

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

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Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : PHOS-CHEK® 1x3 AR-AFFF

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Fire extinguisher
For professional use only

1.3. Details of the supplier of the safety data sheet

Manufacturer

Perimeter Solutions
10667 Jersey Blvd.
Rancho Cucamonga CA, 91730
T 1-800-682-3626

Distributor

1.4. Emergency telephone number

Emergency number : CHEMTREC 800-424-9300
CANUTEC 613-996-6666 (transport only)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS classification

Eye Irrit. 2A
Skin Sens. 1B
STOT RE 2

2.2. Label elements

GHS labelling

Hazard pictograms (GHS) :



GHS07

GHS08

Signal word (GHS) :

Warning

Hazard statements (GHS) :

Causes serious eye irritation. May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS) :

Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands, forearms and face thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Get medical advice/attention if you feel unwell. Wash contaminated clothing before reuse. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%
Diethylene glycol monobutyl ether	(CAS-No.) 112-34-5	10 - 30
1,2,3-Propanetriol	(CAS-No.) 56-81-5	7 – 13
Ethylene glycol	(CAS-No.) 107-21-1	3 – 7
Ethyl alcohol	(CAS-No.) 64-17-5	1 – 5
.beta.-Alanine, N-(2-hydroxyethyl)-N-[2-[(1-oxooctyl)amino]ethyl]-	(CAS-No.) 64265-45-8	1 – 5
SPE 93279	(CAS-No.) RR-11283-4	1 – 5
Sodium octyl sulfate	(CAS-No.) 142-31-4	1 – 5
1-Propanaminium, N-(carboxymethyl)-N,N-dimethyl-3-[(1-oxododecyl)amino]-, inner salt	(CAS-No.) 4292-10-8	1 – 5

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
- First-aid measures after skin contact : IF ON SKIN: Wash with plenty of Water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

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

- Symptoms/effects after inhalation : May cause irritation to the respiratory tract.
- Symptoms/effects after skin contact : May cause skin irritation. May cause an allergic skin reaction. Repeated exposure may cause skin dryness or cracking.
- Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
- Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

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

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : Tap water

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon. Organic compounds.

5.3. Advice for firefighters

- Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters.

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6.3. Methods and material for containment and cleaning up

- For containment : Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.
- Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Avoid contact with skin and eyes. Do not breathe dust, fume, gas, mist, spray, vapours. Do not swallow. Contaminated work clothing should not be allowed out of the workplace. Handle and open container with care. When using do not eat, drink or smoke.
- Hygiene measures : Wash contaminated clothing before reuse. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep out of the reach of children. Keep container tightly closed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Diethylene glycol monobutyl ether (112-34-5)		
ACGIH	ACGIH TWA (ppm)	10 ppm (inhalable fraction and vapor)
1,2,3-Propanetriol (56-81-5)		
ACGIH	Remark (ACGIH)	URT irr
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (mist, total particulate) 5 mg/m ³ (mist, respirable fraction)
Ethylene glycol (107-21-1)		
ACGIH	ACGIH TWA (ppm)	25 ppm (vapor fraction)
ACGIH	ACGIH STEL (mg/m ³)	10 mg/m ³ (inhalable particulate matter, aerosol only)
ACGIH	ACGIH STEL (ppm)	50 ppm (vapor fraction)
.beta.-Alanine, N-(2-hydroxyethyl)-N-[2-[(1-oxooctyl)amino]ethyl]- (64265-45-8)		
Not applicable		
Ethyl alcohol (64-17-5)		
ACGIH	ACGIH STEL (ppm)	1000 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	1900 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
IDLH	US IDLH (ppm)	3300 ppm (10% LEL)
NIOSH	NIOSH REL (TWA) (mg/m ³)	1900 mg/m ³
NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm
SPE 93279 (RR-11283-4)		
Not applicable		
Sodium octyl sulfate (142-31-4)		
Not applicable		
1-Propanaminium, N-(carboxymethyl)-N,N-dimethyl-3-[(1-oxododecyl)amino]-, inner salt (4292-10-8)		
Not applicable		
2,4-Pentanediol, 2-methyl- (107-41-5)		
ACGIH	ACGIH TWA (ppm)	25 ppm (vapor fraction)
ACGIH	ACGIH STEL (mg/m ³)	10 mg/m ³ (inhalable particulate matter, aerosol only)
ACGIH	ACGIH STEL (ppm)	50 ppm (vapor fraction)
NIOSH	NIOSH REL (ceiling) (mg/m ³)	125 mg/m ³

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2,4-Pentanediol, 2-methyl- (107-41-5)		
NIOSH	NIOSH REL (ceiling) (ppm)	25 ppm
tert-Butyl alcohol (75-65-0)		
ACGIH	ACGIH TWA (ppm)	100 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	300 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	100 ppm
IDLH	US IDLH (ppm)	1600 ppm
NIOSH	NIOSH REL (TWA) (mg/m ³)	300 mg/m ³
NIOSH	NIOSH REL (TWA) (ppm)	100 ppm
NIOSH	NIOSH REL (STEL) (mg/m ³)	450 mg/m ³
NIOSH	NIOSH REL (STEL) (ppm)	150 ppm

8.2. Exposure controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Hand protection	: Wear suitable gloves resistant to chemical penetration.
Eye protection	: Wear eye/face protection.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment. 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.
Environmental exposure controls	: Avoid release to the environment.
Other information	: Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Viscous.
Colour	: Amber
Odour	: Characteristic
Odour threshold	: No data available
pH	: 6.5 - 7.5
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 199.4 °F (93 °C)
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 12.08 kPa (@122 °F/50 °C)
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1040 - 1080 kg/m ³ (@ 68 °F/ 20 °C)
Solubility	: Material highly soluble in water.
partition coefficient n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: > 20.5 cSt
Viscosity, dynamic	: 80 cP
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

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9.2. Other information

Refractive index : 1.383

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Sunlight. Incompatible materials.

