

SAFETY DATA SHEETS

This SDS packet was issued with item:

077647514

N/A

Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Freezer Spray

Print date: 06.03.2012

Product code: Miracold_Plus

Page 1 of 7

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

Freezer Spray

Relevant identified uses of the substance or mixture and uses advised against**Details of the supplier of the safety data sheet**

Company name:	Hager und Werken GmbH & Co. KG		
Street:	Ackerstrasse 1		
Place:	D-47269 Duisburg		
Telephone:	+49 203 992690	Telefax: +49 203 299283	
e-mail:	info@hagerwerken.de		
Internet:	www.hagerwerken.de		
Responsible Department:	Produktsicherheit		

Emergency telephone: +49 203 992690 Mo. - Do, 8:00 - 16:30 Fr, 8:00 - 14:00**SECTION 2: Hazards identification****Classification of the substance or mixture**

Indications of danger : Extremely flammable, Irritant

R-phrases:

Extremely flammable.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Label elements

Danger symbols: F+ - Extremely flammable



F+ - Extremely flammable

Hazardous components which must be listed on the label

p-Menthadien-1,8(9)

R phrases

12	Extremely flammable.
52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S phrases

02	Keep out of the reach of children.
03	Keep in a cool place.
09	Keep container in a well-ventilated place.
16	Keep away from sources of ignition - No smoking.
33	Take precautionary measures against static discharges.
43	In case of fire, use sand . Extinguishing powder.
46	If swallowed, seek medical advice immediately and show this container or label.
51	Use only in well-ventilated areas.
60	This material and its container must be disposed of as hazardous waste.
29/56	Do not empty into drains, dispose of this material and its container to hazardous or special waste collection point.

Special labelling of certain mixtures

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Freezer Spray

Print date: 06.03.2012

Product code: Miracold_Plus

Page 3 of 7

of bursting.

Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Use water spray/stream to protect personnel and to cool endangered containers. Use a water spray jet to knock down vapours/gases/mists. Contaminated fire-fighting water must be collected separately. Do not empty into drains or the aquatic environment.

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Remove all sources of ignition. Provide adequate ventilation.

Environmental precautions

Do not empty into drains or the aquatic environment. Explosion hazard.

Methods and material for containment and cleaning up

Ventilate affected area.

SECTION 7: Handling and storage**Precautions for safe handling****Advice on safe handling**

In case of open handling equipment with built-in suction must be used. Do not breathe gas/fumes/vapour/spray.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from sources of ignition
- No smoking.

Advice on storage compatibility

Do not store together with: Material, rich in oxygen, oxidizing.

SECTION 8: Exposure controls/personal protection**Control parameters****Exposure limits (EH40)**

CAS No.	Chemical name	ml/m ³	mg/m ³	F/ml	Category	Origin
106-97-8	Butane	600	1450		TWA (8 h)	WEL
		750	1810		STEL (15 min)	WEL

Exposure controls**Occupational exposure controls**

In case of open handling equipment with built-in suction must be used. Do not breathe gas/fumes/vapour/spray.

Protective and hygiene measures

Change contaminated clothing. Wash hands before breaks and at the end of work. When using do not eat or drink.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Freezer Spray

Print date: 06.03.2012

Product code: Miracold_Plus

Page 4 of 7

Hand protection

Tested protective gloves are to be worn: Butyl rubber. In the cases of special applications, it is recommended to check the chemical resistance with the manufacturer of the gloves.

Eye protection

Tightly sealed safety glasses.

Skin protection

Protective clothing:

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Physical state:	Aerosol
Colour:	colourless
Odour:	characteristic

Test method**Changes in the physical state**

Boiling point:	-0,5 °C
Flash point:	< 0 °C
Lower explosion limits:	1,2 vol. %
Upper explosion limits:	9,4 vol. %
Ignition temperature:	300 °C
Vapour pressure: (at 20 °C)	2100 hPa
Vapour pressure: (at 50 °C)	4900 hPa
Density:	0,56 g/cm ³

SECTION 10: Stability and reactivity**Reactivity**

No data available

Chemical stability

No data available

Possibility of hazardous reactions

No data available

Conditions to avoid

Keep away from heat. Ignition hazard.

