

Safety Data Sheet



According to 1907/2006/EC (REACH), 453/2010/EC Phos-Chek 3x3 AR-AFFF Freeze Protected - [POLYFOAM 3/3 FP]

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier:** Phos-Chek 3x3 AR-AFFF Freeze Protected - [POLYFOAM 3/3 FP]
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant uses: Fire-extinguishing. For professional use only.
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:** AUXQUIMIA, S.A.U.
Polígono Industrial de Baiña, parcela 23
33682 Baiña (Mieres) - Asturias - Spain
Phone.: +34 985 242 945 / +34 985 242 946 -
Fax: +34 985 253 809
sds@perimeter-solutions.com
www.auxquimia.com
- 1.4 Emergency telephone number:** +34 985 242 945 / +34 985 242 946

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

NFPA 704:

Health Hazards: 1
Flammability Hazards: 0
Instability Hazards: 0
Special Hazards: Non-applicable

Directive 67/548/EC and Directive 1999/45/EC:

This product was classified in accordance with Directive 67/548/EC and Directive 1999/45/EC, adapting the requirements to Regulation (EC) n°1907/2006 (REACH regulation).

Xi: R36 - Irritating to eyes

Xn: R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed

2.2 Label elements:

NFPA 704:



Directive 67/548/EC and Directive 1999/45/EC:

In accordance with the legislation, the elements on the label are as follows:



R Phrases:

R20/21/22: Harmful by inhalation, in contact with skin and if swallowed

R36: Irritating to eyes

S Phrases:

S25: Avoid contact with eyes

S36/37: Wear suitable protective clothing and gloves

S51: Use only in well-ventilated areas

Supplementary information:

Non-applicable

Substances that contribute to the classification:

Ethane-1,2-diol

2.3 Other hazards:

Non-applicable

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical description: Aqueous solution of tensoactives

Components:

In accordance with Annex II of Regulation (EC) n°1907/2006 (point 3), the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 107-21-1 EC: 203-473-3 Index: 603-027-00-1 REACH:01-2119456816-28-XXXX	Ethane-1,2-diol ATP CLP00	30 - <35 %
	Directive 67/548/EC Xn: R22 	
	Regulation 1272/2008 Acute Tox. 4: H302 - Warning 	
CAS: 112-34-5 EC: 203-961-6 Index: 603-096-00-8 REACH:01-2119475104-44-XXXX	2-(2-butoxiethoxy)ethanol ATP CLP00	10 - <15 %
	Directive 67/548/EC Xi: R36 	
	Regulation 1272/2008 Eye Irrit. 2: H319 - Warning 	
CAS: Non-applicable EC: Non-applicable Index: Non-applicable REACH:Non-applicable	Mixture of fluorinated polymers Not classified	1 - <3 %
	Directive 67/548/EC	
	Regulation 1272/2008	
CAS: Non-applicable EC: Non-applicable Index: Non-applicable REACH:Non-applicable	Mixture of fluorosurfactants Not classified	1 - <3 %
	Directive 67/548/EC	
	Regulation 1272/2008	
CAS: Non-applicable EC: Non-applicable Index: Non-applicable REACH:Non-applicable	Anionic hydrocarbon surfactant 6608700000 Self-classified	1 - <3 %
	Directive 67/548/EC Xi: R38, R41 	
	Regulation 1272/2008 Eye Dam. 1: H318; Skin Irrit. 2: H315 - Danger 	
CAS: 11138-66-2 EC: 234-394-2 Index: Non-applicable REACH:Non-applicable	Xanthan gum Not classified	0,1 - <1 %
	Directive 67/548/EC	
	Regulation 1272/2008	
CAS: 111-77-3 EC: 203-906-6 Index: 603-107-00-6 REACH:01-2119475100-52-XXXX	2-(2-methoxyethoxy)ethanol ATP CLP00	0,1 - <1 %
	Directive 67/548/EC Repr. Cat 3: R63 	
	Regulation 1272/2008 Repr. 2: H361d - Warning 	
CAS: 67-56-1 EC: 200-659-6 Index: 603-001-00-X REACH:01-2119433307-44-XXXX	Methanol ATP CLP00	0,1 - <1 %
	Directive 67/548/EC F: R11; T: R23/24/25, R39/23/24/25  	
	Regulation 1272/2008 Acute Tox. 3: H301+H311+H331; Flam. Liq. 2: H225; STOT SE 1: H370 - Danger   	

