GE Healthcare

Material Safety Data Sheet

Australia
English

1 . Identification of the material and supplier

Product name

Cross-linker; part of 'AlkPhos Direct™ Labelling module, For 5,000 cm² membrane'

Catalogue Number

RPN3681

Component Number

NIF1348

Company details

Manufacturer

GE Healthcare UK Ltd
Amersham Place
Little Chalfont
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England
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Supplier

GE Healthcare Bio-Sciences
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Australia
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Emergency telephone number **000** and +61 2 9846 4000

ADG ALCOHOLS, N.O.S. (methanol, mixture)

Uses

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

2 . Hazards identification

Classification

R10
Carc. Cat. 2; R49
T; R39/23/24/25
Xn; R20/21/22
R43

Risk phrases

R10- Flammable.
R49- May cause cancer by inhalation.
R39/23/24/25- Also toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R20/21/22- Also harmful by inhalation, in contact with skin and if swallowed.
R43- May cause sensitisation by skin contact.

Safety phrases

S53- Avoid exposure - obtain special instructions before use.
S36/37- Wear suitable protective clothing and gloves.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Statement of hazardous/dangerous nature

HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

3 . Composition/information on ingredients

Mixture Yes.

Ingredient name	CAS number	Concentration
Methyl alcohol	67-56-1	10
Formaldehyde	50-00-0	4 - 5

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%.

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.

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.
Skin contact	Get medical attention immediately. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Inhalation	Get medical attention immediately. 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. 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	Get medical attention immediately. 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. 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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

5 . Fire-fighting measures

Extinguishing media

Suitable	Use dry chemical, CO_2, water spray (fog) or foam.
Not suitable	Do not use water jet.
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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
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
Special remarks on fire hazards	No additional remark.

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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe 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. Use spark-proof tools and explosion-proof equipment. 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. Use spark-proof tools and explosion-proof equipment. 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. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage

Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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
Methyl alcohol	**Safe Work Australia (Australia, 1/2014). Absorbed through skin.** STEL: 328 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 262 mg/m³ 8 hours. TWA: 200 ppm 8 hours.
Formaldehyde	**Safe Work Australia (Australia, 1/2014). Skin sensitiser.** STEL: 2.5 mg/m³ 15 minutes. STEL: 2 ppm 15 minutes. TWA: 1.2 mg/m³ 8 hours. TWA: 1 ppm 8 hours.

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. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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. Contaminated work clothing should not be allowed out of the workplace. 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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

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	Pungent. [Slight]
Flash point	Closed cup: 37.8 to 61°C (100 to 141.8°F)
Solubility	Easily soluble in the following materials: cold water, hot water and methanol.
Flame duration	Not applicable.

10 . Stability and reactivity

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	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid	Reactive or incompatible with the following materials: oxidizing materials

11 . Toxicological information

Potential acute health effects

Inhalation	Harmful by inhalation. Danger of very serious irreversible effects.
Ingestion	Harmful if swallowed. Danger of very serious irreversible effects.
Skin contact	Harmful in contact with skin. Danger of very serious irreversible effects. May cause skin irritation. May cause sensitisation by skin contact.
Eye contact	May cause eye irritation.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Methyl alcohol	LC50 Inhalation Gas.	Rat	145000 ppm	1 hours
	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours
	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
Formaldehyde	LD50 Dermal	Rabbit	270 mg/kg	-
	LD50 Oral	Rat	100 mg/kg	-

Conclusion/Summary Harmful if swallowed or in contact with skin.

Potential chronic health effects

Chronic toxicity

Conclusion/Summary Not available.

Irritation/Corrosion

Conclusion/Summary Not available.

Sensitiser

Conclusion/Summary

Skin May cause an allergic skin reaction.

Carcinogenicity

Conclusion/Summary May cause cancer.

Mutagenicity

Conclusion/Summary Suspected of causing genetic defects.

Teratogenicity

Conclusion/Summary Not available.

Reproductive toxicity

Conclusion/Summary Not available.

Chronic effects	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	May cause cancer by inhalation. Risk of cancer depends on duration and level of exposure.
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	No specific data.
Ingestion	No specific data.

Skin Adverse symptoms may include the following:
irritation
redness

Eyes No specific data.

Other adverse effects Adverse symptoms include the following: Causes damage to organs.
Adverse symptoms may include the following: May cause cancer. May cause an allergic skin reaction.

Target organs Contains material which may cause damage to the following organs: lungs, the nervous system, liver, mucous membranes, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

12 . Ecological information

Ecotoxicity No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Methyl alcohol	Acute EC50 16.912 mg/l Marine water		Algae - Ulva pertusa	96 hours
	Acute EC50 10000000 µg/l Fresh water		Daphnia - Daphnia magna	48 hours
	Acute LC50 2500000 µg/l Marine water		Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 100 mg/l Fresh water		Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 9.96 mg/l Marine water		Algae - Ulva pertusa	96 hours
Formaldehyde	Acute EC50 3.48 mg/l Fresh water		Algae - Desmodesmus subspicatus	72 hours
	Acute EC50 12.98 mg/l Fresh water		Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute EC50 5800 µg/l Fresh water		Daphnia - Daphnia pulex - Neonate	48 hours
	Acute LC50 1.41 ppm Fresh water		Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 953.9 ppm Fresh water		Fish - Oncorhynchus tshawytscha - Egg	43 days

Conclusion/Summary Not available.

Persistence/degradability

Conclusion/Summary Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Methyl alcohol	Fresh water 1 to 10 days	-	Readily
Formaldehyde	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Methyl alcohol	-0.77	<10	low
Formaldehyde	0.35	-	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. 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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14 . Transport information

Regulation	UN number	Proper shipping name	Class	PG	Label	Additional information
ADG	UN1987	ALCOHOLS, N.O.S. (methanol, mixture)	3	III		-
ADR	UN1987	ALCOHOLS, N.O.S. (methanol, mixture)	3	III		-
IMDG	UN1987	ALCOHOLS, N.O.S. (methanol, mixture)	3	III		-

IATA	UN1987	ALCOHOLS, N.O.S. (methanol, mixture)	3	III		-

PG* : Packing group

15 . Regulatory information

Standard Uniform Schedule of Medicine 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	R10 Carc. Cat. 3; R40 T; R39/23/24/25 Xn; R20/21/22 R43
HCS Classification	Combustible liquid Toxic material Corrosive material Sensitising material Carcinogen Target organ effects

16 . Other information

History

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Date of issue	01 April 2016	**Version**	6.01

Indicates information that has changed from previously issued version.

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

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