

EC Material Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH)

1. Product and Company Identification

Product details

Trade name: **AirFresh med**
 Application: Air cleaner

Manufacturer / Supplier

Alfred Becht GmbH
 P.O.B. 1145, D-77601 Offenburg
 Carl-Zeiss-Str. 16, D-77656 Offenburg
 Telephone: 0781 / 60586-0 Fax: 0781 / 60586-40
 eMail: klug@becht-online.de
 Emergency department: 0781 / 60586-0 8:00 – 17:00 Uhr

2. Hazards identification

Hazards identification: F+ Extremely flammable

Special hazards for humans and the environment:

- R 12 Extremely flammable
- R 36 Irritating to eyes
- R 43 May cause sensitization by skin contact
- R 67 Vapors may cause drowsiness and dizziness
- R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

3. Composition / Data on components

Chemical characterization:

Mixture of the substances listed below with harmless additions:

Ingredients	CAS-Nr. EINECS-Nr.	Marking(Dir.67/548/EEC) Marking(EC 1272/2008)	R-Phrases H-Phrases	Concentration
Isopropyl alcohol, Propan-2-ol	67-63-0 200-661-7	F, Xi Flam. Liq. 2 Eye Irrit. 2 STOT SE 3	R11, R67, R36 H225, H319, H336	30 – 50 %
Butane	106-97-8 203-448-7	F ⁺ n.d.a.	R12	15 – 30 %

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Ingredients	CAS-Nr.	Marking.(Dir. 67/548/EEC)	R-Phrases	Concentration
	EINECS-Nr.	Marking.(EC 1272/2008)	H-Phrases	
Isobutane	75-28-5	F ⁺	R12	5 – 15 %
	200-857-2	n.d.a.		
Propane	74-98-6	F ⁺	R12	5 – 15 %
	200-827-9	n.d.a..		
Limonene (D-)	138-86-3	Xi, N	R10, R38,	1 – 5 %
	227-813-5	Flam. Liq. 3 Skin Irrit. 2 Skin Sens. 1 Aquatic Acute 1	R43, R50-53 H226, H315, H317, H410	
Citral	5392-40-5	Xi	R38, R43	0,1 – 1 %
	226-394-6	Skin Irrit. 2 Skin Sens. 1	H315 H317	
Isopentane	78-78-4	F ⁺ , Xn, N	R12, R65,	0,1 – 1 %
	201-142-8	n.d.a.	R66, R67, R51-53	

4. First aid measures

- after inhalation: remove casualty to fresh air and keep at rest. If problems with breathing arise seek medical advice. If patient is unconscious, transport in recovery position. If necessary give mouth to mouth. Keep patient warm.
- after skin contact: after contact with skin wash immediately with plenty of water and soap. Seek medical advice if irritation develops. Liquid gas can cause frost-type burns.
- after eye contact: In case of eye contact, immediately rinse with clean water for several minutes with eye lids open. Seek medical advice immediately and show container or label.
- after swallowing: rinse immediately with plenty of water and seek medical advice. Drink plenty of water. Do not induce vomiting. Seek medical advice and take the container and the label with you. Ingestion is not considered a potential route of exposure under normal use.

5. Fire-fighting measures

Suitable extinguishing agents:

Extinguishing powder or water jet, CO₂, mayor fires with alcohol-resistant foam.

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Special hazards caused by the material, combustible materials and resulting gases:
Formation of poisonous gases is possible when heating or in case of fire.

Special protective equipment:
Do not inhale gases of explosion and fire. Use self-contained breathing apparatus.

Information:
Exposure to fire may cause containers to rupture/explode.
Use water spray to cool exposed containers/surfaces.

6. Accidental release measures

Personal safety precautions:
Avoid skin and eye contact.
Risk of slipping when leakage.

Measures for environmental protection:
Do not allow product to reach sewage system or other bodies of water. If the product drains into waters inform the competent authorities. Swirling gas-air mixture with water.

7. Handling and storage

Handling: Keep away from sources of ignition including direct sunlight. Keep away from open flames or any incandescent material. Container under pressure. Do not store at temperatures above 50 °C.

Storage: extremely flammable/combustible. Keep away from oxidizing materials, heat and flames. Store in a cool and dry place (< 50° C). Keep well-ventilated.

8. Exposure controls and personal protection

Ingredients:
Propan-2-ol MAK (8 St. Exposition) 400ppm
Butan MAK (8 St. Exposition) 600ppm

Personal protection:
General protective and hygienic measures:
Ensure good ventilation especially at ground level. When using, do not eat, drink or smoke. Do not inhale. Avoid contact with the liquid phases.

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Occupational exposure limits of AirFresh med

<u>Ingredients of the product:</u>	<u>Percentage</u>	<u>MAK</u>
Propan-2-ol	30 – 50 %	500 mg/m ³
Butane	15 – 30 %	2400 mg/m ³
		Together for all isomers
Propane	5 – 15 %	1800 mg/m ³
Isobutane	5 – 15 %	2400 mg/m ³
		Together for all isomers
Isopentane	0,1 – 1,0 %	3000 mg/m ³
Limonene	1 – 5 %	110 mg/m ³
Citral	0,1 – 1 %	no MAK-value shown in the list 2008

The materials Citral and Limonen are known to be allergenic. Avoid inhalation of aerosols. AirFresh med is only sold to professional users and is not expected to be misused. The product is sprayed into the room. Experiments have shown that in a space of 2,9 m³, 0.5 to 0.6 g Airfresh med can be sprayed until the desired effect is achieved. In a room of 58 m³ AirFresh med can be sprayed from 1.7 to 2.0 g to achieve the desired effect. Spray away from your own body and face.

