

Trade name: R290

Current version : 5.0.0, issued: 27.10.2023

Replaced version: 4.0.0, issued: 24.10.2022

Region: GB

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

**1.1 Product identifier**

Trade name

**R290**

Substance name Propane - Care 40  
 REACH registration no. 01-2119486944-21

**Identification numbers**

CAS no. 74-98-6  
 EC no. 200-827-9  
 Index no. 601-003-00-5

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

**Relevant identified uses of the substance or mixture**

Refrigerant for professional use in ultra-low temperature freezers

**Uses advised against**

No data available.

**1.3 Details of the supplier of the safety data sheet**

**Address**

Eppendorf SE  
 Barkhausenweg 1  
 D-22339 Hamburg

Telephone no. +49 40 53801-0

**Information provided by / telephone**

email: certificates@eppendorf.com

**Advice on Safety Data Sheet**

sdb\_info@umco.de

**1.4 Emergency telephone number**

For medical advice (in German and English):  
 +49 (0)551 192 40 (Giftinformationszentrum Nord)

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

**Classification in accordance with Regulation (EC) No 1272/2008 (CLP)**

Flam. Gas 1; H220  
 Press. Gas liq.; H280

**Classification information**

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3 and 4 of Annex I to CLP.

**2.2 Label elements**

**Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)**

**Product identifier**

74-98-6 (propane)

**Hazard pictograms**



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GHS02	GHS04
<b>Signal word</b>	
Danger	
<b>Hazard statement(s)</b>	
H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.
<b>Precautionary statement(s)</b>	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381	In case of leakage, eliminate all ignition sources.
P403	Store in a well-ventilated place.

**2.3 Other hazards**

Vapours can form an explosive mixture with air.

PBT assessment

The product is not considered to be a PBT.

vPvB assessment

The product is not considered to be a vPvB.

**SECTION 3: Composition/information on ingredients**

**3.1 Substances**

**Chemical characterization**

Substance name	Propane - Care 40
Formula	C3 H8
Molecular weight	44.09

**Identification numbers**

CAS no.	74-98-6
EC no.	200-827-9
Index no.	601-003-00-5

**Other information**

Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
U	-	-	-

Full text for the notes: pls. see section 16 "Notes relating to the identification, classification and labelling of substances ((EC) No 1272/2008, Annex VI)".

**Acute toxicity estimate (ATE) values**

oral	dermal	inhalative
		21 mg/l

**3.2 Mixtures**

Not applicable. The product is not a mixture.

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

**General information**

If unconscious place in recovery position and seek medical advice.

**After inhalation**

Remove to fresh air, keep patient warm and at rest. Take medical treatment.

**After skin contact**

Do not attempt to remove any clothing that is frozen onto the skin. In case of frostbite: warm up frostbitten area by immersing the affected area in warm (but not hot) water. Remove contaminated clothing immediately and dispose of safely. Seek medical attention.

**After eye contact**

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Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes). Seek medical assistance.

**After ingestion**

Seek medical advice.

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

No data available.

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

No data available.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

**Suitable extinguishing media**

Foam; Water mist; Extinguishing powder; Carbon dioxide

**Unsuitable extinguishing media**

High power water jet

**5.2 Special hazards arising from the substance or mixture**

In case of fires, hazardous combustion gases are formed: Carbon monoxide (CO). In case of fire: danger of pressure build up, which could result in container rupture.

**5.3 Advice for firefighters**

Wear protective clothing. Use self-contained breathing apparatus. Cool endangered containers with water spray jet.

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**

Close leaks. Keep away from ignition sources. Refer to protective measures listed in sections 7 and 8.

**For emergency responders**

No data available. Personal protective equipment (PPE) - see Section 8.

**6.2 Environmental precautions**

Do not discharge into the drains/surface waters/groundwater.

**6.3 Methods and material for containment and cleaning up**

Allow to evaporate.

**6.4 Reference to other sections**

No data available.

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

**Advice on safe handling**

Ensure adequate ventilation. Do not breathe steams or mist of the product. In case of accidental release: danger due to low temperature of the liquid product.

**General protective and hygiene measures**

Do not eat or drink during work - no smoking. Avoid prolonged and/or repeated contact with skin.

**Advice on protection against fire and explosion**

Keep away from ignition sources and provide for good ventilation. Take precautionary measures against static charges. No sparking tools should be used.

**7.2 Conditions for safe storage, including any incompatibilities**

**Technical measures and storage conditions**

Protect from direct sunlight. Protect from temperatures over 50°C.

