

# SAFETY DATA SHEET

In accordance with 1907/2006 annex II 2015/830 and 1272/2008  
(All references to EU regulations and directives are abbreviated into only the numeric term)

Issued 2017-10-29

Version number 3.0



## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Trade name **Piston accumulator**  
Article number 103X, 104X, 106X, 107X, 116X, 1112X

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

Identified uses Fire extinguishing agents

### 1.3. Details of the supplier of the safety data sheet

Company Fogmaker International AB  
Box 8005  
35008 VÄXJÖ  
Sweden  
Telephone 0470-77 22 00  
E-mail info@fogmaker.com

### 1.4. Emergency telephone number

Acute cases: Call 112, request poison information.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Compressed gas, H280

### 2.2. Label elements

Hazard pictogram



Signal word **Danger**  
Hazard statement  
H280 Contains gas under pressure; may explode if heated  
Precautionary statement Not applicable

### 2.3. Other hazards

The fire extinguisher is pressurized. This safety data sheet refers to the properties of the liquid. Pressure in container: 100 Bar.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Note that the table shows known hazards of the ingredients in pure form. These hazards are reduced or eliminated when mixed or diluted, see Section 16d.

Constituent	Classification	Concentration
<b>POTASSIUM FORMATE</b>		
CAS No: 590-29-4 EC No: 209-677-9		10 - 45 %
<b>POTASSIUM ACETATE</b>		
CAS No: 127-08-2 EC No: 204-822-2		10 - 45 %
<b>NITROGEN GAS</b>		
CAS No: 7727-37-9 EC No: 231-783-9	Press Gas P; H280	20 %

<b>COCAMIDOPROPYL BETAINE</b>		
CAS No: 147170-44-3 EC No: 931-333-8 REACH: 01-2119552480-44	Eye Dam 1, Aquatic Chronic 3; H318, H412	<0.4 %
<b>ETHYLENE GLYCOLE</b>		
CAS No: 107-21-1 EC No: 203-473-3 Index No: 603-027-00-1 REACH: 01-2119456816-28	Acute Tox <i>4oral</i> , STOT RE 2; H302, H373	<0.4 %
<b>DIETHYLENE GLYCOL MONOBUTYL ETHER</b>		
CAS No: 112-34-5 EC No: 203-961-6 Index No: 603-096-00-8 REACH: 01-2119475104-44	Eye Irrit 2; H319	<0.4 %

Explanations to the classification and labelling of the ingredients are given in Section 16e. Official abbreviations are printed in normal font. Text in italics are specifications and/or complements used in the calculation of the classification of this mixture, see Section 16b.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### Generally

In case of concern, or if symptoms persist, call a doctor/physician.

Never attempt to administer liquid, or anything else, to an unconscious person via the mouth.

#### Upon breathing in

Allow the injured person to rest in a warm place with fresh air, if symptoms persist seek medical attention.

#### Upon eye contact

Remove contact lenses immediately if possible.

Flush immediately with luke-warm water for 15 - 20 minutes with wide-open eyes. If symptoms persist, seek medical advice.

#### Upon skin contact

Wash the skin with soap and water.

If symptoms occur, contact a physician.

#### Upon ingestion

Rinse nose, mouth and throat with water.

Drink plenty of water.

If symptoms persist contact a doctor.

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

No further relevant information available.

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

Symptomatic treatment.

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing media

Not applicable: the product is a fire extinguisher.

### 5.2. Special hazards arising from the substance or mixture

The product is not hazardous in the flammable sense.

### 5.3. Advice for fire-fighters

In case of fire use a respirator mask.

Protective measures should be taken regarding other material at the site of the fire.

Cool closed containers that were exposed to fire with water.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes.

Use recommended safety equipment, see section 8.

### 6.2. Environmental precautions

Avoid that larger spills reach drains, fields or waterways.

### 6.3. Methods and material for containment and cleaning up

Wash thoroughly with water.

Let the gas from the leaking gas cylinders evaporate outdoors.

### 6.4. Reference to other sections

For waste disposal see section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Do not inhale the fumes and avoid exposure to skin, eyes and clothing.

Do not eat, drink or smoke in premises where this product is handled.