To obtain more information on the risk of the substances consult sections 8, 11, 12 and 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the MSDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

Rinse eyes thoroughly with luke warm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the MSDS of the product.

By consumption:

Request medical assistance immediately, showing the MSDS of this product. Do not induce vomiting, but if it does happen keep the head up to avoid inhalation. In the case of loss of consciousness do not administrate anything orally unless supervised by a doctor. Rinse out the mouth and throat, as they may have been affected during ingestion. Keep the person affected at rest.

4.2 Most important symptoms and effects, both acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

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SECTION 4: FIRST AID MEASURES (continue)

4.3 Indication of any immediate medical attention and special treatment needed:

Non-applicable

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

Product is non-flammable under normal conditions of storage, manipulation and use, containing flammable substances. In the case of inflammation as a result of improper manipulation, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems. IT IS NOT RECOMMENDED to use tap water as an extinguishing agent.

5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive subproducts are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Advice for firefighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inertizing agent. Destroy any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

6.2 Environmental precautions:

This product is not classified as dangerous to the environment. Keep product away from drains, surface and underground water.

6.3 Methods and material for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- Precautions for safe manipulation

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Avoid the evaporation of the product as it contains flammable substances, which could form flammable vapour/air mixtures in the presence of sources of ignition. Control sources of ignition (mobile phones, sparks,...) and transfer at slow speeds to avoid the creation of electrostatic charges. Avoid projections and pulverizations. Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations to prevent ergonomic and toxicological risks

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

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SECTION 7: HANDLING AND STORAGE (continue)

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

Minimum Temp.: -20 °C

Maximum Temp.: 50 °C

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the work environment

Identification	Environmental limits		
Ethane-1,2-diol CAS: 107-21-1 EC: 203-473-3	TLV-TWA		
	TLV-STEL		100 mg/m ³
	Year	2014	
Methanol CAS: 67-56-1 EC: 200-659-6	TLV-TWA	200 ppm	
	TLV-STEL	250 ppm	
	Year	2014	

DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Ethane-1,2-diol CAS: 107-21-1 EC: 203-473-3	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	106 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	Non-applicable	35 mg/m ³
2-(2-butoxiethoxy)etanol CAS: 112-34-5 EC: 203-961-6	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	20 mg/kg	Non-applicable
	Inhalation	Non-applicable	101,2 mg/m ³	67,5 mg/m ³	67,5 mg/m ³
Anionic hydrocarbon surfactant 6608700000 CAS: Non-applicable EC: Non-applicable	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	4060 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	285 mg/m ³	Non-applicable
2-(2-methoxyethoxy)ethanol CAS: 111-77-3 EC: 203-906-6	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	0,53 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	50,1 mg/m ³	Non-applicable
Methanol CAS: 67-56-1 EC: 200-659-6	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	40 mg/kg	Non-applicable	40 mg/kg	Non-applicable
	Inhalation	260 mg/m ³	260 mg/m ³	260 mg/m ³	260 mg/m ³

DNEL (Population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Ethane-1,2-diol CAS: 107-21-1 EC: 203-473-3	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	53 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	Non-applicable	7 mg/m ³
2-(2-butoxiethoxy)etanol CAS: 112-34-5 EC: 203-961-6	Oral	Non-applicable	Non-applicable	1,25 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	10 mg/kg	Non-applicable
	Inhalation	Non-applicable	50,6 mg/m ³	34 mg/m ³	34 mg/m ³

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continue)

