

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 21 Apr 2023

Print date: 9 May 2023

Version: 4



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Cooling Unit C00320 / C00340 / C00410

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

* 1.1. Product identifier

Trade name/designation:

Cooling Unit C00320 / C00340 / C00410

Additional information:

The information in this safety data sheet refers with exception of chapter 13 and 14 to the gas propane (R290) contained in the cooling unit. Chapter 13 Elimination and 14 Transport regulations refer to the cooling unit itself.

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

Use of the substance/mixture:

Refrigerant integrated in cooling unit.

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):

V-ZUG AG (Changzhou) Special Components CO., LTD

GDH Industrial Park, Xinbei Distr.

213133 Changzhou (Jiangsu)

China

Telephone: +36 139 612 754 30

E-mail: fred.li@vzug.com

1.4. Emergency telephone number

United States of America: Poison control center - national hotline number 1-800-222-1222

Great Britain: National phone number 111

Belgium: Centre antipoisons +32 070 245 245 / Bulgaria: +359 2 9154 233 / Croatia: +3851 2348

342 / Cyprus: +357 1401 / Czech Republic: +420 224 919 293, +420 224 915 402 / Denmark: +45 82

12 12 12 / Estonia: +372 16662, +372 7943 794 / Finland: +358 09 471 77 / France: numéro ORFILA

(INRS) : +33 (0)1 45 42 59 59 / Greece: +30 21077 93777 / Hungary: +36 80 201 199 (24 hours) /

Ireland: +353 (1) 809 2166 / Italy: +39 06 4997800 / Lithuania: +370 (85) 2362052 / Luxembourg:

+352 8002 5500 / The Netherlands: +31 (0) 30 274 8888 / Norway: +47 22 59 13 00 / Portugal: +351

800 250 250 / Romania: +402 213 183 606 / Slovakia: +421 2 5477 4166 / Spain: National Emergency

Telephone Number: +34 91 562 04 20 / Sweden: +46 112 (emergency 24 hours), +46 08-331231 (monfri 9.00-17.00).

European Union: Call 112 if no specific phone number available.

SECTION 2: Hazards identification

* 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
Flammable gases (<i>Flam. Gas 1</i>)	H220: Extremely flammable gas.	Calculation method.
Gases under pressure (<i>Press. Gas (Comp.)</i>)	H280: Contains gas under pressure; may explode if heated.	Calculation method.

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms:



GHS02
Flame



GHS04
Gas cylinder

Hazard statements for physical hazards

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

Supplemental hazard information: none

Precautionary statements Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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Precautionary statements Response

P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381	In case of leakage, eliminate all ignition sources.

Precautionary statements Storage

P403	Store in a well-ventilated place.
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Additional information:

Refrigerated liquefied gas. Contact with the product can cause cold burns or frostbite.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 74-98-6 EC No.: 200-827-9 Index No.: 601-003-00-5 REACH No.: 01-2119486944-21-XXXX	propane Flam. Gas 1 (H220), Press. Gas Danger	= 100 Vol-%

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

In high concentration the gas may cause a suffocation. Victim may not be aware of asphyxiation. Remove victim out of the danger area. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

Following inhalation:

Provide fresh air. Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact:

Refrigerated liquefied gas. Contact with the product can cause cold burns or frostbite. Rinse skin with water/shower. Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

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After eye contact:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

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

Refrigerated liquefied gas. Contact with the product can cause cold burns or frostbite. Narcotic effects. Apnea.

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

Treat symptomatically. If breathing is irregular or stopped, administer artificial respiration. Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water spray jet, alcohol resistant foam, Extinguishing powder

Unsuitable extinguishing media:

Carbon dioxide (CO₂).

5.2. Special hazards arising from the substance or mixture

Fight fire remotely due to the risk of explosion.

Hazardous combustion products:

Carbon monoxide . Carbon dioxide (CO₂).

5.3. Advice for firefighters

Leaking gas fire: Do not extinguish, unless leak can be stopped safely. If possible, without causing extra hazards, remove all containers that could be exposed to the flames. Keep closed containers cool by spraying water. Wear a self-contained breathing apparatus and chemical protective clothing.