Handle in premises with good ventilation.

Wash your hands after using the product.

Work in order to avoid spillage. If spillage does occur, address it immediately in accordance with the directions specified in Section 6 of this safety data sheet.

Wash contaminated clothing before reuse.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep well closed.

Stored at -30°C to +65°C.

Store in a well-ventilated space.

### 7.3. Specific end uses

Not relevant.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1. National limit values

#### ETHYLENE GLYCOLE

##### United Kingdoms (EH40/2005)

Time-weighted-average exposure limit (TWA) 20 ppm / 52 mg/m<sup>3</sup>

Short term exposure limit (STEL) 40 ppm / 104 mg/m<sup>3</sup>

Note H

#### DIETHYLENE GLYCOL MONOBUTYL ETHER

##### United Kingdoms (EH40/2005)

Time-weighted-average exposure limit (TWA) 10 ppm / 67.5 mg/m<sup>3</sup>

Short term exposure limit (STEL) 15 ppm / 101.2 mg/m<sup>3</sup>

Explanations of abbreviations are given in Section 16b

#### DNEL

#### COCAMIDOPROPYL BETAINE

	Type of exposure	Route of exposure	Value
Worker	Chronic Systemic	Dermal	12.5 mg/kg bw
Worker	Chronic Systemic	Inhalation	44 mg/m <sup>3</sup>

#### ETHYLENE GLYCOLE

	Type of exposure	Route of exposure	Value
Worker	Chronic Systemic	Dermal	106 mg/kg bw
Worker	Chronic Local	Inhalation	35 mg/m <sup>3</sup>
Consumer	Chronic Local	Inhalation	7 mg/m <sup>3</sup>
Consumer	Chronic Systemic	Dermal	53 mg/kg bw

#### PNEC

#### COCAMIDOPROPYL BETAINE

Environmental protection target	PNEC value
Fresh water	0.0135 mg/L
Microorganisms in sewage treatment	3 mg/L
Soil (agricultural)	0.8 mg/kg dw

## ETHYLENE GLYCOLE

Environmental protection target	PNEC value
Fresh water	10 mg/L
Freshwater sediments	20.9 mg/L
Marine water	1 mg/L
Soil (agricultural)	1.53 mg/L

### 8.2. Exposure controls

In terms of minimizing risks, attention must be paid to the physical hazards (see Sections 2 and 10) of this product according to EU directives 89/391 and 98/24 and national occupational legislation.

#### 8.2.1. Appropriate engineering controls

Eye-rinsing facilities shall be available at the workplace.

#### Eye/face protection

Eye protection should be worn if there is any danger of direct exposure or splashing.

#### Skin protection

Normal working-clothes of cotton or synthetic material should be adequate. Clothing contaminated with this product should be washed immediately; avoid contact with the skin.

Protective gloves are normally not needed due to the properties of this product, but may be necessary for other reasons, e.g. mechanical risks, temperature conditions or microbiological risks.

Use protective gloves of butyl rubber, Viton or fluorine rubber, or get advice from an occupational medical expert about alternative materials. Show this safety data sheet.

#### Respiratory protection

Use proper protective breathing equipment in case of insufficient ventilation.

#### 8.2.3. Environmental exposure controls

For limitation of environmental exposure, see Section 12.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

a) Appearance	Form: Compressed gas.
b) Odour	Not indicated
c) Odour threshold	Not indicated
d) pH	Not indicated
e) Melting point/freezing point	Not indicated
f) Initial boiling point and boiling range	Not indicated
g) Flash point	Not indicated
h) Evaporation rate	Not indicated
i) Flammability (solid, gas)	Not applicable
j) Upper/lower flammability or explosive limits	Not indicated
k) Vapour pressure	Not indicated
l) Vapour density	Not indicated
m) Relative density	Not indicated
n) Solubility	Solubility in water: Soluble
o) Partition coefficient: n-octanol/water	Not applicable
p) Auto-ignition temperature	Not indicated
q) Decomposition temperature	Not indicated
r) Viscosity	Not indicated
s) Explosive properties	Not applicable
t) Oxidising properties	Not applicable

### 9.2. Other information

No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product contains no substances which can lead to hazardous reactions at normal use.