**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep only in the original container (with safety valve).

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**Incompatible products**

Do not store together with oxidizing agents.

**7.3 Specific end use(s)**

No data available.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

No parameters available for monitoring.

**8.2 Exposure controls**

**Appropriate engineering controls**

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL (=Occupational Exposure Limit), suitable respiratory protection must be worn.

**Personal protective equipment**

**Respiratory protection**

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn.

Respiratory filter (gas) : AX

**Eye / face protection**

Tightly fitting safety glasses (EN 166).

**Hand protection**

Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

**Other**

Normal chemical work clothing.

**Environmental exposure controls**

No data available.

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

<b>State of aggregation</b>	
gas	
<b>Form</b>	
liquified gas	
<b>Colour</b>	
colourless	
<b>Odour</b>	
odourless	
<b>pH value</b>	
Not applicable	
<b>Boiling point / boiling range</b>	
Value	-42.1 °C
<b>Melting point/freezing point</b>	
Value	-187.6 °C
<b>Decomposition temperature</b>	
Value	650 °C

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<b>Flash point</b>			
Not applicable			
<b>Ignition temperature</b>			
No data available			
<b>Auto-ignition temperature</b>			
Value	472	°C	
<b>Flammability</b>			
No data available			
<b>Lower explosion limit</b>			
Value	1.7	% vol	
<b>Upper explosion limit</b>			
Value	12.5	% vol	
<b>Vapour pressure</b>			
Value	933.25	kPa	
Reference temperature	25	°C	
<b>Relative vapour density</b>			
Value	1.56		
Reference temperature	0	°C	
<b>Relative density</b>			
Value	0.5853		
<b>Density</b>			
No data available			
<b>Solubility in water</b>			
Value	75	mg/l	
<b>Solubility</b>			
No data available			
<b>Partition coefficient n-octanol/water (log value)</b>			
<b>No</b>	<b>Substance name</b>	<b>CAS no.</b>	<b>EC no.</b>
1	propane	74-98-6	200-827-9
	log Pow		2.36
	Source	manufacturer	
<b>Kinematic viscosity</b>			
Value	0.08	mPa*s	
Reference temperature	17.9	°C	
<b>Particle characteristics</b>			
No data available			

9.2 Other information

<b>Other information</b>
Critical Temp.: 96,7 °C

**SECTION 10: Stability and reactivity**

10.1 Reactivity

No data available.

10.2 Chemical stability

Stable under normal conditions of use.

10.3 Possibility of hazardous reactions

Vapours may form an explosive mixture with air.

10.4 Conditions to avoid

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Heat, naked flames or other ignition sources, electrostatic charge and discharge, formation of vapours/aerosols.

**10.5 Incompatible materials**

Oxidizing agents; Formation of explosive gas/air mixtures.

**10.6 Hazardous decomposition products**

None, if handled according to intended use.

**SECTION 11: Toxicological information**

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

<b>Acute oral toxicity</b>			
No data available			
<b>Acute dermal toxicity</b>			
No data available			
<b>Acute inhalational toxicity</b>			
<b>No</b>	<b>Substance name</b>	<b>CAS no.</b>	<b>EC no.</b>
1	propane	74-98-6	200-827-9
LC50	>	20	mg/l
Duration of exposure		4	h
State of aggregation	Gas		
Species	rat		
Source	manufacturer		
<b>Skin corrosion/irritation</b>			
No data available			
<b>Serious eye damage/irritation</b>			
No data available			
<b>Respiratory or skin sensitisation</b>			
No data available			
<b>Germ cell mutagenicity</b>			
No data available			
<b>Reproduction toxicity</b>			
<b>No</b>	<b>Substance name</b>	<b>CAS no.</b>	<b>EC no.</b>
1	propane	74-98-6	200-827-9
Route of exposure	inhalational		
NOAEC		12000	ppm
Type of examination	Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test		
Species	rat		
Method	OECD 422		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
<b>Carcinogenicity</b>			
No data available			
<b>STOT - single exposure</b>			
No data available			
<b>STOT - repeated exposure</b>			
<b>No</b>	<b>Substance name</b>	<b>CAS no.</b>	<b>EC no.</b>
1	propane	74-98-6	200-827-9
Route of exposure	inhalational		
LOAEC		12000	ppm
Species	rat		
Method	OECD 422		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

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<b>Aspiration hazard</b>
No data available

11.2 Information on other hazards

**Endocrine disrupting properties**

No data available.

**Other information**

No data available.

