



Scheda di sicurezza
PAG R-1234yf
ELKE S.r.l.
VIA XXV APRILE 202, 10042, NICHELINO (TO) ITALIA
REA di TO: 987683 P.Iva 08613670010
Tel. n. +39 011 9622412

Scheda di sicurezza del 27/09/2021, revisione 1

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

1.1. Product identifier

Mixture identification:

Trade name: PAG R-1234yf

Trade code: 11.176

1.2. Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati

Usi raccomandati:

PRODOTTI PER GLI IMPIANTI DI CLIMATIZZAZIONE

Usi sconsigliati:

No data available

1.3. Details of the supplier of the safety data sheet

Company:

ELKE S.r.l. Via XXV Aprile 202 10042 Nichelino (To) Italia.

Tel. n. +39 011 9622412

Competent person responsible for the safety data sheet:

Domenico Amosso info@elke-ac.com

1.4. Emergency telephone number

Centro Antiveleni di Milano 02 66101029 (CAV Ospedale Niguarda Ca' Granda -Milano)

Centro Antiveleni di Pavia 0382 24444 (CAV IRCCS Fondazione Maugeri - Pavia)

Centro Antiveleni di Bergamo 800 883300 (CAV Ospedali Riuniti - Bergamo)

Centro Antiveleni di Firenze 055 7947819 (CAV Ospedale Careggi - Firenze)

Centro Antiveleni di Roma 06 3054343 (CAV Policlinico Gemelli - Roma)

Centro Antiveleni di Roma 06 49978000 (CAV Policlinico Umberto I - Roma)

Centro Antiveleni di Napoli 081 7472870 (CAV Ospedale Cardarelli - Napoli)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

This product does not meet the applicable classification and labeling criteria pursuant to Regulation (EC) No. 1272/2008 (CLP).

2.2. Label elements

Not relevant

2.3. Other hazards

PBT assessment

This product is not considered to be PBT

VPvB evaluation

This product is not considered to be vPvB

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures



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This product does not contain substances subject to the notification obligation according to regulation 1907/2006 (REACH), annex II.

SECTION 4: First aid measures

4.1. Description of first aid measures

General informations:

In case of persistent discomfort, consult a doctor. Immediately remove contaminated clothing and footwear, thoroughly cleaning them before reuse. In case of danger of fainting, put in a stable lateral position also for transport.

Inhalation:

Transport the affected persons out of danger while maintaining the appropriate respiratory protection provisions. Allow fresh air to flow in.

Skin contact:

In case of contact with the skin, wash with soap and water.

Eye contact:

Remove contact lenses. Protecting the healthy eye, rinse immediately and abundantly with running water for 10-15 minutes keeping the eyelids wide open.

Ingestion:

Thoroughly clean your mouth with water. Do not induce vomiting. If the victim is unconscious, do not give anything by mouth.

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:

Adapt fire extinguishing measures to the specific environment. Rain jet of water; Carbon dioxide; Alcohol resistant foam; Extinguishing powder

Extinguishing media which must not be used for safety reasons:

Full jet water.

5.2. Special hazards arising from the substance or mixture

In case of fire, the following can be released: Carbon dioxide (CO₂); Carbon monoxide (CO); Toxic gases / vapors

5.3. Advice for firefighters

Use a self-contained breathing apparatus. Wear protective suit. Cool containers exposed to danger with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For those who do not intervene directly:

Refer to the precautionary measures listed in sections 7 and 8. Provide adequate ventilation. Do not breathe vapors / aerosols.

For those who intervene directly:

No data available. Personal protective equipment - see par. 8.

6.2. Environmental precautions

Do not enter sewers, surface water and groundwater. Do not allow to disperse in the ground / subsoil.

6.3. Methods and material for containment and cleaning up

Contain and absorb spilled liquid with inert absorbent material (e.g., sand, earth, vermiculite, diatomaceous earth). Place the contaminated material in suitable containers and send it to waste disposal (see paragraph 13).

