalation Irritating to respiratory system.

Ingestion Irritating to mouth, throat and stomach.

Skin contact Irritating to skin.

Eye contact Irritating to eyes.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
glycerol	LD50 Intraperitoneal	Rat	4420 mg/kg	-
	LD50 Intravenous	Rat	5566 mg/kg	-
	LD50 Oral	Rat	12600 mg/kg	-
	LD50 Subcutaneous	Rat	100 mg/kg	-
	LDLo Intramuscular	Rat	10 mL/kg	-
	LDLo Intramuscular	Rat	10 mg/kg	-
	TDLo Intramuscular	Rat	8 mL/kg	-
	TDLo Intramuscular	Rat	4 mL/kg	-
	TDLo Intramuscular	Rat	>5000 mg/kg	-
	TDLo Intramuscular	Rat	4000 mg/kg	-

Conclusion/Summary Not available.

Potential chronic health effects

Chronic toxicity

Conclusion/Summary Not available.

Carcinogenicity

Conclusion/Summary Not available.

Mutagenicity

Conclusion/Summary Not available.

Teratogenicity

Conclusion/Summary Not available.

Reproductive toxicity

Conclusion/Summary Not available.

Chronic effects No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity 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.

Over-exposure signs/symptoms

Inhalation Adverse symptoms may include the following:
respiratory tract irritation
coughing

Ingestion No specific data.

Skin Adverse symptoms may include the following:
irritation
redness

Eyes Adverse symptoms may include the following:
irritation
watering
redness

Target organs Contains material which may cause damage to the following organs: kidneys, upper respiratory tract, skin, eyes.

12 . Ecological information

Environmental effects No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
glycerol	-	Acute LC50 54 to 57 ml/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.9 g	96 hours

Conclusion/Summary Not available.

Biodegradability

Conclusion/Summary Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
glycerol	-	>60%; 28 day(s)	Readily

Other adverse effects No known significant effects or critical hazards.

13 . Disposal considerations

Methods of disposal The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14 . Transport information

International transport regulations

Not classified.

-

15 . Regulatory information

Standard for the Uniform Scheduling of Drugs and Poisons

Not regulated.

Control of Scheduled Carcinogenic Substances

Ingredient name	Schedule
Not available.	

Australia inventory (AICS)	All components are listed or exempted.
EU Classification	Xi; R36/37/38
HCS Classification	Irritating material Target organ effects

16 . Other information

History

Date of printing	19 August 2011	**Date of previous issue**	17 September 2009
Date of issue	19 August 2011	**Version**	5

Indicates information that has changed from previously issued version.

Enquiries regarding MSDS content should be directed to: our local sales office.

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.