5.4. Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:

Remove persons to safety. Ventilate affected area. In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop. The accumulation in lowlying or closed rooms can cause increased danger of fire and explosion. In case of leakage, eliminate all ignition sources.

Protective equipment:

Wear protective gloves/protective clothing/eye protection/face protection. Container device with compressed air (EN 137).

6.1.2. For emergency responders

Personal protection equipment:

Personal protection equipment: see section 8

* 6.2. Environmental precautions

Do not allow to enter into surface water or drains. Retain contaminated washing water and dispose it.

6.3. Methods and material for containment and cleaning up

Other information:

No data available.

6.4. Reference to other sections

Safe handling: see section 7 Personal protection equipment: see section 8 Disposal: see section 13

6.5. Additional information

No data available.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

No data available.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

Storage class (TRGS 510, Germany): 2A – Gases (except aerosol dispensers and lighters)

7.3. Specific end use(s)

Recommendation:

Refrigerant integrated in cooling unit.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
IDLH (US) from 1 Jan 1994	propane CAS No.: 74-98-6 EC No.: 200-827-9	① 2,100 ppm [10% LEL]
OSHA (US)	propane CAS No.: 74-98-6 EC No.: 200-827-9	① 1,000 ppm (1,800 mg/m ³)
NIOSH (US)	propane CAS No.: 74-98-6 EC No.: 200-827-9	① 1,000 ppm (1,800 mg/m ³)

8.1.2. Biological limit values

No data available

8.1.3. DNEL-/PNEC-values

No data available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Use in closed process, no likelihood of exposure

8.2.2. Personal protection equipment

Respiratory protection:

IF exposed: Use suitable breathing apparatus. Filter type: AX

8.2.3. Environmental exposure controls

Disposal: see section 13

8.3. Additional information

No data available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Refrigerated liquefied gas

Colour: colourless

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Odour: odourless

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	not applicable		
Melting point	-187.6 °C		
Freezing point	not determined		
Initial boiling point and boiling range	-42.1 °C		② 101.325 kPa
Decomposition temperature	not determined		
Flash point	-130 °C		
Evaporation rate	not applicable		
Auto-ignition temperature	450 °C		
Upper/lower flammability or explosive limits	1.7 - 12.5 Vol-%		
Vapour pressure	not determined		
Vapour density	1.5	20 °C	② air = 1
Density	0.5853	-45 °C	
Relative density	not determined		
Bulk density	not applicable		
Water solubility	75 mg/L	20 °C	
Partition coefficient: n-octanol/water	2.36		
Dynamic viscosity	0.08 mPa·s	17.9 °C	
Kinematic viscosity	No data available	40 °C	

9.2. Other information

The accumulation in lowlying or closed rooms can cause increased danger of fire and explosion.

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

The substance is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

Closed devices: None known.

10.4. Conditions to avoid

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

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity:

Based on available data, the classification criteria are not met.

Acute dermal toxicity:

Based on available data, the classification criteria are not met.

Acute inhalation toxicity:

Based on available data, the classification criteria are not met.

Skin corrosion/irritation:

Based on available data, the classification criteria are not met.

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Serious eye damage/irritation:

Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation:

Based on available data, the classification criteria are not met.

Germ cell mutagenicity:

Based on available data, the classification criteria are not met.

Carcinogenicity:

Based on available data, the classification criteria are not met.

Reproductive toxicity:

Based on available data, the classification criteria are not met.

STOT-single exposure:

Based on available data, the classification criteria are not met.

STOT-repeated exposure:

Based on available data, the classification criteria are not met.

Aspiration hazard:

Based on available data, the classification criteria are not met.

Additional information:

No data available.

* 11.2. Information on other hazards

Endocrine disrupting properties:

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

SECTION 12: Ecological information

* 12.1. Toxicity

Aquatic toxicity:

Based on available data, the classification criteria are not met.