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Anionic hydrocarbon surfactant 6608700000 CAS: Non-applicable EC: Non-applicable	Oral	Non-applicable	Non-applicable	24 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	2440 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	85 mg/m ³	Non-applicable
2-(2-methoxyethoxy)ethanol CAS: 111-77-3 EC: 203-906-6	Oral	Non-applicable	Non-applicable	1,5 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	0,27 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	25 mg/m ³	Non-applicable
Methanol CAS: 67-56-1 EC: 200-659-6	Oral	8 mg/kg	Non-applicable	8 mg/kg	Non-applicable
	Dermal	8 mg/kg	Non-applicable	8 mg/kg	Non-applicable
	Inhalation	50 mg/m ³	50 mg/m ³	50 mg/m ³	50 mg/m ³

PNEC:

Identification		STP		Soil		Intermittent		Oral	
Ethane-1,2-diol CAS: 107-21-1 EC: 203-473-3	STP	199,5 mg/L	Fresh water	10 mg/L					
	Soil	1,53 mg/kg	Marine water	1 mg/L					
	Intermittent	10 mg/L	Sediment (Fresh water)	37 mg/kg					
	Oral	Non-applicable	Sediment (Marine water)	3,7 mg/kg					
2-(2-butoxiethoxy)etanol CAS: 112-34-5 EC: 203-961-6	STP	200 mg/L	Fresh water	1 mg/L					
	Soil	0,4 mg/kg	Marine water	0,1 mg/L					
	Intermittent	3,9 mg/L	Sediment (Fresh water)	4 mg/kg					
	Oral	56 g/kg	Sediment (Marine water)	0,4 mg/kg					
Anionic hydrocarbon surfactant 6608700000 CAS: Non-applicable EC: Non-applicable	STP	1,35 mg/L	Fresh water	0,1357 mg/L					
	Soil	0,22 mg/kg	Marine water	0,01357 mg/L					
	Intermittent	Non-applicable	Sediment (Fresh water)	1,5 mg/kg					
	Oral	Non-applicable	Sediment (Marine water)	0,15 mg/kg					
2-(2-methoxyethoxy)ethanol CAS: 111-77-3 EC: 203-906-6	STP	10000 mg/L	Fresh water	12 mg/L					
	Soil	2,44 mg/kg	Marine water	1,2 mg/L					
	Intermittent	12 mg/L	Sediment (Fresh water)	44,4 mg/kg					
	Oral	90 g/kg	Sediment (Marine water)	0,44 mg/kg					
Methanol CAS: 67-56-1 EC: 200-659-6	STP	100 mg/L	Fresh water	154 mg/L					
	Soil	23,5 mg/kg	Marine water	15,4 mg/L					
	Intermittent	1540 mg/L	Sediment (Fresh water)	570,4 mg/kg					
	Oral	Non-applicable	Sediment (Marine water)	Non-applicable					

8.2 Exposure controls:

A.- General security and hygiene measures in the work place

If product is used at the concentration dosing conditions specified in the relevant instructions for use (section 15), personal protective equipment described in section 8.2 for UNDILUTED products will not be required.

Safe handling recommendations for undiluted product:



In accordance with the order of importance to control professional exposure (Directive 98/24/EC) it is recommended to use localized extraction in the work area as a collective protection measure to avoid exceeding the professional exposure limits. In case of using individual protection equipment they should have the "CE marking" in accordance with Directive 89/686/EC. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For additional information see subsection 7.1.

All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection

The use of protection equipment will be necessary if a mist forms or if the professional exposure limits are exceeded.

