

Safety Data Sheet

according to regulation (EC) 1907/2006 (REACH)



Trade name: **WL-dry**
Revised at: 09.07.2010
Print date: 10.11.2010

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1. Identification of the substance/preparation and of the company/undertaking

Trade name: **WL-dry**

Intended use: 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.

Effect of the preparation: Drying spray

Manufacturer: ALPRO MEDICAL GMBH
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2. Hazards identification

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General hints: Liquefied gas. Contact with the liquid may cause freeze burns respectively frostbites. The pressurized container may burst in case of heating above 50 °C. 5 - 15 % by mass of the contents are flammable.

3. Composition/information on ingredients

Chemical characterization: Liquefied gases; under pressure.

<i>Hazardous ingredients</i>	<i>CAS-No.</i>	<i>Weight-%</i>	<i>Code letter</i>	<i>R-phrases*</i>
1,1,1,2-Tetrafluorethan	811-97-2	85-100%	-	-
1,1-Difluorethan	75-37-6	5-15%	F+	12

*Full text of R-phrases: see under section 16

4. First aid measures

General information: Note precautions for self-protection.

On inhalation: Move affected person into fresh air and keep still and warm. In case of irritation of the airways, seek medical advice.

On contact with skin: Rinse affected area of skin with lukewarm water. In case of frostbites rinse with plenty of water. Seek medical advice if pain or erythema persists.

On contact with the eyes: Rinse the eyes with water with the eyelids open for a sufficient length of time, then seek ophthalmological advice immediately.

If swallowed: There is no risk of swallowing if used as intended.

Information for the doctor: First aid, decontamination, symptomatic treatment.
Symptoms: Frostbites by icing in the case of contact with skin and eyes. Do not administer adrenaline or adrenaline derivatives.

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5. Fire-fighting measures

Suitable extinguishing media:	Water, foam, dry fire-extinguishing media, carbon dioxide. Fight a larger fire with water spray jet or alcohol resistant foam.
Extinguishing media which must not be used for safety reasons:	Strong water jet.
Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:	In case of fire may be liberated: Carbon monoxide, carbon dioxide, hydrogen fluoride. May form explosive/ highly flammable gas-air mixtures. Inhalation of hazardous decomposition products may cause damage to health.
Special protective equipment for firefighting:	Do not inhale explosion and combustion gases. Use self contained breathing apparatus.
Additional information:	Cool endangered containers with water spray jet. Risk of bursting.

6. Accidental release measures

Personal precautions:	Use personal protective clothing. Provide adequate ventilation. Do not breathe gas.
Environmental precautions:	No special measures are necessary.
Methods for cleaning up/taking up:	Leave to vaporize. Provide adequate ventilation.

7. Handling and storage

Hints for safe handling:	Protect from heat and direct sunlight. Provide adequate ventilation. Avoid contact with skin and eyes. Always completely push through spray head. Do not use spray can upside down, because liquid propellant is discharging (R134a/R152a). Avoid decomposition of product vapours on hot surfaces.
Hints for protection against fire and explosion:	Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use. In use, may form flammable/explosive vapour-air mixture.
Further information:	Not necessary
Requirements for storage rooms and vessels:	The official regulations regarding the storage of pressurized containers have to be considered. Keep in a cool, well-ventilated place.
Hints on storage assembly:	Not necessary
Further information on storage conditions:	Recommended storage temperature: 5 °C – 25 °C
Storage class:	LGK 2B

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8. Exposure controls / Personal protection

Constituents with occupational exposure limits resp. biological occupational exposure limits requiring monitoring:

Maximum occupational exposure concentration; see TRGS 900 (German regulation)

1,1,1,2-Tetrafluorethan	CAS-No.: 811-97-2	Air limit value: 1000 ml/m ³ ; 4200 mg/m ³
Overflow factors for short-term values:		Peak limitation-category 8(II)

General health and safety measures:

Do not eat, drink, smoke while working.
Wash hands before breaks and on finishing work.
Preventive skin protection using barrier ointment.
Keep away of foods and drinks.
Avoid contact with eyes, skin and clothing.
Avoid inhalation of aerosols and vapours.

