

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

1.1. Product identifier

Product form	: Substance
Name	: CYCLOPENTANE
Chemical name	: CYCLOPENTANE
EC Index-No.	: 601-030-00-2
EC-No.	: 206-016-6
CAS-No.	: 287-92-3
REACH registration No.	: 01-2119463053-47-0013
Product code	: 100037700
Synonyms	: NOVEXPANS cyclopentane
Other means of identification	: cyclopentane

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

1.2.1. Relevant identified uses

Use of the substance/mixture	: Solvent Blowing agent Heat transfer fluids
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1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

Dehon Service SAS
 26 Avenue du Petit Parc
 94683 VINCENNES Cedex
 France
 T 01 43 98 75 00, F 01 43 98 21 51
ContactFDS@climalife.dehon.com

Other

Climalife Hongrie Kft
 Villányi út 47
 1118 Budaörs
 Hungary
 T (36) 23 431 660, F (36) 23 431 661
ContactFDS@climalife.dehon.com

Other

Climalife Supplied by Inventec Performance Chemicals Italia SRL
 Via del Lavoro, 10/G
 20874 Busnago MB
 Italia
 T +39 39-5973480, F +39 39-5973490
ContactFDS@climalife.dehon.com

Other

Dehon nordic service
 Östra Hamngatan 50B 3tr
 41109 GÖTEBORG
 Sweden
 T 00 46 735 01 90 50
ContactFDS@climalife.dehon.com

Other

Dehon Service Nerderland B.V.
 Van Konijnenburgweg 84
 NL-4612 PL Bergen Op Zoom
 Netherlands

Other

Galco s.a/n.v.
 Avenue Carton de Wiart, 79
 1090 BRUSSELS
 Belgium
 T 00 32 2 421 01 84 , F 00 32 2 421 01 84 / 00 32 2 425 38 12
ContactFDS@climalife.dehon.com

Other

Climalife Kft Budepesta sucursală Bucuresti Romania
 Bulevardul Hristo Botev, Nr. 28,
 Biroul NR 4, Modulul I
 Bucuresti Sectorul 3
 Romania
ContactFDS@climalife.dehon.com

Other

Dehon Kälte-Fachvertriebs GmbH
 Robert-Bosch-Strasse 14
 40668 MEERBUSCH
 Germany
 T 00 49 2150 7073 0 , F 00 49 2150 7073 17
ContactFDS@climalife.dehon.com

Other

Dehon Service Belgium s.a/n.v.
 Avenue Carton de Wiart, 79
 1090 Bruxelles
 Belgium
 T 00 32 2 421 01 70, F 00 32 2 426 96 62
ContactFDS@climalife.dehon.com

Other

Friogas sa
 Poligono Industrial SEPES
 Parcela 10
 46500 SAGUNTO (Valencia)

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T 00 31 164 212 830, F 00 31 164 212 831

ContactFDS@climalife.dehon.com

Other

IDS Refrigeration Limited
22 Apex Court, Woodlands, Bradley Stoke

BS32 4JT Bristol

United Kingdom

T 00 44 1179 802520, F 00 44 1179 802521

ContactFDS@climalife.dehon.com

Spain

T 00 34 9 6 266 36 32, F 00 34 9 6 266 50 25

ContactFDS@climalife.dehon.com

Other

Prochimac SA

ZI Petits Champs 15

CH-1400 Yverdon-les-Bains

Switzerland

T 00 41 32 727 36 00, F 00 41 32 727 36 19

ContactFDS@climalife.dehon.com

1.4. Emergency telephone number

Emergency number : +33 (0) 1 72 11 00 03

Country/Area	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH	0344 892 0111	Only for healthcare professionals

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flam. Liq. 2 H225

STOT SE 3 H336

Asp. Tox. 1 H304

Aquatic Chronic 3 H412

Full text of hazard classes, H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. May be fatal if swallowed and enters airways. May cause drowsiness or dizziness. Harmful to aquatic life with long lasting effects.

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

- : H225 - Highly flammable liquid and vapour.
H304 - May be fatal if swallowed and enters airways.
H336 - May cause drowsiness or dizziness.
H412 - Harmful to aquatic life with long lasting effects.
- Precautionary statements (CLP)
- : P210 - Keep away from heat, hot surfaces, sparks, open flames. No smoking.
P261 - Avoid breathing vapours.
P273 - Avoid release to the environment.
P301+P310+P331 - IF SWALLOWED: Immediately call a POISON CENTER, a doctor. Do NOT induce vomiting.
P312 - Call a doctor, a POISON CENTER if you feel unwell.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P501 - Dispose of contents and container to hazardous or special waste collection point in accordance with national regulation..
- EUH-statements
- : EUH066 - Repeated exposure may cause skin dryness or cracking.