C.- Specific protection for the hands



Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	Chemical protective gloves	 CAT I	EN 374-1:2003 EN 374-3:2003/AC:2006 EN 420:2003+A1:2009	Replace the gloves at any sign of deterioration.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continue)



D.- Ocular and facial protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Panoramic glasses against liquid splash		EN 166:2001 EN 172:1994/A1:2000 EN 172:1994/A2:2001 EN ISO 4007:2012	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

E.- Bodily protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
	Work clothing		EN ISO 13688:2013	For professional use only.
	Anti-slip work shoes		EN ISO 20347:2012 EN ISO 20344:2011	None

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2002	 Eyewash stations	DIN 12 899 ISO 3864-1:2002

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 20 °C: Liquid
Appearance: Viscous
Color: Amber
Odor: Characteristic

Volatility:

Boiling point at atmospheric pressure: Non-applicable *
Vapour pressure at 20 °C: Non-applicable *
Vapour pressure at 50 °C: Non-applicable *
Evaporation rate at 20 °C: Non-applicable *

Product description:

Density at 20 °C: 1040 - 1080 kg/m³
Relative density at 20 °C: Non-applicable *
Dynamic viscosity at 20 °C: 70 cP
Kinematic viscosity at 20 °C: Non-applicable *
Kinematic viscosity at 40 °C: >7 cSt
Concentration: Non-applicable *
pH: 7 - 8

*Not relevant due to the nature of the product, not providing information property of its hazards.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continue)

Vapour density at 20 °C:	Non-applicable *
Partition coefficient n-octanol/water 20 °C:	Non-applicable *
Solubility in water at 20 °C:	Non-applicable *
Solubility property:	Highly water-soluble
Decomposition temperature:	Non-applicable *
Melting point/freezing point:	Non-applicable *

Flammability:

Flash Point:	Non Flammable (>60 °C)
Autoignition temperature:	Non-applicable *
Lower flammability limit:	Non-applicable *
Upper flammability limit:	Non-applicable *

9.2 Other information:

Surface tension at 20 °C:	Non-applicable *
Refraction index:	Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected if the following technical instructions storage of chemicals. See section 7.

10.2 Chemical stability:

Chemically stable under the conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Precaution	Avoid direct impact	Not applicable

10.5 Incompatible materials:

Acids	Water	Combustive materials	Combustible materials	Others
Not applicable	Not applicable	Avoid direct impact	Avoid direct impact	Not applicable

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

No experimental information is available on the product itself in relation to the toxicological properties. When performing the danger classification on corrosive or irritant effects the recommendations included in section 3.2.5 of Annex VI of Directive 67/548/EC, in paragraphs b) and c) of section 3 of article 6 of Directive 1999/45/EC and in section 3.2.3.3.5. of Annex I of CLP Regulation were taken into account.

Contains glycols. With possibility of effects that are hazardous to the health, it is recommended not to breathe the vapours for long periods of time.

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

A.- Ingestion:

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SECTION 11: TOXICOLOGICAL INFORMATION (continue)

The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

B- Inhalation:

Exposure in high concentrations can cause a breakdown in the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion and in serious cases, loss of concentration.

C- Contact with the skin and the eyes:

Above all, may have harmful effects for health if the product is absorbed through the skin. For more information on the secondary effects of contact with the skin see section 2.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

Based on available data, the classification criteria are not met, however it does contain substances classified as dangerous for this effect. For more information see section 3.

E- Sensitizing effects:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous with sensitizing effects. For more information see section 3.

F- Specific target organ toxicity (STOT)-time exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

G- Specific target organ toxicity (STOT)-repeated exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

Other information:

Non-applicable

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
Ethane-1,2-diol CAS: 107-21-1 EC: 203-473-3	LD50 oral	500 mg/kg	Rat
	LD50 dermal	9530 mg/kg	Rabbit
	LC50 inhalation	Non-applicable	
2-(2-methoxyethoxy)ethanol CAS: 111-77-3 EC: 203-906-6	LD50 oral	7128 mg/kg	Rat
	LD50 dermal	9404 mg/kg	Rabbit
	LC50 inhalation	Non-applicable	
Methanol CAS: 67-56-1 EC: 200-659-6	LD50 oral	100 mg/kg	Rat
	LD50 dermal	300 mg/kg	Rabbit
	LC50 inhalation	3 mg/L (4 h)	Rat

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the ecotoxicological properties of the product itself is not available

