

# Safety data sheet

according to Regulation (EC) No 1907/2006



Trade name: **WL-dry**

Issue/Revision: 20.09.2017

Print date: 23.02.2018

Version: 3.0

Replaces version: 2.0

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

### 1.1 Product identifier

Trade name: **WL-dry**  
Substance name: 1,3,3,3-Tetrafluoroprop-1-ene  
CAS No: 29118-24-9  
EC No: 471-480-0  
REACH Registration No: 01-0000019758-54-XXXX

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

Relevant identified uses: Drying spray  
Intended purpose: WL-dry is used to dry and support the cleaning after the cleaning respectively disinfection of the inner surfaces of hollow part and transmission instruments.  
Uses advised against: None at intended use.  
Note: The product is intended for professional users.

### 1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier: ALPRO MEDICAL GMBH  
Mooswiesenstraße 9  
D-78112 St. Georgen (Germany)  
Telephone: +49 7725 9392-0  
Telefax: +49 7725 9392-91  
E-mail: alpro@alpro-medical.de  
Internet: www.alpro-medical.com

E-mail address for the competent person responsible for the safety data sheet: doku@alpro-medical.de

### 1.4. Emergency telephone number

In-house emergency telephone number: +49 7725 9392-0  
Monday – Friday from 08:00 am to 04:30 pm (UTC+1);  
for chemical information and legal information on hazardous substances only  
Poison centre: +49 761 19240  
Poisoning information centre, Freiburg, Germany  
(24 h / 7 d), English is spoken

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Classification	Classification procedure
Aerosol 3; H229	Aerosol contains $\leq 1$ % flammable components and its heat of combustion is $< 20$ kJ/g

Full text of hazard classes as well as H-phrases: see under SECTION 16.3.

Classification in accordance with Directive 1999/45/EC

see SECTION 16.1.

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### 2.2. Label elements

#### Label elements in accordance with Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms:	-
Signal word:	Warning
Hazard components for labelling:	-
H-phrases:	H229 Pressurised container: May burst if heated.
P-phrases:	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P251 Do not pierce or burn, even after use.
	P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Additional labelling in accordance with Regulation (EU) No 517/2014 and Implementing Regulation (EU) 2015/2068

Not necessary.

(HFC-1234ze does not fall within the definition of "fluorinated greenhouse gases" according to Regulation (EU) No 517/2014 Article 2 (1), as HFC-1234ze is not listed in Annex I.)

#### Label elements in accordance with Directive 1999/45/EC

see SECTION 16.2.

### 2.3. Other hazards

The substance does not meet the PBT/vPvB criteria according to Regulation (EC) No 1907/2006, Annex XIII.

Contact with the liquid may cause cold burns respectively frostbite.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Chemical characterisation: Liquefied gas under pressure.

#### Hazardous ingredients

Chemical name	Identification numbers	Classification in accordance with Directive 67/548/EEC	Classification in accordance with Regulation (EC) No 1272/2008	Weight %
1,3,3,3-Tetrafluoro-prop-1-ene; (R1234ze); (HFO-1234ze); (HFC-1234ze)	CAS No: 29118-24-9 EC No: 471-480-0 REACH Registration No: 01-0000019758-54-XXXX	-	Press. Gas L; H280	100

Full text of code letters, hazard classes, R- and H-phrases: see SECTION 16.3.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

General information: First aider: Pay attention to self-protection!

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- |                         |   |
|-------------------------|---|
| Following inhalation:   | Move affected person into fresh air and keep still and warm. In case of continued complaints seek medical advice.   |
| Following skin contact: | In case of frostbite, rinse with warm water. In case of skin reactions, consult a physician.  |
| Following eye contact:  | Flush eyes immediately with flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Consult an ophthalmologist. |
| Following ingestion:    | There is no risk of swallowing if used as intended.   |

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

Frostbite.