Incompatible materials

No data available

Hazardous decomposition products

No data available

SECTION 11: Toxicological information**Information on toxicological effects**

Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Freezer Spray

Print date: 06.03.2012

Product code: Miracold_Plus

Page 5 of 7

Acute toxicity

CAS No.	Chemical name				
	Exposure routes	Method	Dose	Species	h
106-97-8	butane				
	Acute inhalation toxicity	LC50	658 ppm	Ratte	4

Additional information on tests

The classification was undertaken in accordance with the calculation method governed by the Preparations Directive (1999/45/EC).

SECTION 12: Ecological information**Toxicity**

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Bioaccumulative potential**Partition coefficient n-octanol/water**

CAS No.	Chemical name	Log Pow
106-97-8	butane	2,89
107-83-5	hexane (containing < 5 % n-hexane (203-777-6)); 2-methylpentane	3,21

Further information

Do not empty into drains or the aquatic environment. The classification was undertaken in accordance with the calculation method governed by the Preparations Directive (1999/45/EC).

SECTION 13: Disposal considerations**Waste treatment methods****Advice on disposal**

Waste disposal according to official state regulations.

Waste disposal number of waste from residues/unused products

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing dangerous substances
Classified as hazardous waste.

Waste disposal number of contaminated packaging

150104 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); metallic packaging

Contaminated packaging

Cleaned containers may be recycled. Handle contaminated packaging in the same way as the substance itself.

SECTION 14: Transport information**Land transport (ADR/RID)**

UN number: UN1950
UN proper shipping name: AEROSOLS
Transport hazard class(es): 2
Hazard label: 2.1

Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Freezer Spray

Print date: 06.03.2012

Product code: Miracold_Plus

Page 6 of 7



Classification code: 5F
 Special Provisions: 190 327 625
 Limited quantity: 1 L
 Transport category: 2
 Tunnel restriction code: D

Other applicable information (land transport)

E0

Inland waterways transport

UN number: UN1950
UN proper shipping name: AEROSOLS
Transport hazard class(es): 2
 Hazard label: 2.1



Classification code: 5F
 Special Provisions: 190 327 344 625
 Limited quantity: 1 L

Other applicable information (inland waterways transport)

E0

Marine transport

UN number: UN1950
UN proper shipping name: AEROSOLS
Transport hazard class(es): 2
Packing group: -
 Hazard label: 2, see SP63

Special Provisions: 63, 190, 277, 327, 344, 959
 Limited quantity: See SP277
 EmS: F-D, S-U

Other applicable information (marine transport)

E0

Air transport

UN/ID number: UN1950
UN proper shipping name: AEROSOLS, flammable
Transport hazard class(es): 2.1
 Hazard label: 2.1



Special Provisions: A145 A167

Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Freezer Spray

Print date: 06.03.2012

Product code: Miracold_Plus

Page 7 of 7

Limited quantity Passenger:	30 kg G	
IATA-packing instructions - Passenger:		203
IATA-max. quantity - Passenger:		75 kg
IATA-packing instructions - Cargo:		203
IATA-max. quantity - Cargo:		150 kg

Other applicable information (air transport)

E0
: Y203

Environmental hazards

Dangerous for the environment: no

SECTION 15: Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

1999/13/EC (VOC): 65,5 % (366,8 g/l)

National regulatory information**SECTION 16: Other information****Full text of R-phrases referred to under sections 2 and 3**