### 10.2. Chemical stability

The product is stable at normal storage and handling conditions.

### 10.3. Possibility of hazardous reactions

No hazardous reactions known.

### 10.4. Conditions to avoid

None in particular.

### 10.5. Incompatible materials

Avoid contact with zinc and galvanized materials.

### 10.6. Hazardous decomposition products

Does not decompose to hazardous substances.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

The product is not classified as toxic.

#### Acute toxicity

The criteria for classification cannot be considered fulfilled based on available data.

#### POTASSIUM ACETATE

LD50 rat 24h: 3250 mg/kg Orally

#### ETHYLENE GLYCOLE

LD50 rabbit 24h: > 2000 mg/kg Dermally

LC50 rat 4h: > 2.5 mg/L Inhalation

LD50 rat 24h: 4700 mg/kg Orally

#### DIETHYLENE GLYCOL MONOBUTYL ETHER

LD50 rabbit 24h: 2700 mg/kg Dermally

LD50 rat 24h: 5660 mg/kg Orally

#### Skin corrosion/irritation

The criteria for classification cannot be considered fulfilled based on available data.

#### Serious eye damage/irritation

The criteria for classification cannot be considered fulfilled based on available data.

#### Respiratory or skin sensitisation

The criteria for classification cannot be considered fulfilled based on available data.

#### Germ cell mutagenicity

The criteria for classification cannot be considered fulfilled based on available data.

#### Carcinogenicity

The criteria for classification cannot be considered fulfilled based on available data.

#### Reproductive toxicity

The criteria for classification cannot be considered fulfilled based on available data.

#### STOT-single exposure

The criteria for classification cannot be considered fulfilled based on available data.

#### STOT-repeated exposure

The criteria for classification cannot be considered fulfilled based on available data.

#### Aspiration hazard

The criteria for classification cannot be considered fulfilled based on available data.

## SECTION 12: Ecological information

### 12.1. Toxicity

The product is not to be labelled as an environmental hazard. However, it is not inconceivable that large emissions, or repeated small emissions, can have a harmful effect on the environment.

#### ETHYLENE GLYCOLE

LC50 Rainbow trout (*Oncorhynchus mykiss*) 96h: > 18500 mg/L

LC50 fathead minnow (*Pimephales promelas*) 96h: 72860 mg/l

EC50 Freshwater water flea (*Daphnia magna*) 48 h: > 100 mg/l

EC50 Freshwater water flea (*Daphnia magna*) 24h: > 74000 mg/L

EC50 Algae (*Selenastrum capricornutum*) 96h: 6500 - 7500 mg/L

#### DIETHYLENE GLYCOL MONOBUTYL ETHER

LC50 Bluegill (*Lepomis macrochirus*) 96h: 1300 mg/l

LC50 Fish 48h: > 100 mg/l

EC50 Freshwater water flea (*Daphnia magna*) 72h: > 100 mg/l

IC50 Algae 72h: > 100 mg/l

### 12.2. Persistence and degradability

The product degrades in the natural environment.

### 12.3. Bioaccumulative potential

Neither this product, nor its contents, accumulates in nature.

#### 12.4. Mobility in soil

Information about mobility in nature is not available.

#### 12.5. Results of PBT and vPvB assessment

No chemical safety report has been executed.

#### 12.6. Other adverse effects

Data lacking.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Waste handling of the product

Empty, rinsed packaging is sent for recycling where practicable.

Observe local regulations.

See also national waste regulations.

### SECTION 14: Transport information

Where not otherwise stated the information applies to all of the UN Model Regulations, i.e. ADR (road), RID (railway), ADN (inland waterways), IMDG (sea), and ICAO (IATA) (air).

#### 14.1. UN number

1044

#### 14.2. UN proper shipping name

FIRE EXTINGUISHERS

#### 14.3. Transport hazard class(es)

##### Class

2: Gases

##### Classification code (ADR/RID)

6A: Other articles containing gas under pressure: asphyxiant

##### Subsidiary risk (IMDG)

No subsidiary risk according to IMDG

##### Labels



#### 14.4. Packing group

Not applicable

#### 14.5. Environmental hazards

Not applicable

#### 14.6. Special precautions for user

##### Tunnel restrictions

Tunnel category: E

#### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

#### 14.8 Other transport information

Transport category: 3; Maximum total quantity per transport unit: 1000 kgs or litres

Stowage category A (IMDG)

Emergency Schedule (EmS) for FIRE (IMDG) F-C

Emergency Schedule (EmS) for SPILLAGE (IMDG) S-V

### SECTION 15: Regulatory information

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

Not indicated.