6.4. Reference to other sections

No data available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Instructions for safe use:

Provide good environmental ventilation. Minimize the risks due to the handling of the product by providing adequate preventive and protective measures. The work processes must be designed, as far as possible according to the technological state, in order to prevent the emission of dangerous substances or to exclude contact with the skin. Observe the information on personal protective equipment (see chapter 8).

General rules of protection and hygiene at work:

Do not smoke, eat or drink while working. Keep away from drinks, food, fodder. Wash your hands before each break and at the end of work. Avoid contact of the product with skin, eyes and clothing. Do not breathe the vapors. Have an eye rinsing device available. Immediately remove contaminated, soaked clothing.

Indications against fire and explosion:

Keep away from sources of heat, sparks and open flames.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Keep containers tightly closed and in a dry, cool and well-ventilated place. Protect from heat.

Keep away from sources of ignition.

Requirements for storage rooms and containers:

Containers that have been opened must be closed carefully and kept vertical in order to prevent the product from spilling. Always keep in containers of the same type as the original.

Indications for joint storage:

Do not store with: Oxidants; Acids

7.3. Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No parameters to monitor.

8.2. Exposure controls

Appropriate technical controls:

Provide good environmental ventilation, possible localized aspiration in the workplace.

Individual protective means

Respiratory protection:

If the values measured at the workplace exceed the prescribed limits, the use of an authorized and suitable respirator is mandatory. If there are no exposure limit values in the workplace, provide adequate protection of the respiratory tract in the event of the formation of aerosols, vapors and mists.

Eye / face protection:

Glasses with side protection (EN 166)

Hand protection:

In case of prolonged contact wear protective gloves (EN 374). Protective gloves must be tested before use for their suitability with respect to the specific needs of the workplace (for example mechanical stability, compatibility with the chemical product, antistatic properties). Observe the manufacturer's instructions and information regarding the use, storage, care and replacement of gloves. Protective gloves must be replaced immediately as soon as they become damaged or worn. Organize operations to avoid permanent use of protective gloves.

Other:

Chemical resistant protective clothing. Choose personal protective equipment according to the conditions present in the workplace in compliance with European legislation and in agreement with the PPE supplier.



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Environmental Exposure Control:
No data available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State of aggregation
liquid
Shape/Colour
Liquid / colourless to light yellow
Odour
characteristic
PH value
No data available
Boiling point / Boiling range
No data available
Melting point / freezing point
No data available
Decomposition temperature
No data available
Flash point
200°C
Ignition temperature
No data available
Flammability
No data available
Lower explosion limit
No data available
Upper explosion limit
No data available
Steam pressure
No data available
Relative vapor density



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No data available

Relative density
No data available

Density
Value: 0,9893 g/cm3
Reference temperature: 15°C
Method: ASTM D 1298

Solubility in water
Insolubile

Solubility
No data available

Partition coefficient n-octanol / water (logarithm value)
No data available

Viscosity
Value: 45 cSt
Reference temperature: 40°C
Method: ASTM D 445

Characteristics of the particles
No data available

9.2. Other information

Particular indications
No data available

SECTION 10: Stability and reactivity

- 10.1. Reactivity
if used correctly according to the regulations, no dangerous reactions are to be expected.
- 10.2. Chemical stability
The product is stable under recommended storage and use conditions (see paragraph 7).
- 10.3. Possibility of hazardous reactions
If used according to the regulations, dangerous reactions are not to be expected
- 10.4. Conditions to avoid
Heat, open flames and other sources of ignition.
- 10.5. Incompatible materials
Oxidants; Acids
- 10.6. Hazardous decomposition products
No data available.