12.1 Toxicity:

Identification	Acute toxicity		Specie	Genus
Ethane-1,2-diol CAS: 107-21-1 EC: 203-473-3	LC50	53000 mg/L (96 h)	Pimephales promelas	Fish
	EC50	51000 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	24000 mg/L (168 h)	Selenastrum capricornutum	Alga
2-(2-butoxiethoxy)ethanol CAS: 112-34-5 EC: 203-961-6	LC50	1300 mg/L (96 h)	Lepomis macrochirus	Fish
	EC50	2850 mg/L (24 h)	Daphnia magna	Crustacean
	EC50	53 mg/L (192 h)	Microcystis aeruginosa	Alga
2-(2-methoxyethoxy)ethanol CAS: 111-77-3 EC: 203-906-6	LC50	5741 mg/L (96 h)	Pimephales promelas	Fish
	EC50	1192 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	Non-applicable		
Methanol CAS: 67-56-1 EC: 200-659-6	LC50	15400 mg/L (96 h)	Lepomis macrochirus	Fish
	EC50	12000 mg/L (96 h)	Nitrocraspinipes	Crustacean
	EC50	530 mg/L (168 h)	Microcystis aeruginosa	Alga

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SECTION 12: ECOLOGICAL INFORMATION (continue)

12.2 Persistence and degradability:

Identification	Degradability		Biodegradability	
Ethane-1,2-diol CAS: 107-21-1 EC: 203-473-3	BOD5	0.47 g O2/g	Concentration	100 mg/L
	COD	1.29 g O2/g	Period	14 days
	BOD5/COD	0.36	% Biodegradable	90 %
2-(2-butoxietoxi)etanol CAS: 112-34-5 EC: 203-961-6	BOD5	0.25 g O2/g	Concentration	100 mg/L
	COD	2.08 g O2/g	Period	28 days
	BOD5/COD	0.12	% Biodegradable	92 %
2-(2-methoxyethoxy)ethanol CAS: 111-77-3 EC: 203-906-6	BOD5	Non-applicable	Concentration	Non-applicable
	COD	Non-applicable	Period	28 days
	BOD5/COD	0.07	% Biodegradable	100 %
Methanol CAS: 67-56-1 EC: 200-659-6	BOD5	Non-applicable	Concentration	100 mg/L
	COD	1.42 g O2/g	Period	14 days
	BOD5/COD	Non-applicable	% Biodegradable	92 %

12.3 Bioaccumulative potential:

Identification	Bioaccumulation potential	
Ethane-1,2-diol CAS: 107-21-1 EC: 203-473-3	BCF	10
	Pow Log	-1,36
	Potential	Low
2-(2-butoxietoxi)etanol CAS: 112-34-5 EC: 203-961-6	BCF	0,46
	Pow Log	0,56
	Potential	Low
2-(2-methoxyethoxy)ethanol CAS: 111-77-3 EC: 203-906-6	BCF	3
	Pow Log	-1,18
	Potential	Low
Methanol CAS: 67-56-1 EC: 200-659-6	BCF	3
	Pow Log	-0,77
	Potential	Low

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
Ethane-1,2-diol CAS: 107-21-1 EC: 203-473-3	Koc	0	Henry	1,327E-1 Pa·m ³ /mol
	Conclusion	Very High	Dry soil	No
	Surface tension	49890 N/m (25 °C)	Moist soil	No
2-(2-butoxietoxi)etanol CAS: 112-34-5 EC: 203-961-6	Koc	48	Henry	7,2E-9 Pa·m ³ /mol
	Conclusion	Very High	Dry soil	No
	Surface tension	33950 N/m (25 °C)	Moist soil	No
2-(2-methoxyethoxy)ethanol CAS: 111-77-3 EC: 203-906-6	Koc	1	Henry	1,621E-6 Pa·m ³ /mol
	Conclusion	Very High	Dry soil	Non-applicable
	Surface tension	35900 N/m (25 °C)	Moist soil	No
Methanol CAS: 67-56-1 EC: 200-659-6	Koc	Non-applicable	Henry	Non-applicable
	Conclusion	Non-applicable	Dry soil	Non-applicable
	Surface tension	23550 N/m (25 °C)	Moist soil	Non-applicable