- | | |
|-------|---|
| 11 | Highly flammable. |
| 12 | Extremely flammable. |
| 38 | Irritating to skin. |
| 51 | Toxic to aquatic organisms. |
| 52/53 | Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| 53 | May cause long-term adverse effects in the aquatic environment. |
| 65 | Harmful: may cause lung damage if swallowed. |
| 67 | Vapours may cause drowsiness and dizziness. |

Full text of H-Statements referred to under sections 2 and 3

- | | |
|------|--|
| H220 | Extremely flammable gas. |
| H225 | Highly flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H336 | May cause drowsiness or dizziness. |
| H411 | Toxic to aquatic life with long lasting effects. |

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.10.2015

Version number 1

Revision: 15.10.2015

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

- **1.1 Product identifier**
- **Trade name:** Miracold Plus Spray / 200ml
- **Article number:** '554 213
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the preparation:** Cold spray
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Hager & Werken GmbH & Co.KG
Ackerstrasse 1
47269 Duisburg

Tel.: +49 (0) 203 / 99 26 90
Fax: +49 (0) 203 / 29 92 83
e - Mail: info@hagerwerken.de
- **Further information obtainable from:** Abteilung Produktsicherheit
- **1.4 Emergency telephone number:**
Giftinformationszentrum Nord der Länder Bremen, Hamburg, Niedersachsen und Schleswig-Holstein (GIZ Nord),
Georg August Universität Göttingen, Zentrum Pharmakologie und Toxikologie,
Robert Koch Straße 40,
37075 Göttingen
Tel.: 0551/192 40
Fax: 0551/383 1881
E-Mail: giznord@giz-nord.de
Notrufnummer: +49(0)551/19240

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS02
- **Signal word** Danger
- **Hazard statements**
H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
- **Precautionary statements**
 - P101 If medical advice is needed, have product container or label at hand.
 - P102 Keep out of reach of children.
 - P103 Read label before use.
 - 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.
 - P211 Do not spray on an open flame or other ignition source.
 - P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
- **Additional information:**
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.
Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking.
Buildup of explosive mixtures possible without sufficient ventilation.

(Contd. on page 2)

EU

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.10.2015

Version number 1

Revision: 15.10.2015

Trade name: Miracold Plus Spray / 200ml




(Contd. of page 1)

- **2.3 Other hazards** Contact with the liquid may cause frost damage and serious eye injuries.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 106-97-8 EINECS: 203-448-7 Index number: 601-004-00-0	butane	 Flam. Gas 1, H220; Press. Gas, H280	50-100%
CAS: 74-98-6 EINECS: 200-827-9 Index number: 601-003-00-5	propane	 Flam. Gas 1, H220; Press. Gas, H280	10-25%
CAS: 75-28-5 EINECS: 200-857-2 Index number: 601-004-00-0	isobutane	 Flam. Gas 1, H220; Press. Gas, H280	2,5-10%

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
- **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

(Contd. on page 3)

EU

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.10.2015

Version number 1

Revision: 15.10.2015

Trade name: **Miracold Plus Spray / 200ml**

(Contd. of page 2)

See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Open and handle receptacle with care.
- **Information about fire - and explosion protection:**
 - Do not spray onto a naked flame or any incandescent material.
 - Keep ignition sources away - Do not smoke.
 - Protect against electrostatic charges.
 - Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C, i.e. electric lights. Do not pierce or burn, even after use.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
 - Store in a cool location.
 - Observe official regulations on storing packagings with pressurized containers.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Do not seal receptacle gas tight.
 - Store in cool, dry conditions in well sealed receptacles.
 - Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
 - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - The usual precautionary measures are to be adhered to when handling chemicals.
- **Respiratory protection:** Not required.
- **Protection of hands:** Not required.
- **Material of gloves**
 - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
 - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

EU

(Contd. on page 4)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 15.10.2015

Version number 1

Revision: 15.10.2015

Trade name: *Miracold Plus Spray / 200ml*

(Contd. of page 3)

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Aerosol
Colour:	Colourless
Odour:	Characteristic
Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Not applicable, as aerosol.