The dosage of AirFresh med varies between 200 mg / m³ to 30 mg / m³. Occupational exposure limits are not exceeded for any of these materials. Even at a dose of 1000 mg / m³ MAK value is not reached and not exceeded. The product contains citral and limonene, two substances known as allergens. An allergic reaction can also occur if the MAK value is not reached, as it will be with lime and in the analog circuit for citral with adequate use of the product. When spraying in a confined space only a concentration of ten percent of the MAK value is reached. The product can be used safely as long as it is properly used.

9. Physical and chemical properties

Form:	Aerosol
Color:	Colorless
Odor:	Characteristic
Flash point:	< -5 ⁰ C

Physical datas:	datas are referring to butane
Melting point/Melting range:	- 138° C
Boiling point/boiling range:	- 0,5° C
Critical temperature:	152° C
Critical pressure:	38 bar
Danger of explosion: (in air)	1,4 – 9,3 %
Ignition temperature:	365° C
Vapor pressure at 21° C	2,14 bar

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10. Stability and reactivity

Thermal decomposition/conditions to be avoided:

No decomposition if stored and handled under anticipated conditions of normal use.

Dangerous reactions:

No dangerous reactions if stored and handled under anticipated conditions of normal use.

Hazardous decomposition products:

None under normal use if stored and handled under anticipated conditions of normal use.

11. Toxicological information

- Acute toxicity: n.d.a.

With the product as such no toxicological tests have been done. According to the regulation (EC) 1272/2008 this product is not toxic.

- Primary irritant effect:

to the eyes: eye irritating.

to the skin: liquid gas can cause frost-type burns.

- Sensitization:

Sensitizing effect possible through skin contact.

- Additional information:

Referring to the calculation method of the General EC Classification

Guidelines for Preparations as issued in the latest version the product

shows the following hazards: extremely flammable

Irritant

12. Ecological information

Biodegradation: n.d.a.

With the product as such no ecotoxicological tests have been done. According to the regulation (EC) 1272/2008 this product is not dangerous for the environment.

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13. Disposal recommendation

EC: There are no uniform regulations for disposal of chemicals or residues in the EC. Chemicals that are accumulated as residues are usually hazardous waste.

Germany: Federal and state regulations have to be applied.

Recommendation:

Disposal in accordance with official regulations.

Contaminated packaging:

Disposal in accordance with official regulations.

Container under pressure. Do not drill or burn even after use.

14. Transport information

Land transport ADR/RID and GGVS/GGVE

ADR/RID - GGVS/GGVE	Class: 2
Classification code:	5 F
Packaging group:	-
Labeling:	2
UN No.:	1950
Designation of goods:	AEROSOLS (FLAMMABLE)

Shipment by Inland waterways AND/ADR: not classified

Maritime transport IMDG/GGV-Sea

IMDG/GGVE-Sea	Class: 2
UN-No.:	1950
Packaging group:	-
EMS-No.: 2-13	MFAG table-No. 620
Proper shipping name:	AEROSOLS (FLAMMABLE)

Air transport ICAO-IATA and IATA-DGR

ICAO-IATA	Class: 2
UN-/ID-No.:	1950
Packaging group:	-
Proper shipping name:	AEROSOLS (FLAMMABLE)

15. Regulatory information

The product is classified and labeled according to EC directives
Symbol and hazard identification:

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F⁺ Extremely flammable

R-Phrases:

- 12 Extremely flammable
- 36 Irritating to eyes
- 43 May cause sensitisation by skin contact.
- 67 Vapours may cause drowsiness and dizziness.
- 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-Phrases:

- 2 Keep out of the reach of children.
- 7/9 Keep container tightly closed and in a well-ventilated place.
- 16 Keep away from sources of ignition - No smoking.
- 23.1 Do not breathe vapor/aerosol.
- 24/25 Avoid contact with skin and eyes.
- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 28 After contact with skin, wash immediately with plenty of water and soap.
- 47 Keep at temperature not exceeding 50°C.
- 62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
- 63 In case of accident by inhalation: remove casualty to fresh air and keep at rest.

16. Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Hazard statements which are referred to in part 2 and 3 according to directive 67/548/EEC.

- R10 Flammable
- R11 Highly flammable
- R12 Extremely flammable
- R36 Irritating to eyes
- R38 Irritating to skin
- R67 Vapors may cause drowsiness and dizziness.
- R43 May cause sensitization by skin contact.
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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- R65 Harmful: may cause lung damage if swallowed.
- R66 Repeated exposure may cause skin dryness or cracking.
- R67 Vapors may cause drowsiness and dizziness.

According to regulation (EC) No. 1272/2008

- H225 Highly flammable liquid and vapor, Cat. 2
- H226 Flammable liquid and vapor, Cat. 3
- H315 Causes skin irritation, Cat. 2
- H317 May cause an allergic skin reaction, Cat. 1
- H319 Causes serious eye irritation, Cat. 2
- H336 May cause drowsiness or dizziness, Cat. 3
- H410 Very toxic to aquatic life with long lasting effects, Cat.1