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

No information available.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media: Water spray jet, alcohol resistant foam, extinguishing powder, carbon dioxide (CO<sub>2</sub>)

Unsuitable extinguishing media: Full water jet

#### 5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), hydrogen fluoride (HF), fluorophosgene (CF<sub>2</sub>O)

#### 5.3. Advice for firefighters

Special protective equipment: Wear self-contained breathing apparatus.

Further information: 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

Use personal protective equipment. See SECTION 8.2.

Avoid skin and eye contact. Do not breathe gas. Provide adequate ventilation. Evacuate danger area. Observe emergency plans. Consult experts.

##### For emergency responders

Use personal protective equipment. See SECTION 8.2.

#### 6.2. Environmental precautions

Not necessary

#### 6.3. Methods and material for containment and cleaning up

##### Containment

Not necessary

##### Cleaning up

Let evaporate.

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## Other information

Inappropriate containment and cleaning methods are not known.

## 6.4. Reference to other sections

Information on safe handling see SECTION 7.1.

Information on personal protective equipment see SECTION 8.2.

Information on disposal see SECTION 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Precautions

Provide adequate ventilation. Do not breathe gas. Do not pierce or burn, even after use. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Always completely push through spray head. Do not use spray can upside down, because liquid propellant is discharging (R1234ze). Avoid decomposition of product vapours on hot surfaces.

#### Advice on general occupational hygiene

When using do not eat, drink or smoke. Wash hands before breaks and at end of work. Keep away from food and drink.

### 7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels: The official regulations regarding the storage of pressurized containers have to be considered. Keep container in a cool, well-ventilated place.

Advice on common storage: Not necessary

Further information on storage conditions: Recommended storage temperature: 5 °C – 25 °C

Storage class ([DE] TRGS 510): LGK 2B Aerosol dispensers and lighters

### 7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific end uses are stipulated.

#### Industry and sector specific guidance

[DE] TRGS 525 – Hazardous substances in medical care facilities (Section 7 Activities with disinfectants); Issue: September 2014;

Source: GMBI 2014 page 1294-1307 of 13.10.2014 [No 63]; [www.baua.de](http://www.baua.de)

[DE] DGUV rules 107-002 (former BGR 206) - Disinfection works in health service

Issue: July 1999; Source: [www.dguv.de/publikationen](http://www.dguv.de/publikationen)

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

Country	Limit values				Legal basis	Remarks
	Long term (8 hours)		Short term (15 minutes)			
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>		
1,3,3,3-Tetrafluoroprop-1-ene (CAS No: 29118-24-9)						
EU						no limit value specified
UK						no limit value specified

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Used abbreviations, symbols, numerals and explanations in column „Remarks“

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### Biological limit values

Does not contain substances above concentration limits fixing a biological limit value.

### Information on monitoring procedures

BS EN 482:2012-04-30; Title: Workplace exposure - General requirements for the performance of procedures for the measurement of chemical agents;  
British version of EN 482:2012

BS EN 689:1996-04-15; Title: Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy;  
British version of EN 689:1995

BS EN 14042:2003-04-24; Title: Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents;  
British version of EN 14042:2003

## 8.2. Exposure controls

### Appropriate engineering controls

#### Technical and organisational protective measures

No special protective measures necessary.

### Personal protective equipment

Eye/face protection: Safety glasses with side protection according to EN 166 are recommended

Skin protection:

Hand protection: Protective gloves according to EN 374 are recommended  
Splash guard:  
Disposable gloves made of nitrile rubber (thickness 0.11 mm)  
Permanent contact (> 480 min):  
Protective gloves made of nitrile rubber (thickness 0.40 mm)

Other skin protection: Not necessary when used as intended.

Respiratory protection: Not necessary in case of good room ventilation.

Thermal hazards: To protect against cold burns or frostbite, it is recommended to wear safety glasses and protective gloves.

