

Material Safety Data Sheet

Australia
English

1. Identification of the material and supplier

Product name ECF™ Substrate Dilution Buffer; part of 'ECF Western Blotting Reagent Pack, Rabbit, 5000 cm² Membrane'

Catalogue Number RPN5784



Component Number 1067880

Company details

Manufacturer

GE Healthcare UK Ltd
Amersham Place
Little Chalfont
Buckinghamshire HP7 9NA
England
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Supplier

GE Healthcare Bio-Sciences
Building 4B, Parklands Estate
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ADG -

Uses

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

2. Hazards identification

Classification Xn; R48/22
Xi; R41

Risk phrases R48/22- Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R41- Risk of serious damage to eyes.

Safety phrases S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S39- Wear eye/face protection.

Statement of hazardous/dangerous nature

HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

3. Composition/information on ingredients

Mixture Yes.

Ingredient name

2,2'-iminodiethanol

CAS number

111-42-2

Concentration

17.6

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%.



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4. First-aid measures

First-aid measures

Eye contact	Get medical attention immediately. 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. Chemical burns must be treated promptly by a physician.
Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. 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 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 adverse health effects persist or are severe. 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. 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. 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. 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 nitrogen oxides

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 get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. 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	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
2,2'-iminodiethanol	Safe Work Australia (Australia, 8/2005). TWA: 13 mg/m ³ 8 hour(s). TWA: 3 ppm 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	No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure 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.
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.
Conditions to avoid	No specific data.
Materials to avoid	No specific data.

11. Toxicological information

Potential acute health effects

Inhalation	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Eye contact	Severely irritating to eyes. Risk of serious damage to eyes.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2,2'-iminodiethanol	LD50 Dermal	Rabbit	7640 µL/kg	-
	LD50 Intramuscular	Rat	1500 mg/kg	-
	LD50 Intraperitoneal	Rat	120 mg/kg	-
	LD50 Intravenous	Rat	778 mg/kg	-
	LD50 Oral	Rat	620 µL/kg	-
	LD50 Subcutaneous	Rat	2200 mg/kg	-

Conclusion/Summary Not available.

Potential chronic health effects

Chronic toxicity

Conclusion/Summary Not available.

Carcinogenicity



Conclusion/Summary	Not available.
<u>Mutagenicity</u>	
Conclusion/Summary	Not available.
<u>Teratogenicity</u>	
Conclusion/Summary	Not available.
<u>Reproductive toxicity</u>	
Conclusion/Summary	Not available.
Chronic effects	Harmful: danger of serious damage to health by prolonged exposure if swallowed.
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.
<u>Over-exposure signs/symptoms</u>	
Inhalation	No specific data.
Ingestion	No specific data.
Skin	No specific data.
Eyes	Adverse symptoms may include the following: pain or irritation watering redness
Target organs	Contains material which may cause damage to the following organs: kidneys, liver, 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
Diethanolamine	-	Acute EC50 72.92 to 86.04 mg/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate - <24 hours	48 hours
	-	Acute EC50 72.92 mg/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate - <24 hours	48 hours
	-	Acute LC50 >540 ppm Marine water	Fish - Sheepshead minnow - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling) - 8 to 15 mm	96 hours
	-	Acute LC50 4710000 to 4980000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 31 days - 19.9 mm - 0.12 g	96 hours
	-	Acute LC50 1550000 to 1990000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 30 to 35 days - 14.9 mm - 76.8 mg	96 hours
	-	Acute LC50 1480000 to 1630000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - FRY - 10 to 15 days - 9.5 mm - 11.6 mg	96 hours
	-	Acute LC50 1400000 ug/L Fresh water	Fish - Western mosquitofish - Gambusia affinis - Adult	96 hours
	-	Acute LC50 1370000 to 1580000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Sub-adult	96 hours



-	Acute LC50 >100000 ug/L Fresh water	- 65 to 94 days - 28 mm - 391 mg Fish - Fathead minnow - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 0.2 to 0.5 g	96 hours
-	Acute LC50 100000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 0.2 to 0.5 g	96 hours
-	Acute LC50 55000 to 68000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <=24 hours	48 hours
-	Acute LC50 31000 to 36200 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
-	Acute LC50 30400 to 47800 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
-	Acute LC50 30100 to 39100 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
-	Acute LC50 28800 to 34600 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
-	Acute LC50 2640 ug/L Fresh water	Daphnia - Water flea - Daphnia pulex	48 hours
-	Acute LC50 2150 ug/L Fresh water	Daphnia - Water flea - Daphnia pulex	48 hours
-	Chronic NOEC 540 ppm Marine water	Fish - Sheepshead minnow - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling) - 8 to 15 mm	96 hours
-	Chronic NOEC <24000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <=24 hours	48 hours

Conclusion/Summary

Not available.

Other ecological information**Biodegradability****Conclusion/Summary**

Not available.

Product/ingredient name

2,2'-iminodiethanol

Aquatic half-life

Fresh water 10 to 30 days

Photolysis

100%; 19 day(s)

Biodegradability

Readily

Bioaccumulative potential**Product/ingredient name**

2,2'-iminodiethanol

LogP_{ow}

-1.43

BCF

1

Potential

low

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.



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14. Transport information

International transport regulations

Not classified.

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15. Regulatory information

Standard for the Uniform Scheduling of Drugs and Poisons

Not regulated.


Control of Scheduled Carcinogenic Substances

<u>Ingredient name</u>	<u>Schedule</u>
Not available.	
Australia inventory (AICS)	All components are listed or exempted.
EU Classification	Xn; R48/22 Xi; R41
HCS Classification	Irritating material Target organ effects

16. Other information

History

Date of printing	20 May 2011	Date of previous issue	06 October 2009
Date of issue	20 May 2011	Version	6

 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.



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