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2.3. Other hazards

Other hazards which do not result in classification : Flammable or explosive vapour/air mixtures may be formed.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
CYCLOPENTANE	CAS-No.: 287-92-3 EC-No.: 206-016-6 EC Index-No.: 601-030-00-2 REACH-no: 01-2119463053-47-0013	> 95	Flam. Liq. 2, H225 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 3, H412

Full text of H- and EUH-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Move the affected person away from the contaminated area and into the fresh air. Make the person rest. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Wash immediately with plenty of soap and water. Remove all contaminated clothing and footwear. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse eyes with water as a precaution. If irritation persists, consult an eye specialist.
First-aid measures after ingestion	: Do not give anything to drink. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after skin contact	: Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after ingestion	: May be fatal if swallowed and enters airways.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam. Powders. Carbon dioxide.
Unsuitable extinguishing media	: Strong water jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Highly flammable liquid and vapour. The vapours are denser than air and may travel along the ground. Distance ignition possible.
Explosion hazard	: Vapour/air mixtures are explosive.
Hazardous decomposition products in case of fire	: Toxic vapours may be released. Carbon oxides (CO, CO2). Hydrocarbons.

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5.3. Advice for firefighters

- Firefighting instructions : Cool down the containers exposed to heat with a water spray. Contain the extinguishing fluids by bunding (the product is hazardous for the environment).
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid contact with skin and eyes. Remove all sources of ignition. Only qualified personnel equipped with suitable protective equipment may intervene.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

- Protective equipment : For further information refer to section 8: "Exposure controls/personal protection".
- Emergency procedures : Evacuate the danger area.

6.2. Environmental precautions

Contain the spilled material by bunding (product is hazardous for the environment). Do not discharge into drains or rivers.

6.3. Methods and material for containment and cleaning up

- For containment : Recover the product with absorbent material. Absorb with : sand or inert absorbent.
- Other information : Dispose of contaminated materials in accordance with current regulations.

6.4. Reference to other sections

Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Smoking is forbidden. Avoid the build-up of electrostatic charge. Vapour extraction at source. Use non-sparking tools.
- Hygiene measures : Always wash hands after handling the product. Separate working clothes from town clothes.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : The floor of the depot must be impermeable, non-combustible and designed to form a basin, in order that stored flammable liquids should not, under any circumstances, be released outside. Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Storage conditions : Store in a well-ventilated place. Keep cool. Keep away from ignition sources. Keep away from naked flames/heat.
- Incompatible materials : Strong bases. Strong oxidizing agents.
- Packaging materials : Stainless steel. Carbon steel. Polypropylene. Polyethylene.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

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CYCLOPENTANE (287-92-3)

United Kingdom - Occupational Exposure Limits

Local name	Cyclopentane
WEL TWA (OEL TWA)	1800
	619

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

CYCLOPENTANE (287-92-3)

DNEL/DMEL (Workers)

Long-term - systemic effects, dermal	432 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	3000 mg/m ³

DNEL/DMEL (General population)

Long-term - systemic effects, oral	214 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	643 mg/m ³
Long-term - systemic effects, dermal	214 mg/kg bodyweight/day

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure that there is a suitable ventilation system.

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

None under normal conditions

Hand protection:

Nitrile-rubber protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:

Self-contained breathing apparatus. Filter type AX - A/P2

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Molecular mass	: 70 g/mol
Odour	: Hydrocarbon-like.
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not available
Boiling point	: 48 °C
Flammability	: Not applicable
Explosive properties	: Vapours may form explosive mixture with air.
Oxidising properties	: Non oxidizing material according to EC criteria.
Lower explosion limit	: 1.1 vol %
Upper explosion limit	: 8.7 vol %
Flash point	: -35 °C
Auto-ignition temperature	: > 360
Decomposition temperature	: Not available
pH	: Not applicable
Viscosity, kinematic	: 0.595 mm ² /s
Viscosity, dynamic	: 0.44 mPa·s Temp.: '20°C' Parameter: 'dynamic viscosity (in mPa s)'
Solubility	: Insoluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: 3 Potentially bioaccumulable
Vapour pressure	: 0.4 bar (20 °C)
Vapour pressure at 50°C	: 1.1 bar
Density	: 0.74 g/cm ³
Relative density	: (20°C)
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

VOC content : 100 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapour.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat and ignition sources. Open flame.