· Flash point: ~ - 80 °C (closed cup)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 365 °C

· Decomposition temperature: Not determined.

· Self-igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

Lower:	1,5 Vol %
Upper:	10,9 Vol %

· Vapour pressure at 20 °C: ~ 2700 hPa

Density at 20 °C:	0,56 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not applicable.

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents:	100,00 %
VOC (EC)	100,00 %

· 9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

· 10.1 Reactivity No hazardous reactions known when used according to instructions.

· 10.2 Chemical stability

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· 10.3 Possibility of hazardous reactions No dangerous reactions known.

· 10.4 Conditions to avoid No further relevant information available.

· 10.5 Incompatible materials: No further relevant information available.

(Contd. on page 5)

EU

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.10.2015

Version number 1

Revision: 15.10.2015

Trade name: *Miracold Plus Spray / 200ml*

(Contd. of page 4)

· **10.6 Hazardous decomposition products:** *No dangerous decomposition products known.*

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**· **Acute toxicity:**· **Primary irritant effect:**· **on the skin:** *No irritant effect.*· **on the eye:** *No irritating effect.*· **Sensitization:** *No sensitizing effects known.*

SECTION 12: Ecological information

· **12.1 Toxicity**· **Aquatic toxicity:** *No further relevant information available.*· **12.2 Persistence and degradability** *No further relevant information available.*· **12.3 Bioaccumulative potential** *No further relevant information available.*· **12.4 Mobility in soil** *No further relevant information available.*· **Additional ecological information:**· **General notes:** *Generally not hazardous for water*· **12.5 Results of PBT and vPvB assessment**· **PBT:** *Not applicable.*· **vPvB:** *Not applicable.*· **12.6 Other adverse effects** *No further relevant information available.*

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**· **Recommendation***Must not be disposed together with household garbage. Do not allow product to reach sewage system.*· **European waste catalogue**14 06 03* *other solvents and solvent mixtures*15 01 04 *metallic packaging*· **Uncleaned packaging:**· **Recommendation:** *Disposal must be made according to official regulations.*

SECTION 14: Transport information

· **14.1 UN-Number**· **ADR, IMDG, IATA**

UN1950

· **14.2 UN proper shipping name**· **ADR**

1950 AEROSOLS

· **IMDG**

AEROSOLS

· **IATA**

AEROSOLS, flammable

(Contd. on page 6)

EU

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 15.10.2015

Version number 1

Revision: 15.10.2015

Trade name: *Miracold Plus Spray / 200ml*

(Contd. of page 5)

· **14.3 Transport hazard class(es)**· **ADR**

- **Class** 2 5F Gases.
- **Label** 2.1

· **IMDG, IATA**

- **Class** 2.1
- **Label** 2.1

· **14.4 Packing group**

- **ADR, IMDG, IATA** Void

· **14.5 Environmental hazards:**

- **Marine pollutant:** No

· **14.6 Special precautions for user**

- **Danger code (Kemler):** Warning: Gases.
- **EMS Number:** -

F-D,S-U

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**· **ADR**

- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E0
Not permitted as Excepted Quantity
- **Transport category** 2
- **Tunnel restriction code** D

· **IMDG**

- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E0
Not permitted as Excepted Quantity

· **UN "Model Regulation":**

UN1950, AEROSOLS, 2.1

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H220 Extremely flammable gas.

(Contd. on page 7)

EU

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 15.10.2015

Version number 1

Revision: 15.10.2015

Trade name: Miracold Plus Spray / 200ml

(Contd. of page 6)

*H280 Contains gas under pressure; may explode if heated.***· Abbreviations and acronyms:***ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**GHS: Globally Harmonized System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**Flam. Gas 1: Flammable gases, Hazard Category 1**Flam. Aerosol 1: Flammable aerosols, Hazard Category 1**Press. Gas: Gases under pressure: Compressed gas*

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