SECTION 11: Toxicological information

- 11.1. Information on toxicological effects



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Acute oral toxicity
No data available
Acute dermal toxicity
No data available
Acute inhalation toxicity
No data available
Skin corrosion / irritation
No data available
Serious eye damage / eye irritation
No data available
Respiratory or skin sensitization
No data available
Germ cell mutagenicity
No data available
Reproduction toxicity
No data available
Carcinogenicity
No data available
Specific target organ toxicity (STOT) - single exposure
No data available
Specific target organ toxicity (STOT) - repeated exposure
No data available
Aspiration hazard
No data available

11.2. Information on other hazards

Properties of interference with the endocrine system:

No data available.

Particular indications:

No data available.

SECTION 12: Ecological information

12.1. Toxicity

Fish toxicity (acute)
No data available



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Fish toxicity (chronic)
No data available

Daphnia toxicity (acute)
No data available

Daphnia toxicity (chronic)
No data available

Toxicity to algae (acute)
No data available

Toxicity to algae (chronic)
No data available

Toxicity to bacteria
No data available

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

PBT Assessment: This product is not considered to be PBT
VPvB Rating: This product is not considered as a vPvB

12.6. Other adverse effects

No data available.

12.7. Altri effetti avversi

No data available.

12.8. Other informations

The product must not be released into the environment in an uncontrolled manner.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:

Dispose of at a suitable and authorized disposal facility in accordance with current regulations and in agreement with the competent authorities and the disposal company.

The correlation with an identification code number of the wastewater in accordance with the European Waste Catalog must be carried out in agreement with the disposer having regional competence.

Packing:

The containers / packaging must be completely emptied and taken to the correct waste



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disposal in compliance with the regulations in force. Packages that are not completely emptied must be taken for disposal with the agreement of the disposal plant having regional competence.

SECTION 14: Transport information

- 14.1. ADR / RID / ADN transport
The product is not subject to ADR / RID / ADN regulations.
- 14.2. IMDG transport
The product is not subject to IMDG regulations.
- 14.3. ICAO-TI / IATA transport
The product is not subject to ICAO-TI / IATA regulations.
- 14.4. Other informations
No data available.
- 14.5. Dangers for the environment
Information on environmental hazards, if relevant, see 14.1 - 14.3.
- 14.6. Special precautions for users
No data available.
- 14.7. Bulk shipping in accordance with IMO acts
Not relevant

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) n. 1907/2006 (REACH) Annex XIV (List of Substances Subject to Authorization)
According to available data and / or information provided by upstream suppliers, this product does not contain substances considered to be subject to authorization included in Annex XIV of the REACH Regulation (EC) 1907/2006.
REACH Candidate List of Substances of Very High Concern (SVHC) for Authorization
According to the available data and / or information provided by the suppliers, this product does not contain a substance (s) that is considered / are considered to be likely subject to inclusion in Annex XIV (the "Authorization List") pursuant to articles 57 and REACH regulation (EC) 1907/2006.
Regulation (EC) n. 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON MANUFACTURING, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, PREPARATIONS AND ARTICLES
According to available data and / or information provided by upstream suppliers, this product does not contain substances subject to restrictions according to Annex XVII of the REACH Regulation (EC) 1907/2006.
DIRECTIVE 2012/18 / EU on the control of the danger of major accidents connected with dangerous substances
Product not covered by Part 1 or 2 of Annex I.
Special regulations
National health and accident prevention regulations must be observed when using this



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product.

National regulations

National Lists of Chemicals

USA (TSCA)	listed components
DSL / NDSL (Canada)	listed components (DSL)
AICS (Australien)	listed components
IECSC / NEPA (China)	components shown in the list
PICCS (Philippines)	listed components

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Source of the data used to compile the safety data sheet:

Regulation (EC) n. 1907/2006 (REACH), 1272/2008 (CLP) in the respective version currently in force. Directives 2000/39 / CE, 2006/15 / CE, 2009/161 / UE, (UE) 2017/164.

National lists of limits in force for air in the respective version currently in force.

Transport regulations according to ADR, RID, IMDG, IATA in the respective version currently in force.

The data sources used for the determination of physical, toxicological and ecotoxicological data are indicated in the respective chapters.