

## Safety Data Sheet

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING:

#### 1.1 Product identifier:

EP88

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

Cooling agent

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

Arctiko A/S  
Lammefjordsvej 5  
DK- 6715 Esbjerg N  
Phone: +45 70 20 03 28  
Fax: +45 70 20 03 29  
Email: [info@arctiko.com](mailto:info@arctiko.com)

#### 1.4 Emergency telephone number

+45 82 12 12 12 (DK)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture:

Extremely flammable gas. May cause frostbites.

EU (67/548 or 1999/45): Fx; R12  
CLP(1272/2088): Flam. Gas 1;H220 Press. Gas

*See the full text of risk- and hazard phrases in section 16.*

#### 2.2 Label elements:

EU:

Contains: -



Extremely flammable

R12 Extremely flammable  
S9 Keep container in a well-ventilated place  
S16 Keep away from sources of ignition -- No smoking

- S33 Take precautionary measures against static discharges  
S46 If swallowed, seek medical advice immediately and show container or label

## CLP:

Contains: -



**Danger**

- H220 Extremely flammable gas  
P403 Store in a well-ventilated place  
P210 P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.  
P243 Take precautionary measures against static discharge.  
P301+P315 IF SWALLOWED: Get immediate medical advice/attention

## 2.3 Other hazards

May cause frostbites in case of contact with skin and eyes.

PBT/vPvB: The mixture does not meet the criteria for PBT/vPvB in accordance with REACH Annex XII

## 3. COMPOSITION /INFORMATION ON INGREDIENTS:

### 3.1 Substances

Not applicable.

### 3.2 Mixtures

Product description: Liquefied Gas

<u>Substance name</u>	<u>CAS no./Einecs no.</u>	<u>%:</u>	<u>Classification:</u>
Trifluoromethane (R23)	75-46-7/200-872-4	20-30	EU: Not classified CLP: Not classified
Propane (R290)	74-98-6/200-827-9	30-40	EU: Fx;R12 CLP: Flam. Gas 1; H220 Press. Gas
N-Butane (R600)	106-97-8/203-448-7	40-50	EU: Fx;R12 CLP: Flam. Gas 1; H220 Press. Gas

See the full text of risk- and hazard phrases in section 16.

## 4. FIRST AID MEASURES:

### 4.1 Description of first aid measures:

#### Inhalation:

Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

#### Skin contact:

In case of contact with liquid spillage – flush with water for at least 15 minutes. Seek medical attention.

#### Eye contact:

In case of contact with liquid spillage – flush with water for at least 15 minutes. Hold the eye open. Remove contact lenses. Seek medical attention.

#### Ingestion:

Seek medical attention.

#### Burns:

Rinse with water until the pain disappears. Remove burned clothes during rinsing. If medical attention is necessary continue rinse until a doctor takes over.

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

High concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination. May cause frostbites in case of contact with skin and eyes.

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

If the person is unconscious: Call immediately a doctor or an ambulance. Show this safety data sheet to the medical staff.

## 5. FIREFIGHTING MEASURES:

### 5.1 Extinguishing media:

All known extinguishing agents can be used.

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

Extremely flammable. Exposure to fire may cause containers to rupture/explode. Avoid inhalation of smoke. Incomplete combustion may form carbon monoxide, carbonyl fluoride and hydrogen fluoride.

### 5.3 Advice for fire-fighters:

In confined space use self-contained breathing apparatus.

Specific methods:

If possible, stop flow of product.

Move away from the container and cool with water from a protected position.

Do not extinguish a leaking gas flame unless absolutely necessary.

Spontaneous/explosive re-ignition may occur.

Extinguish any other fire.

## 6. ACCIDENTAL RELEASE MEASURES:

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

Use protective suit. Use self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

Evacuate the area. Ensure adequate air ventilation. Eliminate ignition sources.

## 6.2 Environmental precautions:

Try to stop release. Prevent from entering sewers, basements and work pits, or any place where its accumulation can be dangerous.

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

Ventilate area.

## 6.4 Reference to other sections:

Not applicable.

## 7. HANDLING AND STORAGE:

### 7.1 Precautions for safe handling:

Avoid inhalation and contact med skin and eyes. Keep away from sources of ignition, including electrostatic discharge.

Ensure equipment is adequately earthed. Suck back of water into the container must be prevented.

Purge air from system before introducing gas. Do not allow reflux into the container.

Use only properly specified equipment which is suitable for this product, its supply pressure and temperature.

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

Segregate from oxidant gases and other oxidants in store. Keep container below 50 °C in a well ventilated place. Keep the container secured and safe from collision.

