

SAFETY DATA SHEET **EP88 mix**

VERSION 4.0



Completed 17-12-2020
Revision: (date) 19-02-2024
SDS version 1.4

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

1.1. Product Identifier

Trade Name: EP88 mix
Product- no.: -

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

Chemical industry.

Uses advised against:

This product must not be used for purposes other than those recommended without first seeking the advice of the supplier.

1.3. Details of the supplier of the safety data sheet**Company and address:**

Arctiko A/S
Oddesundvej 39
DK-6715 Esbjerg N
+45 70 20 03 28
<https://www.arctiko.com>

Contact person and E-mail:

info@arctiko.com

The Safety data sheet is completed and validated by:

Mediator A/S, Centervej 2, DK-6000 Kolding. Consultant: DH

1.4. Emergency telephone number

NHS: 111

Use your national or local emergency number - See section 4 "First aid measures".

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

CLP (1272/2008):
Flam. Gas 1;H220
Press. Gas (Liq.);H280

See full text of H-phrases in section 16.

2.2. Label elements**Signal word:**

Danger

Extremely flammable gas. (H220)

Contains gas under pressure; may explode if heated. (H280)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210)

Leaking gas fire: Do not extinguish, unless leak can be stopped safely. (P377)

In case of leakage, eliminate all ignition sources. (P381)

Store in a well-ventilated place. (P403)

2.3. Other hazards

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Additional labelling:

-

Additional warnings

-

SECTION 3: Composition/information on ingredients

3.1/3.2. Substances/Mixtures

Substance	EU-Index no. / REACH-Reg. no.	CAS-no.	EINECS-no.	CLP-classification	Wt/Wt %	Note
Butane	601-004-00-0 / -	106-97-8	203-448-7	Flam. Gas 1;H220, Press. Gas;H280	30 - 50	-
Propane	601-003-00-5 / -	74-98-6	200-827-9	Flam. Gas 1;H220, Press. Gas;H280	20 - 40	-
Hexafluoroethane	- / -	76-16-4	200-939-8	Press. Gas;H280	20 - 40	-
Trifluoromethane	- / -	75-46-7	200-872-4	Press. Gas;H280	10 - 30	-
Tetrafluormethane	- / -	75-73-0	200-896-5	Press. Gas;H280	10 - 20	-

See full text of H-phrases in section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures**Inhalation:**

Inhalation of gases may cause irritation to the upper airways. Risk of suffocation at high concentrations in tight spaces.

Ingestion:

Not relevant.

Skin contact:

Immediately remove contaminated clothing.

On frostbite: rinse with plenty of lukewarm water (max 37°C). Do not remove clothes until thawed. Seek medical advice.

Eye contact:

Flush with water (preferably using eye wash equipment) until irritation subsides. Seek medical advice if symptoms persist.

Burns:

Flush with water until pain ceases. Remove clothing that is not stuck to the skin – seek medical advice/transport to hospital. If possible, continue flushing until medical attention is obtained.

Additional information:

When obtaining medical advice, show the safety data sheet or label.

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

May cause slight irritation to the skin and eyes.

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

Show this safety data sheet to the doctor in attendance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Extinguish with powder, foam, carbon dioxide or water mist.

Do not use water stream, as it may spread the fire.

5.2. Special hazards arising from the substance or mixture

Extremely flammable liquid and vapour.

Heating will cause a rise in pressure in packaging with a risk of bursting.

Hazardous fumes are formed in fire conditions.

Exposure to decomposition products may cause a health hazard.

5.3. Advice for firefighters

If there is a risk of exposure to vapour and flue gases, a self-contained breathing apparatus must be worn.

Move containers from danger area if it can be done without risk. Avoid inhalation of vapour and flue gases – seek fresh air.

Fire fighters should wear appropriate protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8 for type of protective equipment.

Take precautionary measures against static discharges. Use spark-free tools and explosion proof equipment.