**SECTION 12: Ecological information**

12.1 Toxicity

<b>Toxicity to fish (acute)</b>			
No	Substance name	CAS no.	EC no.
1	propane	74-98-6	200-827-9
LC50		49.9	mg/l
Duration of exposure		96	h
Species	fish		
Source	manufacturer		

<b>Toxicity to fish (chronic)</b>			
No data available			

<b>Toxicity to Daphnia (acute)</b>			
No	Substance name	CAS no.	EC no.
1	propane	74-98-6	200-827-9
EC50		27.1	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Source	manufacturer		

<b>Toxicity to Daphnia (chronic)</b>			
No data available			

<b>Toxicity to algae (acute)</b>			
No	Substance name	CAS no.	EC no.
1	propane	74-98-6	200-827-9
EC50		11.9	mg/l
Duration of exposure		72	h
Species	Algae		
Source	manufacturer		

<b>Toxicity to algae (chronic)</b>			
No data available			

<b>Bacteria toxicity</b>			
No data available			

12.2 Persistence and degradability

<b>Biodegradability</b>			
No	Substance name	CAS no.	EC no.
1	propane	74-98-6	200-827-9
Type	aerobic biodegradation		
Value		50	%
Duration		3	d
Method	QSAR		
Source	ECHA		
Evaluation	readily biodegradable		

12.3 Bioaccumulative potential

<b>Partition coefficient n-octanol/water (log value)</b>			
No	Substance name	CAS no.	EC no.

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1	propane	74-98-6	200-827-9
	log Pow		2.36
	Source	manufacturer	

**12.4 Mobility in soil**  
No data available.

**12.5 Results of PBT and vPvB assessment**

Results of PBT and vPvB assessment	
PBT assessment	The product is not considered to be a PBT.
vPvB assessment	The product is not considered to be a vPvB.

**12.6 Endocrine disrupting properties**  
No data available.

**12.7 Other adverse effects**  
No data available.

**12.8 Other information**

Other information
Do not allow to enter soil, waterways or waste water canal.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Product**

Waste code 16 05 04\* gases in pressure containers (including halons) containing hazardous substances

The listed waste code numbers, according to the European Waste Catalogue, are to be understood as a recommendation. A final decision must be made in agreement with the regional waste disposal company. dispose of in accordance with local regulation.

Refer to the EIGA code of practice (Doc.30 "Disposal of Gases"; <http://www.eiga.org>).

**Packaging**

Residues must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

**SECTION 14: Transport information**

**14.1 Transport ADR/RID/ADN**

Class 2  
 Classification code 2F  
 Hazard identification no. 23  
 UN number UN1978  
 Proper shipping name PROPANE  
 Tunnel restriction code B/D  
 Label 2.1

**14.2 Transport IMDG**

Class 2.1  
 UN number UN1978  
 Proper shipping name PROPANE  
 EmS F-D, S-U  
 Label 2.1

**14.3 Transport ICAO-TI / IATA**

Class 2.1  
 UN number UN1978  
 Proper shipping name Propane  
 Label 2.1  
 Comments Passenger aircraft: forbidden

**14.4 Other information**

The product is only shipped encapsulated in refrigeration units, indicating UN3358.

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**14.5 Environmental hazards**

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

**14.6 Special precautions for user**

No data available.

**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**

**EU regulations**

<b>Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)</b>	
In accordance with the REACH regulation (EC) 1907/2006, the product does not contain any substances that are considered as subject to listing in annex XIV, inventory of substances requiring authorisation.	
<b>REACH candidate list of substances of very high concern (SVHC) for authorisation</b>	
In accordance with article 57 and article 59 of the Reach regulation (EC) 1907/2006, this substance is not considered as subject to listing in annex XIV, inventory of substances requiring authorisation ("Authorization list").	
<b>Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES</b>	
The product is considered being subject to REACH regulation (EC) 1907/2006 annex XVII.	No 40
<b>Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances</b>	
This product is subject to Part I of Annex I, risk category:	P2

**15.2 Chemical safety assessment**

A chemical safety assessment has been carried out for this substance.

**SECTION 16: Other information**

**Sources of key data used to compile the data sheet:**

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

**Notes relating to the identification, classification and labelling of substances and mixtures ((EC) No 1272/2008, Annex VI)**

U When put on the market gases have to be classified as 'Gases under pressure', in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.

**Creation of the safety data sheet**

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This information is based on our present knowledge and experience.

The safety data sheet describes products with a view to safety requirements.

It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.

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