### Environmental exposure controls

Not necessary

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance: colourless aerosol

Odour: of ether

Odour threshold: no data available

pH (undiluted): not applicable (20 °C)

Melting point/freezing point: not applicable

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Initial boiling point and boiling range: - 19 °C

Flash point: not applicable

Evaporation rate: no data available

Flammability (solid, gas): no data available

Lower explosive limit: not applicable

Upper explosive limit: not applicable

Vapour pressure: 4271 hPa (20 °C)

10800 hPa (50 °C)

Vapour density: not determined

Relative density: 1.19 (20 °C)

Solubility in water: insoluble

Partition coefficient:  
n-octanol/water 1.6

Auto-ignition temperature: 368 °C

Decomposition temperature: no data available

Viscosity: no data available

Explosive properties: none

Oxidising properties: none

### 9.2. Other information

Refractive index nD: no data available (20 °C)

Electrical conductivity (undiluted): no data available (20 °C)

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No hazardous reactions when handled and stored as intended.

### 10.2. Chemical stability

The product is stable when handled and stored as intended.

### 10.3. Possibility of hazardous reactions

None known

### 10.4. Conditions to avoid

Keep away from heat.

### 10.5. Incompatible materials

None known

### 10.6. Hazardous decomposition products

Does not decompose when used as intended.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

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### Acute toxicity

Product

Acute toxicity - oral: Acute Toxicity Estimate ATE<sub>mix</sub> > 2000 mg/kg  
=> no classification

Acute toxicity - dermal: Acute Toxicity Estimate ATE<sub>mix</sub> > 2000 mg/kg  
=> no classification

Acute toxicity - inhalation: Acute Toxicity Estimate ATE<sub>mix</sub> > 20 mg/l  
=> no classification

Note: The gas has in high concentrations a narcotic and a suffocating effect.

Ingredients

1,3,3,3-Tetrafluoroprop-1-ene (CAS No: 29118-24-9):

Acute toxicity - inhalation: LC<sub>50</sub>: > 965 mg/l; species: rat; 4 h; vapour; method: OECD 403

### Skin corrosion/irritation

Product

No data available.

Note: Contact with fast expanding gas or vaporising liquid may cause cold burns/ frostbite.

### Serious eye damage/irritation

Product

No data available.

Note: Contact with liquefied gas will cause severe eye irritation, tears, redness and swelling of the eyelids. May cause frostbite or damage to the eye tissue.

### Respiratory or skin sensitisation

Product

No data available.

### Germ cell mutagenicity

Product

No data available.

### Carcinogenicity

Product

No data available.

### Reproductive toxicity

Product

No data available.

### STOT-single exposure

Product

No data available.

### STOT-repeated exposure

Product

No data available.

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### Aspiration hazard

Product

No data available.

## SECTION 12: Ecological information

### 12.1. Toxicity

No data available.

### 12.2. Persistence and degradability

Biodegradability:

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

The substance does not meet the PBT/vPvB criteria according to Regulation (EC) No 1907/2006, Annex XIII.

### 12.6. Other adverse effects

Global warming potential: GWP = 6

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal of the product

Product residues must be disposed of as non-hazardous waste in compliance with the Directive 2008/98/EC on waste as well as national and regional regulations. Do not mix with other waste materials.

Waste codes / waste designations according to EWC

Product residues: 16 05 05 gases in pressure containers other than those mentioned in 16 05 04

#### Disposal of the packaging

Waste codes / waste designations according to EWC

Contaminated packaging: 15 01 04 metallic packaging

Recommendation

Contaminated pressurized containers must be emptied optimally and can be recycled.



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### SECTION 14: Transport information

#### 14.0. Transport classification

Dangerous good in sense of the transport regulations in road traffic (ADR), railway traffic (RID), inland waterway traffic (ADN), maritime traffic (IMDG-Code) and air traffic (ICAO-TI/IATA-DGR).