12.2. Persistence and degradability

propane CAS No.: 74-98-6 EC No.: 200-827-9

Biodegradation: Yes, rapidly

Additional information:

not applicable

12.3. Bioaccumulative potential

Partition coefficient: n-octanol/water:

2.36

Accumulation / Evaluation:

not relevant (gaseous)

12.4. Mobility in soil

not relevant (gaseous)

12.5. Results of PBT and vPvB assessment

propane CAS No.: 74-98-6 EC No.: 200-827-9

Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

* 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

None known.

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SECTION 13: Disposal considerations

* 13.1. Waste treatment methods

Return to the vendor or delivery to an authorized recycling company.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product

20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
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Remark:

Wastecode according to regulation EU 2014/955

Waste code packaging

15 01 02	Plastic packaging
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13.2. Additional information

No data available.

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN number or ID number			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	UN 3358
14.2. UN proper shipping name			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	Refrigerating machines
14.3. Transport hazard class(es)			
not relevant	not relevant	not relevant	 2.1
14.4. Packing group			
not relevant	not relevant	not relevant	
14.5. Environmental hazards			
not relevant	not relevant	not relevant	No
14.6. Special precautions for user			
not relevant	not relevant	not relevant	Special Provisions: 291 Limited quantity (LQ): 0 Excepted Quantities (EQ): E0 Remark: Transport prohibited.

14.7. Maritime transport in bulk according to IMO instruments

Additional information:

Land transport (ADR/RID)

The cooling unit is not subject to the requirements of ADR because it contains less than 12 kg of gas (quantity of propane per cooling unit: 140 - 150 g)

SV 291

Flammable liquified gases shall be contained within refrigerating machine components. These components shall be designed and tested to at least three times the working pressure of the

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machinery. The refrigerating machines shall be designed and constructed to contain the liquified gas and preclude the risk of bursting or cracking of the pressure retaining components during normal conditions of carriage. Refrigerating machines and refrigerating-machine components are not subject to the requirements of ADR if they contain less than 12 kg of gas.

CV 9 (7.5.11 ADR/RID)

- Packages shall not be thrown or subjected to impact.

- Receptacles shall be stowed in the vehicle or container that they cannot overturn or fall

Air transport (ICAO-TI / IATA-DGR):

Transport prohibited.

SECTION 15: Regulatory information

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

No data available

* **15.2. Chemical Safety Assessment**

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

16.1. Indication of changes

1.1.	Product identifier
2.1.	Classification of the substance or mixture
6.2.	Environmental precautions
11.2.	Information on other hazards
12.1.	Toxicity
12.6.	Endocrine disrupting properties
13.1.	Waste treatment methods
14.3.	Transport hazard class(es)
14.6.	Special precautions for user
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture
15.2.	Chemical Safety Assessment
16.2.	Abbreviations and acronyms
16.6.	Training advice

* **16.2. Abbreviations and acronyms**

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
DIN	German Institute for Standardization / German Industrial Standard
DNEL	derived no-effect level
EN	European Standard
EWC	European Waste Catalogue
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
MAK	Maximum concentration in the workplace air (CH)
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety & Health
OSHA	Occupational Safety & Health Administration
PBT	persistent and bioaccumulative and toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation and Authorization of Chemicals
RID	Dangerous goods regulations for transport by rail
TRGS	Technische Regeln für Gefahrstoffe
UN	United Nations

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No data available.

16.3. Key literature references and sources for data

Security safety data sheet of the ingredients.

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
Flammable gases (<i>Flam. Gas 1</i>)	H220: Extremely flammable gas.	Calculation method.
Gases under pressure (<i>Press. Gas (Comp.)</i>)	H280: Contains gas under pressure; may explode if heated.	Calculation method.

16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H220	Extremely flammable gas.

* 16.6. Training advice

Persons charged with the handling and cleaning of the product must be trained prior to start their work and in regular intervals. They must be informed about the risks using the product and the measures to take for efficient prevention. This concerns particularly working security, first aid, health and environment protection.

16.7. Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products.

* Data changed compared with the previous version.