Personal protection equipment:

Respiratory protection:	Not necessary in case of sufficient room ventilation.
Hand protection:	E.g. natural rubber- or PVC-gloves are recommended.
Eye protection:	Tightly sealed goggles are recommended.
Protective clothing:	Not necessary.

9. Physical and chemical properties

Form:	liquefied gases; under pressure	
Colour:	colourless	
Odour:	slightly ethereal	
pH-value:	non-applicable	(20°C)
Boiling point/Boiling range:	non-applicable because aerosol dispenser	
Melting point/Melting range:	non-applicable because aerosol dispenser	
Flash point (DIN, TRbF):	not applicable	
Flammability (gaseous):	The product is not self-igniting.	
Explosive properties:	The product is not explosive. At usage the formation of vapour/air mixtures is possible which have explosive/highly flammable properties.	
Lower explosion limit:	3,7 Vol.-% (1,1 Difluorethan)	
Upper explosion limit:	20,2 Vol.-% (1,1 Difluorethan)	
Ignition temperature:	not determined	
Oxidizing properties:	none	
Vapour pressure:	not determined	at 20°C
Density:	1,196 g/cm ³	at 20°C
Bulk density:	not determinable	at ...°C
Solubility in water:	almost insoluble	
Partition coefficient:	not necessary	(n-octanol/water)
Viskosity (sort):	not necessary	at ...°C
Electrical conductivity (undiluted):	not necessary	at ...°C

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Refractive index nD: not determinable at ...°C
Optical rotation αD: not determinable

10. Stability and reactivity

Conditions to avoid: No decomposition if used as prescribed. Do not expose to open flames, sparks, burning or glowing mediums as well as hot objects and surfaces of metal.

Materials to avoid: Alkali metals and their alloys, alkaline earth metals, metals in powder form, metal salts in powder form.
No hazardous reactions if used as prescribed.

Hazardous decomposition products: The thermal decomposition depends strongly on external conditions. A complex mixture of solids, liquids and gases, amongst others carbon monoxide, carbon dioxide, hydrogen fluoride, fluorophosgene, and other organic compounds, is formed when this product is combusted or decomposed thermically or oxidatively.

11. Toxicological information

Acute toxicity: No acute toxicity known.
Liquefied gas has in high concentrations a narcotic and a suffocating effect.

Primary irritant effect on the skin: Gas: No primary irritant effect on the skin known.
Contact with fast expanding gas or vaporising liquid may cause freeze burns/ frostbites.

Primary irritant effect on the eye: Gas: No primary irritant effect on the eye known.
Contact with liquefied gas will cause severe eye irritation, tears, redness and swelling of the eye lids. May cause frostbites or damages to the eye tissue.

Mutagenic potential: No mutagenic potential known.

Sensitization: No sensitizing effects known.

The product was classified on the basis of the calculation procedure of the preparation directive 1999/45/EC.

Based on manufacturer data of the main components the acute toxicity, the skin irritation, the mucous membrane irritation and the mutagenic potential of the preparation were evaluated. However, some data are not complete regarding particular main components. Nevertheless according to the experience of the manufacturer there are no other hazards expected than those which are already mentioned on the label.

12. Ecological information

Ecotoxicity: The product poses no significant threat for the aquatic environment:

1,1,1,2-Tetrafluorethan:
LC50 (Fish: *Salmo gairdneri*): 450 mg/l (96 h)
NOEC (Fish: *Salmo gairdneri*): 300 mg/l (96 h)
EC50 (Daphnia): 980 mg/l (48 h)
EC10 (Bacteria): > 730 mg/l (6 h)

1,1-Difluorethan:
No data available.