#### 14.1. UN number

UN 1950

#### 14.2. UN proper shipping name

**ADR/RID/ADN**

AEROSOLS, asphyxiant

**IMDG-Code**

AEROSOLS

**ICAO-TI/IATA-DGR**

Aerosols, non-flammable

#### 14.3. Transport hazard class(es)

Class: 2.2

Subsidiary risk(s): -

#### 14.4. Packing group

-

#### 14.5. Environmental hazards

**ADR/RID/ADN**

Environmentally Hazardous: No

**IMDG-Code**

Marine Pollutant: No

#### 14.6. Special precautions for user

Not necessary.

#### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

#### 14.8. Further information

Transport category according to ADR section 1.1.3.6: 3

Maximum total quantity per transport unit  
according to ADR section 1.1.3.6: 1000 L

Limited quantity (Maximum quantity per inner  
packaging) according to ADR/RID/ADN/IMDG-Code: 1 L

Classification code according to ADR/RID/ADN: 5A

Hazard identification number according to  
ADR/RID: -

Tunnel restriction code according to ADR/RID: E

Segregation group according to IMDG-Code  
section 5.4.1.5.11.1: -

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EmS codes:

F-D, S-U

### SECTION 15: Regulatory information

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

##### EU-Regulations

REGULATION (EC) No 1005/2009 on substances that deplete the ozone layer

not applicable

REGULATION (EC) No 850/2004 on persistent organic pollutants and amending Directive 79/117/EEC

not applicable

REGULATION (EU) No 649/2012 concerning the export and import of hazardous chemicals

not applicable

DIRECTIVE 2012/18/EU (Seveso III Directive) on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC

not applicable

DIRECTIVE 2010/75/EU on industrial emissions (integrated pollution prevention and control)

not applicable

REACH – List of substances subject to authorisation (Annex XIV)

not applicable

REACH – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

not applicable

COUNCIL DIRECTIVE 94/33/EC on the protection of young people at work

not applicable

COUNCIL DIRECTIVE 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding

not applicable

#### 15.2. Chemical safety assessment

For this substance no chemical safety assessment has been carried out.

### SECTION 16: Other information

#### 16.1. Classification in accordance with Directive 1999/45/EC

Not necessary anymore. Changed formulation.

#### 16.2. Label elements in accordance with Directive 1999/45/EC

Not necessary anymore. Changed formulation.

#### 16.3. Full text of code letters, hazard classes, R- and H-phrases

##### Code letters and categories of danger

-

##### Hazard classes

Aerosol

Aerosol

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Press. Gas L      Gases under pressure (Liquefied gas)

### R-phrases (Indications concerning special risks)

-

### H-phrases (Hazard statements)

H229      Pressurised container: May burst if heated.

H280      Contains gas under pressure; may explode if heated.