6.2. Environmental precautions

Avoid unnecessary release to the environment.

6.3. Methods and material for containment and cleaning up

Provide adequate ventilation.

6.4. Reference to other sections

See section 8 for type of protective equipment.
See section 13 for instructions on disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

See section 8 for information about precautions for use and personal protective equipment.
Smoking and naked flames prohibited.
Avoid shocks and blows.

7.2. Conditions for safe storage, including any incompatibilities

The product should be stored safely, out of reach of children and away from food, animal feeding stuffs, medicines, etc.
Store in a dry, cool, well-ventilated area.

7.3. Specific end use(s)

See application section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits according to EH40/2005 Workplace exposure limits (Fourth Edition 2020):

Substance	Long-term exposure limit ppm / mg/m ³	Short-term exposure limit ppm / mg/m ³	Note
Butane	600 / 1450	750 / 1810	-

DNEL/PNEC-values:

DNEL Trifluoromethane

	Workers	Consumers
Inhalation - Chronic Systemic	1439 mg/m ³	358 mg/m ³

PNEC Perfluoroethane

Fresh water	0.0038 mg/L
Intermittent releases (Fresh water)	0.375 mg/L
Marine water	0.004 mg/L
Soil	0.071 mg/kg soil dw

PNEC Trifluoromethane

Fresh water	0.155 mg/L
Intermittent releases (Fresh water)	1.545 mg/L
Marine water	0.016 mg/L
Soil	0.043 mg/kg soil dw

8.2. Exposure controls

There are no exposure scenarios for this product.

Appropriate engineering controls:

Wear the personal protective equipment specified below.
Wash hands before breaks, before using restroom facilities, and at the end of work.
Do not eat, drink or smoke when using this product.

Personal protective equipment:



Respiratory protection:

Generally not required.

Hand protection:

Recommended:
Wear protective gloves made of leather.

Eye/face protection:

Generally not required.

Skin protection:

Not required.

Environmental exposure controls:

Ensure compliance with local regulations for emissions.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	Gas
Colour:	Colourless
Odour:	-
Melting point/ Freezing Point (°C):	-
Boiling point or initial boiling point and boiling range (°C):	-
Flammability:	-
Lower and upper explosion limit (vol-%):	-
Flash point (°C):	-
Auto-ignition temperature (°C):	-
Decomposition temperature (°C):	-
pH:	-
Kinematic viscosity (mm ² /s):	-
Solubility:	-
Partition coefficient n-octanol/water (log value)	-
Vapour pressure:	-
Density and/or relative density:	-
Relative vapour density:	-
Particle characteristics:	-

9.2. Other information

None.

SECTION 10: Stability and reactivity**10.1. Reactivity**

No data.

10.2. Chemical stability

The product is stable when used in accordance with the supplier's directions.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Avoid heating and contact with ignition sources.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition productsProduct decomposes in fire conditions or when heated to high temperatures, and toxic gases such as CO_x may be released.**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity:**

Based on the existing data, the classification is not met.

Substance	exposure	Species	Test	Result
Butane	Inhalation	Rat	LC50/ 0,25 Hours	1443 mg/L air
Hexafluoroethane	Inhalation	Rat	LC50/ 4 Hours	> 500000 ppm
Trifluoromethane	Inhalation	Rat	LC50/ 4 Hours	> 663000 ppm
Tetrafluoromethane	Inhalation	Rat	LC50/ 4 Hours	800000 ppm

Skin corrosion/irritation:

May cause slight irritation.

Serious eye damage/irritation:

May cause eye irritation.

Respiratory or skin sensitisation:

Based on the existing data, the classification is not met.

Germ cell mutagenicity:

Based on the existing data, the classification is not met.

Carcinogenicity:

Based on the existing data, the classification is not met.

Reproductive toxicity:

Based on the existing data, the classification is not met.

STOT-single exposure:

Based on the existing data, the classification is not met.