10.5. Incompatible materials

Strong acids. Alkalis. Strong bases.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon, organic compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified.

Acute toxicity (dermal) : Not classified.

Acute toxicity (inhalation) : Not classified.

Ethylene glycol (107-21-1)	
LD50 oral rat	4700 mg/kg
LD50 dermal rat	10600 mg/kg
LC50 inhalation rat (Dust/Mist - mg/l/4h)	2.7 mg/l/4h
ATE CA (oral)	500 mg/kg bodyweight
ATE CA (Dermal)	10600 mg/kg bodyweight

.beta.-Alanine, N-(2-hydroxyethyl)-N-[2-[(1-oxooctyl)amino]ethyl]- (64265-45-8)	
LD50 oral rat	> 2000 mg/kg

Sodium octyl sulfate (142-31-4)	
LD50 oral rat	3200 mg/kg
ATE CA (oral)	3200 mg/kg bodyweight

1-Propanaminium, N-(carboxymethyl)-N,N-dimethyl-3-[(1-oxododecyl)amino]-, inner salt (4292-10-8)	
LD50 oral rat	> 2000 mg/kg

Skin corrosion/irritation : Not classified.
pH: 6.5 - 7.5

Serious eye damage/irritation : Causes serious eye irritation.
pH: 6.5 - 7.5

Respiratory or skin sensitisation : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified.

Carcinogenicity : Not classified.

tert-Butyl alcohol (75-65-0)	
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity

Reproductive toxicity : Not classified.

STOT-single exposure : Not classified.

Ethylene glycol (107-21-1)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified.

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Viscosity, kinematic (calculated value) (40 °C) > 20.5 mm²/s

Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: May cause skin irritation. May cause an allergic skin reaction. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact	: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/effects after ingestion	: May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Diethylene glycol monobutyl ether (112-34-5)

LC50 fish 1 1300 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

EC50 Daphnia 1 > 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)

1,2,3-Propanetriol (56-81-5)

LC50 fish 1 51 - 57 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])

Ethylene glycol (107-21-1)

LC50 fish 1 41000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)

EC50 Daphnia 1 46300 mg/l (Exposure time: 48 h - Species: Daphnia magna)

LC50 fish 2 14 - 18 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])

NOEC chronic crustacea 4.2 mg/l

Ethyl alcohol (64-17-5)

LC50 fish 1 12.0 - 16.0 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])

EC50 Daphnia 1 9268 - 14221 mg/l (Exposure time: 48 h - Species: Daphnia magna)

LC50 fish 2 > 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

EC50 Daphnia 2 2 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

2,4-Pentanediol, 2-methyl- (107-41-5)

LC50 fish 1 10500 - 11000 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])

EC50 Daphnia 1 2700 - 3700 mg/l (Exposure time: 48 h - Species: Daphnia magna)

LC50 fish 2 10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

tert-Butyl alcohol (75-65-0)

LC50 fish 1 6130 - 6700 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])

EC50 Daphnia 1 933 mg/l (Exposure time: 48 h - Species: Daphnia magna)

EC50 Daphnia 2 4607 - 6577 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

12.2. Persistence and degradability

PHOS-CHEK® 1x3 AR-AFFF

Persistence and degradability Not established.

12.3. Bioaccumulative potential

PHOS-CHEK® 1x3 AR-AFFF

Bioaccumulative potential Not established.

Diethylene glycol monobutyl ether (112-34-5)

BCF fish 1 (no bioconcentration expected)

1,2,3-Propanetriol (56-81-5)

BCF fish 1 (no bioaccumulation)

Partition coefficient n-octanol/water -1.76

Ethylene glycol (107-21-1)

Partition coefficient n-octanol/water -1.93

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Ethyl alcohol (64-17-5)	
Partition coefficient n-octanol/water	-0.32

2,4-Pentanediol, 2-methyl- (107-41-5)	
Partition coefficient n-octanol/water	< 0.14

tert-Butyl alcohol (75-65-0)	
BCF fish 1	1.09
Partition coefficient n-octanol/water	0.35

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

SECTION 14: Transport information

Department of Transportation (DOT) and Transportation of Dangerous Goods (TDG)

In accordance with DOT/TDG

Not regulated

SECTION 15: Regulatory information

15.1. Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

SPE 93279	RR-11283-4
5-Chloro-2-methyl-3(2H)-isothiazolone, mixture with 2-methyl-3(2H)-isothiazolone	CAS-No. 55965-84-9

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories except for:

SPE 93279	RR-11283-4
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15.2. International regulations

No additional information available

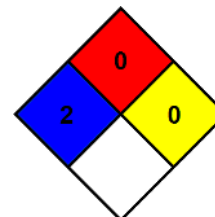
15.3. US State regulations

⚠ WARNING: This product can expose you to Ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

Revision date : 01/10/2020
Other information : None.
Prepared by : Nexreg Compliance Inc.
www.Nexreg.com

NFPA health hazard : 2
NFPA fire hazard : 0
NFPA reactivity : 0



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Hazard Rating

Health	: 2 Moderate Hazard
Flammability	: 0 Minimal Hazard
Physical	: 0 Minimal Hazard

SDS HazCom 2012 - WHMIS 2015 (NexReg)

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