#### 15.2. Chemical safety assessment

Assessment and chemical safety report in accordance with 1907/2006 Annex I has not yet been performed.

### SECTION 16: Other information

#### 16a. Indication of where changes have been made to the previous version of the safety data sheet

##### Revisions of this document

## 16b. Legend to abbreviations and acronyms used in the safety data sheet

### Full texts for Hazard Class and Category Code mentioned in section 3

Press Gas P	Compressed gas
Eye Dam 1	Irreversible Eye Effects (Category 1)
Aquatic Chronic 3	Harmful to aquatic life with long-lasting effects (Category Chronic 3)
Acute Tox 4oral	Acute toxicity (Category 4 oral)
STOT RE 2	Specific target organ toxicity - repeated exposure (Category 2)
Eye Irrit 2	Irritates eyes (Category 2)

## Explanations of the abbreviations in Section 8

### United Kingdom

H

## Explanations of the abbreviations in Section 14

ADR	European Agreement concerning the International Transport of Dangerous Goods by Road
RID	Regulations concerning the International Transport of Dangerous Goods by Rail
IMDG	International Maritime Dangerous Goods Code
ICAO	International Civil Aviation Organization (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada)
IATA	The International Air Transport Association
Tunnel restriction code: E;	Passage through category E tunnels is strictly forbidden
Transport category: 3;	Maximum total quantity per transport unit: 1000 kgs or litres

## 16c. Key literature references and sources for data

### Sources for data

Primary data for the calculation of the hazards has preferentially been taken from the official European classification list, 1272/2008 Annex I, as updated to 2017-10-29.

Where such data was not available, alternative documentation used to establish the official classification was used, e.g. IUCLID (International Uniform Chemical Information Database). As a second alternative, information was used from reputable international chemical industries, and as a third alternative other available information was used, e.g. material safety data sheets from other suppliers or information from non-profit associations, where reliability of the source was assessed by expert opinion. If, in spite of this, reliable information could not be sourced, the hazards were assessed by expert opinions based on the known hazards of similar substances, and according to the principles in 1907/2006 and 1272/2008.

### Full texts for Regulations mentioned in this Safety Data Sheet

1907/2006	REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC
2015/830	COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
1272/2008	REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
EH40/2005	EH40/2005 Workplace exposure limits
89/391	COUNCIL DIRECTIVE (89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work
98/24	COUNCIL DIRECTIVE 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)
1907/2006	REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

## 16d. Methods of evaluating information referred to in 1272/2008 Article 9 which was used for the purpose of classification

Hazard calculation for this mixture has been performed as a cumulative assessment with the aid of expert assessments in accordance with 1272/2008 Annex I, where all available information which may be significant to establishing the hazards of the mixture was assessed together, and in accordance with 1907/2006 Annex XI.

## 16e. List of relevant hazard statements and/or precautionary statements

### Full texts for hazard statements mentioned in section 3

H280 Contains gas under pressure; may explode if heated

H318 Causes serious eye damage

H412 Harmful to aquatic life with long lasting effects

H302 Harmful if swallowed

H373 May cause damage to organs <or state all organs affected, if known> through prolonged or repeated exposure  
<state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>

H319 Causes serious eye irritation

**16f. Advice on any training appropriate for workers to ensure protection of human health and the environment**

**Warning for misuse**

This product is not expected to cause severe harm to humans or the environment. However the manufacturer, the distributor or the supplier cannot be responsible for unusual or criminal use of the product.

**Other relevant information**

**Editorial information**



This material safety data sheet has been prepared and checked by KemRisk®, KemRisk Sweden AB, Platensgatan 8, SE-582 20 Linköping, Sweden, [www.kemrisk.se](http://www.kemrisk.se)