### 7.3 Specific end use(s):

See use in section 1.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

### 8.1 Control parameters:

Substance name	Exposure limit
Propane	1000 ppm / 1800 mg/m <sup>3</sup> (DK)
N-Butane	500 ppm / 1200 mg/m <sup>3</sup> (DK)

### 8.2 Exposure controls:

#### Appropriate engineering controls:

Ensure adequate ventilation.

#### Individual protection measures:

Do not smoke while handling product. Protect eyes and skin against splashes of liquid.

#### Respiratory protection:

In case of gas leak wear self-contained breathing apparatus

#### Eye protection:

Use goggles if there is risk of splashes of liquid.

#### Skin protection:

Use insulating gloves and protective suit if there is risk of splashes of liquid.

## 9. PHYSICAL AND CHEMICAL PROPERTIES:

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

Appearance:	Colourless gas.
Odour:	Sweetish. Poor warning properties at low concentration
Odour threshold:	Not available
pH:	Not applicable
Melting point/freezing point:	Not available
Initial boiling point and boiling range:	Not available
Flash point:	Not available
Evaporation rate:	Not available
Flammability:	Not available
Upper/lower flammability or explosive limits:	Not available
Vapour pressure:	Not available
Vapour density:	Not available
Relative density:	Not available
Solubility(ies):	Not applicable
Partition coefficient (n-octanol/water):	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity:	Not available
Explosive properties:	Not available
Oxidising properties:	Not available

Physical hazards (Flammable gas): Flam. Gas 1; H220

### 9.2 Other information:

Not relevant.

## 10. STABILITY OG REACTIVITY:

### 10.1 Reactivity:

Not available.

### 10.2 Chemical stability:

May decompose violently at high temperature and/or pressure or in the presence of a catalyst.

### 10.3 Possibility of hazardous reactions:

Can form explosive mixture with air. May react violently with oxidants.

### 10.4 Conditions to avoid:

Keep away from heat.

### 10.5 Incompatible materials:

Avoid contact with oxidizing agents.

### 10.6 Hazardous decomposition products:

Incomplete combustion may form carbon monoxide, carbonylfluoride and hydrogenfluoride..

**11. TOXICOLOGICAL INFORMATION:****11.1 Information on toxicological effects:**

Hazard class	Data	Test	Source
Acute toxicity:			
Inhalation	Not available	-	-
Dermal	Not available	-	-
Oral	Not applicable	-	-
Skin corrosion /irritation	Not available	-	-
Sensitisation	Not available	-	-
CMR	Not available	-	-

**Information on likely routes of exposure:**

Skin, eyes and inhalation.

**Inhalation**

High concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination. May cause frostbites in case of contact with skin and eyes.

**Skin contact:**

May cause frostbites.

**Eye contact:**

May cause frostbites.

**Ingestion:**

Ingestion is not considered a potential route of exposure.

**Long term effects**

No known long term effects.

**12. Ecological information:****12.1 Toxicity:**

Aquatic	Data	Test (medium)	Source
Fish	Not available	-	-
Crustaceans	Not available	-	-
Algae	Not available	-	-

**12.2 Persistence and degradability:**

Not available

**12.3 Bioaccumulative potential:**

Not available

**12.4 Mobility in soil:**

Not available

**12.5 Results of PBT- and vPvB assessment:**

Not available

**12.6 Other adverse effects:**

Not available

**13. DISPOSAL CONSIDERATIONS:****13.1 Waste treatment methods:**

Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor.

Do not discharge into any place where it is accumulation could be dangerous.

Empty bottles and bottles with residues should be returned to the supplier.

**14. TRANSPORT INFORMATION:****14.1 UN number:**

UN 3161

**14.2 UN proper shipping name**

UN 3161 Liquefied gas, flammable, n.o.s. (N-butane, propane)

**14.3 Transport hazard class(es)**

2 (Classification code 2F)

**14.4 Packing group**

Not applicable.

**14.5 Environmental hazards**

The mixture is not an environmental hazard

**14.6 Special precautions for user**

Avoid transport on vehicles where the load space is not separated from the drivers compartment.

Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.

Before transporting product containers:

- Ensure that containers are firmly secured.
- Ensure cylinder valve is closed and not leaking.
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
- Ensure valve protection device (where provided) is correctly fitted.
- Ensure there is adequate ventilation.
- Compliance with applicable regulations

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable.

## 15. REGULATORY INFORMATION:

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

Young people under 18 years may not work with this product. The user must be instructed before use and be familiar with the content of this Safety Data Sheet.

### 15.2 Chemical safety assessment:

Not available

## 16. OTHER INFORMATION:

### Full text of hazard- and risk-phrases in section 3:

R12 Extremely flammable

H220 Extremely flammable gas

Since consumer is working outside of our knowledge and our control, be aware that it always is the consumers responsibility to make the necessary steps to comply with applicable regulations.