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(NOEC = No-Observed-Effect-Concentration, defined as highest tested concentration that will not result in death or in immobilisation of the exposed organisms over the test period.)

Mobility/ Effects in environmental compartments:

Air: Significant volatility as a result of a high vapour pressure and a high Henry constant.
Soil/ sediments: Will not be adsorbed appreciably and is fast volatile.

Persistence and degradation:

The product is persistent in air.
1,1,1,2-Tetrafluorethan:
Air, indirect photooxidation: $t_{1/2} = 10,9a$
Terms of sensitizer: OH-radical
Decomposition products: CO₂, HF, Trifluoroacetic acid.
In case of release into water or soil a fast volatility into the atmosphere is given.

1,1-Difluorethan:
No data available.

Bio-accumulation potential:

1,1,1,2-Tetrafluorethan: Non bio-accumulationable
1,1-Difluorethan: No data available.

Other adverse effects:

Ozone depletion potential:
Without effect on stratosphere ozone. (ODP = 0)
Global warming potential (cp. regulation (EC) no. 842/2006):
GWP (1,1,1,2-Tetrafluorethan) = 1300
GWP (1,1 Difluorethan) = 120

Further information:

Not necessary.

13. Disposal considerations

Disposal of the product:

In the EC member states there are no standardized regulations for the disposal of chemicals. In Germany the law of the cycle of economy and waste (KrW/AbfG) prescribes the principle of utilization and therefore a distinction must be made between "waste for utilization" and "waste for removal". Furthermore special cases – particularly in case of delivery – are also regulated by the federal states. Please contact the corresponding office (authority or waste disposal company) who will inform you about the utilization or removal.

Waste code no.*: 16 05 04

Disposal of uncleaned as well as completely emptied packings:

Disposal according to official regulations. Contaminated packings are to be treated like the substance.

Waste code no.*: 15 01 10

Further information:

If there is no official regulation, non-contaminated packings can be treated like domestic waste or can be recycled.

*Waste code no.: Waste incurred is classified following the code of the European waste register according to kind of waste and branch.

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14. Transport information

Land transport ADR/RID and GGVSE

UN-No.: 1950
Class: 2.1
Packing Group: -
Proper Shipping Name:
AEROSOLS

Inland waterway craft ADN/ADNR

Not classified.

Marine transport IMDG/GGVSee

UN-No.: 1950
Class: 2.1
Packing Group: -
EmS-No.: F-D; S-U
Proper Shipping Name:
AEROSOLS

Air transport ICAO-TI/IATA-DGR

UN-/ID-No.: 1950
Class: 2.1
Packing Group: -
Proper Shipping Name:
AEROSOLS, flammable

15. Regulatory information

Labelling

Code letter: -
Hazard designation: -
contains: -
R-phrases: -
S-phrases: S23 Do not breathe aerosol.
S51 Use only in well-ventilated areas.

Special labelling of certain preparations (preparation directive 1999/45/EC annex V):

The S23 and S51 must be mentioned (see above)

Special labelling (directive 2008/47/EC for adaption of the aerosol directive 75/324/EEC):

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50° C.
Do not pierce or burn, even after use. 5 - 15 % by mass of the contents are flammable.

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Labelling according to regulation (EC) 1494/2007:

Contains fluorinated greenhouse gases covered by the Kyoto Protocol: R 134a, R 152a;
total mass: 0,360 kg

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National regulations (Germany)

Restrictions of occupation:	None
Störfallverordnung:	-
Classification according to VbF:	Not subject to the VbF
Technische Anleitung Luft:	-
Water hazard class:	WGK 1 (slightly water hazardous); self-classification

16. Other information

Full text of R-phrases appearing in section 3:
(This is not the classification of the product WL-dry!)

R12 Extremely flammable.

Further information:

This information is based on our present knowledge and describes the safety measures which are to be taken for this product. However, this shall not constitute a guarantee for any product features.

Marking of changes:

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