STOT-repeated exposure:

Based on the existing data, the classification is not met.

Aspiration hazard:

Based on the existing data, the classification is not met.

11.2. Information on other hazards

Test data are not available.

SECTION 12: Ecological information

12.1. Toxicity

Substance	Test duration	Species	Test	Result
No data.	-	-	-	-

12.2. Persistence and degradability

Substance	Biodegradability	Test	Result
Butane	Yes	Gas exchange-biodegradation	385.5 Hours 100%

12.3. Bioaccumulative potential

Substance	Potential bioaccumulation	LogPow
Butane	No	2.8
Trifluoromethane	No	ca. 0.84
Tetrafluormethane	No	1.18

12.4. Mobility in soil

Test data are not available.

12.5. Results of PBT and vPvB assessment

The product does not meet the criteria for PBT or vPvB.

12.6. Endocrine disrupting properties

Test data are not available.

12.7. Other adverse effects

None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

The product is covered by the regulations on dangerous waste.

EWC-Code	Description
16 05 04	Gases in pressure containers (including halons) containing hazardous substances

Specific labelling:

-

Contaminated packaging:

Empty packaging and residues must be disposed of through the municipal waste collection service for hazardous waste.

SECTION 14: Transport information

The product is covered by the rules for transport of dangerous goods.

14.1 -14.4.**ADR**

14.1. UN number or ID number	14.2. UN proper shipping name	14.3. Transport hazard class(es)	14.4. Packing group
3161	LIQUEFIED GAS, FLAMMABLE, N.O.S. (Butane, Propane)	2.1	-

IMDG

14.1. UN number or ID number	14.2. UN proper shipping name	14.3. Transport hazard class(es)	14.4. Packing group
3161	LIQUEFIED GAS, FLAMMABLE, N.O.S. (Butane, Propane)	2.1	-

14.5. Environmental hazards

-

14.6. Special precautions for user

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14.7. Maritime transport in bulk according to IMO instruments

Not relevant.

SECTION 15: Regulatory information

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

EH40/2005 Workplace exposure limits (Fourth Edition 2020).

Additional labelling:

-

Restrictions for application:

Special care should be applied for employees under the age of 18. Young people under the age of 18 may not carry out any work causing harmful exposure to this product. Young people above 15 years are exempted this rule, if the product is a part of an education/training.

Demands for specific education:

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15.2. Chemical safety assessment

None.

SECTION 16: Other information

The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019

Other information:**Sources:**

The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019

Full text of H-phrases as mentioned in section 2+3:

H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.

Classification according to Regulation (EC) Nr. 1272/2008:

Flam. Gas 1;H220 Expert judgement
Press. Gas (Liq.);H280 Expert judgement

Abbreviations and acronyms used in the safety data sheet:

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals. Regulation (EC) No 1907/2006.

CLP: Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008.

CAS-Number.: Chemical Abstracts Service number.

EC-Number.: EINECS and ELINCS Number (see also EINECS and ELINCS).

DNEL: Derived No Effect Level.

PNEC(s): Predicted No Effect Concentration(s).

STOT: Specific Target Organ Toxicity.

LD50: Lethal Dose to 50% of a test population (Median Lethal Dose).

LC50: Lethal Concentration to 50 % of a test population.

EC50: The effective concentration of substance that causes 50% of the maximum response.

PBT: Persistent, Bioaccumulative and Toxic.

vPvB: Very Persistent and Very Bioaccumulative.

NOEC: The highest tested concentration at which, in a study, no statistically significant effect is observed in the exposed population compared with an appropriate control group.

NOAEL: The highest tested dose or exposure level at which there are no statistically significant increases in the frequency or severity of adverse effects between the exposed population and an appropriate control group; some effects may be produced at this level, but they are not considered adverse or precursors of adverse effects.

Other:

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

Minor changes have been made in following sections:

General update.

This material safety data sheet replaces version:

1.3