### 16.4. Abbreviations and acronyms

ADN	<u>A</u> ccord <u>e</u> uropéen relatif au transport international des marchandises <u>d</u> angereuses par voie de <u>n</u> avigation intérieure (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	<u>A</u> ccord européen relatif au transport international des marchandises <u>d</u> angereuses par <u>r</u> oute (European Agreement concerning the International Carriage of Dangerous Goods by Road)
BGR	<u>B</u> erufsgenossenschaftliche <u>R</u> egeln (English: Employers' liability insurance association rules)
BS	<u>B</u> ritish <u>S</u> tandards
CAS	<u>C</u> hemical <u>A</u> bstracts <u>S</u> ervice
CLP	Regulation on <u>C</u> lassification, <u>L</u> abelling and <u>P</u> ackaging of Substances and Mixtures
[DE]	National German regulations
DGUV	<u>D</u> eutsche <u>G</u> esetzliche <u>U</u> nfall <u>v</u> ersicherung (English: German statutory accident insurance)
EC	<u>E</u> uropean <u>C</u> ommunity
EEC	<u>E</u> uropean <u>E</u> conomic <u>C</u> ommunity
EmS	<u>E</u> mergency <u>S</u> chedules (Emergency response procedures for ships carrying dangerous goods)
EN	European Standard
EU	<u>E</u> uropean <u>U</u> nion
EWC	<u>E</u> uropean <u>W</u> aste <u>C</u> atalogue
GHS	<u>G</u> lobally <u>H</u> armonized <u>S</u> ystem of Classification, Labelling and Packaging of Chemicals
GMBI	<u>G</u> emeinsames <u>M</u> inisterial <u>b</u> latt (English: Joint Ministerial Gazette)
GWP	<u>G</u> lobal <u>W</u> arming <u>P</u> otential
IATA-DGR	<u>I</u> nternational <u>A</u> ir <u>T</u> ransport <u>A</u> ssociation - <u>D</u> angerous <u>G</u> oods <u>R</u> egulations
IBC-Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO-TI	Technical Instructions For The Safe Transport of Dangerous Goods by Air
IMDG-Code	<u>I</u> nternational <u>M</u> aritime <u>C</u> ode for <u>D</u> angerous <u>G</u> oods
LGK	<u>L</u> ager <u>k</u> lasse (English: Storage class)
MARPOL	International Convention for the Prevention of Marine Pollution from Ships
PBT	<u>P</u> ersistent, <u>b</u> ioaccumulative and <u>t</u> oxic
ppm	<u>P</u> arts <u>p</u> er <u>m</u> illion
REACH	<u>R</u> egistration, <u>E</u> valuation, <u>A</u> uthorisation and Restriction of <u>C</u> hemicals
RID	<u>R</u> èglement concernant le transport <u>I</u> nternational ferroviaire de marchandises <u>D</u> angereuses (Regulations Concerning the International Carriage of Dangerous Goods by Rail)
TRGS	<u>T</u> echnische <u>R</u> egeln für <u>G</u> efahr <u>s</u> toffe (English: Technical Rules for Hazardous Substances)
UN	<u>U</u> nited <u>N</u> ations
UTC	Coordinated Universal Time (French: Temps Universel Coordonné)
vPvB	<u>V</u> ery persistent and very bioaccumulative

### 16.5. Key literature references and sources for data

- Regulation (EC) No 1907/2006 (REACH), Annex II
- European Chemicals Agency (ECHA) – Guidance on the compilation of safety data sheets; Version 2.1 (February 2014); [http://echa.europa.eu/documents/10162/13643/sds\\_en.pdf](http://echa.europa.eu/documents/10162/13643/sds_en.pdf)
- GISBAU (Hazardous substances information system of the BG BAU) – course „safety data sheet“; <http://www.bgbau.de/gisbau/SDB/lehrgang/lehrgang.htm>

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- European Chemicals Agency (ECHA) – Guidance on Labelling and Packaging in accordance with Regulation (EC) No 1272/2008 (04/2011);  
[http://echa.europa.eu/documents/10162/13562/clp\\_labelling\\_en.pdf](http://echa.europa.eu/documents/10162/13562/clp_labelling_en.pdf)
- European Chemicals Agency (ECHA), Registered substances;  
<http://echa.europa.eu/information-on-chemicals/registered-substances>
- European Chemicals Agency (ECHA), C&L Classification and Labelling Inventory;  
<http://echa.europa.eu/information-on-chemicals/cl-inventory-database>
- Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA):  
GESTIS database on hazardous substances and GESTIS - International limit values for chemical agents;  
<http://www.dguv.de/dguv/ifa/index.jsp>
- German Environmental Agency (Umweltbundesamt), Section IV 2.4: Office of Documentation and Information on Substances Hazardous to Waters RIGOLETTO (catalogue of Substances Hazardous to Waters); <http://webrigoletto.uba.de/rigoletto>

### 16.6. Training advice

Provide adequate information, instructions and training for users.

### 16.7. Indication of changes

A backslash in the left hand margin indicates an amendment from the previous version.

| Changed formulation. Valid from LOT No. 887703.

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The information given in the safety data sheet only apply to the described product in connection with its intended use. These information are based on the latest state of our knowledge at the time of revision. In particular, they describe our product under the aspect of its hazards and safety measures to be taken. They do not constitute any guarantee of product properties and quality features.

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