12.5 Results of PBT and vPvB assessment:

Non-applicable

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Code	Description	Waste class (Directive 2008/98/EC)
16 05 08*	Discarded organic chemicals consisting of or containing dangerous substances	Dangerous

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Phos-Chek 3x3 AR-AFFF Freeze Protected - [POLYFOAM 3/3 FP]

SECTION 13: DISPOSAL CONSIDERATIONS (continue)

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2000/532/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommended disposal down the drain. See paragraph 6.2.

Regulations related to waste management:

In accordance with Annex II of Regulation (EC) n°1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2000/532/EC: Commission Decision of 3 May 2000

SECTION 14: TRANSPORT INFORMATION

This product is not regulated for transport (ADR/RID,IMDG,IATA)

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Candidate substances for authorisation under the Regulation (EC) 1907/2006 (REACH): Non-applicable

Regulation (EC) 1005/2009, about substances that deplete the ozone layer: Non-applicable

Active substances for which a decision of non-inclusion onto Annex I (Regulation (EU) No 528/2012): Non-applicable

Regulation (EC) 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII, REACH):

Non-applicable

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Relevant instructions for use:

This product is intended for the production of foam for fire extinguishing purposes. For this purpose it should be diluted in water and used with appropriate foam-generating equipment. Use at 3% on both hydrocarbon and polar solvent fires.

Other legislation:

Non-applicable

15.2 Chemical safety assessment:

The supplier has not carried out evaluation of chemical safety.

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) N° 1907/2006 (Regulation (EC) N° 453/2010)

Modifications related to the previous security card which concerns the ways of managing risks. :

COMPOSITION/INFORMATION ON INGREDIENTS:

- Added Content
 - 2-(2-methoxyethoxy)ethanol (111-77-3)
- Removed Content
 - Amphoteric hydrocarbon surfactant 6608110000
 - Non-ionic hydrocarbon surfactant 6607730000

Directive 67/548/EC and Directive 1999/45/EC:

- R Phrases
- S Phrases

Text of R-phrases considered in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

Directive 67/548/EC and Directive 1999/45/EC:

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Phos-Chek 3x3 AR-AFFF Freeze Protected - [POLYFOAM 3/3 FP]

SECTION 16: OTHER INFORMATION (continue)

R11: Highly flammable
R22: Harmful if swallowed
R23/24/25: Toxic by inhalation, in contact with skin and if swallowed
R36: Irritating to eyes
R38: Irritating to skin
R39/23/24/25: Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed
R41: Risk of serious damage to eyes
R63: Possible risk of harm to the unborn child

CLP Regulation (EC) n° 1272/2008:

Acute Tox. 3: H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
Acute Tox. 4: H302 - Harmful if swallowed
Eye Dam. 1: H318 - Causes serious eye damage
Eye Irrit. 2: H319 - Causes serious eye irritation
Flam. Liq. 2: H225 - Highly flammable liquid and vapour
Repr. 2: H361d - Suspected of damaging the unborn child.
Skin Irrit. 2: H315 - Causes skin irritation
STOT SE 1: H370 - Causes damage to organs

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

<http://esis.jrc.ec.europa.eu>
<http://echa.europa.eu>
<http://eur-lex.europa.eu>

Abbreviations and acronyms:

- ADR: European agreement concerning the international carriage of dangerous goods by road
- IMDG: International maritime dangerous goods code
- IATA: International Air Transport Association
- ICAO: International Civil Aviation Organisation
- COD: Chemical Oxygen Demand
- BOD5: 5-day biochemical oxygen demand
- BCF: Bioconcentration factor
- LD50: Lethal Dose 50
- CL50: Lethal Concentration 50
- EC50: Effective concentration 50
- Log-POW: Octanol–water partition coefficient
- Koc: Partition coefficient of organic carbon

The information contained in this security data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this security data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -