

Safety data sheet

according to Regulation (EC) No 1907/2006



Trade name: **WL-clean**
Issue/Revision: 12.06.2020
Print date: 23.10.2020

Version: 2.1
Replaces version: 2.0

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

1.1. Product identifier

Trade name: **WL-clean**

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

Relevant identified uses: Cleaning agent

Intended purpose: Solution ready for use for the non protein fixing cleaning (internal and external surfaces) prior to disinfection/sterilization of medical and dental hollow part instruments such as turbines, hand pieces and contra-angles, internally cooled instruments and endoscopes.

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]

<i>Classification</i>	<i>Classification procedure</i>
Aerosol 3; H229	Aerosol contains ≤ 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 16.1.

2.2. Label elements

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

Hazard pictograms: -

Signal word: Warning

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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.

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to Regulation (EC) No 1907/2006, Annex XIII.

No further hazards known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterisation: Mixture of propylene glycol, parabens, biguanides and complexing agents in aqueous solution and propellant.

Hazardous ingredients

<i>Chemical name</i>	<i>Identification numbers</i>	<i>Classification in accordance with Regulation (EC) No 1272/2008</i>	<i>Weight %</i>
Carbon dioxide	CAS No: 124-38-9 EC No: 204-696-9	Press. Gas L; H280	≥ 0,5 - < 1

Full text of hazard classes and H-phrases: see SECTION 16.1.

SECTION 4: First aid measures

4.1. Description of first aid measures

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

Following inhalation: Supply fresh air. In case of complaints consult a physician.

Following skin contact: No special measures necessary.

Following eye contact: Flush eyes with flowing water for several minutes holding eyelids apart. Remove contact lenses, if present and easy to do.

Following ingestion: Rinse mouth with water. Let drink water.

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

None known.

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 (CO₂)

Unsuitable extinguishing media: Full water jet

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5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon monoxide (CO), carbon dioxide (CO₂)

5.3. Advice for firefighters

Special protective equipment: Not necessary

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.

Special danger of slipping by leaked/spilled product.

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

Wipe up small amounts with absorbent material (e.g. cloth, fleece). Absorb large amounts with liquid-binding material (sand, diatomaceous earth, universal binder, sawdust).

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

Do not pierce or burn, even after use. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

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.

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Advice on common storage: Not necessary
 Further information on storage conditions: Recommended storage temperature: 0 °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
- [DE] DGUV rules 107-002 (former BGR 206) - Disinfection works in health service
 Issue: July 1999; Source: 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 ³	ppm	mg/m ³		
Carbon dioxide (CAS No: 124-38-9)						
EU	5000	9000	-	-	2006/15/EG	-
UK	5000	9150	15000	27400	EH40	

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

-

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: Not necessary when used as intended.

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Skin protection:

Hand protection: Not necessary when used as intended.

Other skin protection: Not necessary when used as intended.

Respiratory protection: Not necessary when used as intended.

Thermal hazards: No special protective measures necessary.

Environmental exposure controls

Not necessary

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:	clear, colourless aerosol	
Odour:	characteristic	
Odour threshold:	no data available	
pH (undiluted):	4.5 – 5.5	(20 °C)
Melting point/freezing point:	no data available	
Initial boiling point and boiling range:	no data available	
Flash point:	not applicable	
Evaporation rate:	no data available	
Flammability (solid, gas):	not applicable	
Lower explosive limit:	not applicable	
Upper explosive limit:	not applicable	
Vapour pressure:	no data available	(... °C)
Vapour density:	no data available	
Relative density:	0.995 – 1.005	(20 °C)
Solubility in water:	completely soluble	
Partition coefficient: n-octanol/water	not applicable	
Auto-ignition temperature:	not applicable	
Decomposition temperature:	no data available	
Viscosity:	no data available	
Explosive properties:	none	
Oxidising properties:	none	

9.2. Other information

Refractive index nD:	1.3342-1.3360	(20 °C)
Electrical conductivity (undiluted):	1600-1800 µS/cm	(20 °C)

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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

Acute toxicity

Product

Acute toxicity - oral: Acute Toxicity Estimate $ATE_{mix} > 2000$ mg/kg
=> no classification

Acute toxicity - dermal: Acute Toxicity Estimate $ATE_{mix} > 2000$ mg/kg
=> no classification

Acute toxicity - inhalation: Acute Toxicity Estimate $ATE_{mix} > 20$ mg/l
=> no classification

Skin corrosion/irritation

Product

No classification. [calculation method]

Serious eye damage/irritation

Product

No classification. [calculation method]

Respiratory or skin sensitisation

Product

No classification. [calculation method]

Germ cell mutagenicity

Product

No data available.

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Carcinogenicity

Product

No data available.

Reproductive toxicity

Product

No data available.

STOT-single exposure

Product

No classification. [calculation method]

STOT-repeated exposure

Product

No data available.

Aspiration hazard

Product

No data available.

SECTION 12: Ecological information

12.1. Toxicity

No classification. [calculation method]

12.2. Persistence and degradability

Biodegradability:

The product is biodegradable according to OECD criteria. The statement has been derived from the properties of the ingredients.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to Regulation (EC) No 1907/2006, Annex XIII.

12.6. Other adverse effects

No data available.

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.

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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.

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

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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:	-
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 mixture no chemical safety assessment has been carried out.

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SECTION 16: Other information

16.1. Full text of hazard classes and H-phrases

Hazard classes

Aerosol	Aerosol
Press. Gas L	Gases under pressure (Liquefied gas)

H-phrases (Hazard statements)

H229	Pressurised container: May burst if heated.
H280	Contains gas under pressure; may explode if heated.

16.2. Abbreviations and acronyms

ADN	<u>A</u> ccord européen 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)
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
OECD	<u>O</u> rganization for <u>E</u> conomic <u>C</u> o-operation and <u>D</u> evelopment
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 <u>v</u> ery <u>b</u> ioaccumulative

16.3. 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

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- GISBAU (Hazardous substances information system of the BG BAU) – course „safety data sheet“; <http://www.bgbau.de/gisbau/SDB/lehrgang/lehrgang.htm>
- Regulation (EC) No 1272/2008 (CLP regulation)
- 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
- 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>

16.4. Training advice

Provide adequate information, instructions and training for users.

16.5. Indication of changes

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

The information given in the safety data sheet only applies to the described product in connection with its intended use. This information is based on the latest state of our knowledge at the time of revision. In particular, it describes our product under the aspect of its hazards and safety measures to be taken. It does not constitute any guarantee of product properties and quality features.

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Version: 4.0
Replaces version: 3.0

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: Medically pure drying spray to support the cleaning after the cleaning and/or disinfection of the inner surfaces of medical and dental hollow part instruments (turbines, hand pieces and contra-angles, internally cooled instruments and endoscopes).
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 ≤ 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 16.1.

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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.)

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 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 hazard classes and H-phrases: see SECTION 16.1.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:	First aider: Pay attention to self-protection!
Following inhalation:	Move affected person into fresh air and keep still and warm. In case of continued complaints seek medical advice.

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- 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 (CO₂)
- Unsuitable extinguishing media: Full water jet

5.2. Special hazards arising from the substance or mixture

- Hazardous combustion products: Carbon monoxide (CO), carbon dioxide (CO₂), hydrogen fluoride (HF), fluorophosgene (CF₂O)

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.

Other information

Inappropriate containment and cleaning methods are not known.

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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

[DE] DGUV rules 107-002 (former BGR 206) - Disinfection works in health service
 Issue: July 1999; Source: 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 ³	ppm	mg/m ³		
1,3,3,3-Tetrafluoroprop-1-ene (CAS No: 29118-24-9)						
EU						no limit value specified
UK						no limit value specified

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
Initial boiling point and boiling range:	- 19 °C
Flash point:	not applicable

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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 n _D :	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_{mix} > 2000 mg/kg
=> no classification

Acute toxicity - dermal: Acute Toxicity Estimate ATE_{mix} > 2000 mg/kg
=> no classification

Acute toxicity - inhalation: Acute Toxicity Estimate ATE_{mix} > 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: LC₅₀: > 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. Full text of hazard classes and H-phrases

Hazard classes

Aerosol	Aerosol
Press. Gas L	Gases under pressure (Liquefied gas)

H-phrases (Hazard statements)

H229	Pressurised container: May burst if heated.
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H280 Contains gas under pressure; may explode if heated.

16.2. Abbreviations and acronyms

ADN	<u>A</u> ccord européen 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	International <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 <u>v</u> ery <u>b</u> ioaccumulative

16.3. 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
- GISBAU (Hazardous substances information system of the BG BAU) – course „safety data sheet“; <http://www.bgbau.de/gisbau/SDB/lehrgang/lehrgang.htm>
- Regulation (EC) No 1272/2008 (CLP regulation)
- 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
- European Chemicals Agency (ECHA), Registered substances; <http://echa.europa.eu/information-on-chemicals/registered-substances>

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- 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>

16.4. Training advice

Provide adequate information, instructions and training for users.

16.5. Indication of changes

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

The information given in the safety data sheet only applies to the described product in connection with its intended use. This information is based on the latest state of our knowledge at the time of revision. In particular, it describes our product under the aspect of its hazards and safety measures to be taken. It does not constitute any guarantee of product properties and quality features.