10.5. Incompatible materials

Strong bases. Strong oxidizing agents.

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10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

CYCLOPENTANE (287-92-3)

LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: EU Method B.1 (Acute Toxicity (Oral))
LC50 Inhalation - Rat	> 25.3 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: Not applicable
Additional information	: Repeated exposure may cause skin dryness or cracking.
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: Not applicable
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: May cause drowsiness or dizziness.
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)

CYCLOPENTANE (287-92-3)

NOAEC (inhalation, rat, vapour, 90 days)	30 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study), Guideline: other:, Guideline: EPA OTS 798.2450 (90-Day Inhalation Toxicity), Guideline: other:, Guideline: other:
Aspiration hazard	: May be fatal if swallowed and enters airways.

CYCLOPENTANE (287-92-3)

Viscosity, kinematic	0.595 mm ² /s
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11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

11.2.2. Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)
Hazardous to the aquatic environment, long-term (chronic) : Harmful to aquatic life with long lasting effects.

CYCLOPENTANE (287-92-3)

LC50 - Fish [1]	29.3 mg/l (96 Hours) (Oncorhynchus mykiss)
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CYCLOPENTANE (287-92-3)

EC50 - Crustacea [1]	51.1 mg/l (48 Hours) (Daphnia magna)
ErC50 algae	21.6 mg/l (72 Hours) (Pseudokirchneriella subcapitata)

12.2. Persistence and degradability

CYCLOPENTANE (287-92-3)

Persistence and degradability	Not established.
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12.3. Bioaccumulative potential

CYCLOPENTANE (287-92-3)

Partition coefficient n-octanol/water (Log Pow)	3 Potentially bioaccumulable
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

CYCLOPENTANE (287-92-3)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7. Other adverse effects

Other adverse effects : ODP (R-11=1)=0.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of in accordance with relevant local regulations.
Product/Packaging disposal recommendations : Destroy at an authorised site.
Additional information : The user's attention is drawn to the possible existence of specific european, national or local regulations regarding disposal.

SECTION 14: Transport information





In accordance with ADR / IMDG / IATA / RID

ADR	IMDG	IATA	RID
14.1. UN number or ID number			
UN 1146	UN 1146	UN 1146	UN 1146
14.2. UN proper shipping name			
CYCLOPENTANE	CYCLOPENTANE	Cyclopentane	CYCLOPENTANE

CYCLOPENTANE

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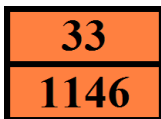
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

ADR	IMDG	IATA	RID
Transport document description			
UN 1146 CYCLOPENTANE, 3, II, (D/E)	UN 1146 CYCLOPENTANE, 3, II (< -18°C c.c.)	UN 1146 Cyclopentane, 3, II	UN 1146 CYCLOPENTANE, 3, II
14.3. Transport hazard class(es)			
3	3	3	3
			
14.4. Packing group			
II	II	II	II
14.5. Environmental hazards			
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available			

14.6. Special precautions for user

Overland transport

Classification code (ADR) : F1
Limited quantities (ADR) : 1I
Tank code (ADR) : LGBF
Transport category (ADR) : 2
Hazard identification number (Kemler No.) : 33
Orange plates :



Tunnel restriction code (ADR) : D/E
EAC code : 3YE

Transport by sea

Limited quantities (IMDG) : 1 L
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-D
Flash point (IMDG) : below -18°C c.c.

Air transport

PCA Limited quantities (IATA) : Y341
PCA limited quantity max net quantity (IATA) : 1L
PCA packing instructions (IATA) : 353
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 364
CAO max net quantity (IATA) : 60L

Rail transport

Classification code (RID) : F1
Limited quantities (RID) : 1L
Tank codes for RID tanks (RID) : LGBF
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE7
Hazard identification number (RID) : 33

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)	
Reference code	Applicable on
3(a)	CYCLOPENTANE
3(b)	CYCLOPENTANE
3(c)	CYCLOPENTANE
40.	CYCLOPENTANE

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Dual-Use Regulation (428/2009)

Not listed on the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

VOC Directive (2004/42)

VOC content : 100 %

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

A chemical safety assessment has been carried out for the substance or the mixture by the supplier

SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
9	Additional information	Modified	
11	Additional information	Added	
12.	Additional information	Added	

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Data sources

: ECHA (European Chemicals Agency).

Full text of H- and EUH-statements:

Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
EUH066	Repeated exposure may cause skin dryness or cracking.
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.