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

1.1 Product identifier

Occlu Spray Plus Spraydose grün
Article number: 554211

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

1.2.1 Relevant uses

Occlusion spray

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

Hager & Werken GmbH & Co. KG
Ackerstr. 1
47269 Duisburg / GERMANY
Phone +49(0)203-99269-0
Fax +49 (0)203 29 92 83
Homepage www.hagerwerken.de
E-mail info@hagerwerken.de

Address enquiries to

Technical information info@hagerwerken.de

Safety Data Sheet sdb@chemiebuero.de

1.4 Emergency telephone number

Advisory body +49 (0) 551-19240 Giftinformationszentrum-Nord

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture [REGULATION (GB) CLP]

Aerosol 1: H222 Extremely flammable aerosol. H229 Pressurised container: May burst if heated.
Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

The product is required to be labelled in accordance with regulation (EC) No 1272/2008 (CLP).

Hazard pictograms

Signal word DANGER

Hazard statements

H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C / 122°F.
P273 Avoid release to the environment.
P501 Dispose of contents/container in accordance with local/national regulation.

2.3 Other hazards

Environmental hazards

Does not contain any PBT or vPvB substances.
Contains no ingredients with endocrine-disrupting properties.

Other hazards Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

The product is a mixture.

Range [%]	Substance
30 - <70	Butane
	CAS: 106-97-8
	GHS/CLP: Flam. Gas 1: H220 - Press. Gas: H280
25 - <50	Propane
	CAS: 74-98-6
	GHS/CLP: Flam. Gas 1: H220 - Press. Gas: H280
1 - <5	iso-Butane
	CAS: 75-28-5
	GHS/CLP: Flam. Gas 1: H220 - Press. Gas: H280
2,5 - <5	Pentane
	CAS: 109-66-0
	GHS/CLP: Flam. Liq. 2: H225 - Asp. Tox. 1: H304 - STOT SE 3: H336 - Aquatic Chronic 2: H411

Comment on component parts Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
For full text of H-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Change soaked clothing.

Inhalation Ensure supply of fresh air.
In the event of symptoms seek medical treatment.

Skin contact In case of contact with skin wash off immediately with soap and water.
Consult a doctor if skin irritation persists.

Eye contact In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.

Ingestion Do not induce vomiting.
In the event of symptoms seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

Headache
Vertigo
Nausea, vomiting.
Irritant effects

4.3 Indication of any immediate medical attention and special treatment needed

treat symptomatically

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media Carbon dioxide.
Dry powder.
Foam.

Extinguishing media that must not be used Water.

5.2 Special hazards arising from the substance or mixture

risk of formation of toxic pyrolysis products, carbon monoxide (CO), not combusted hydrocarbons
Bursting aerosols can be forcibly projected from a fire.

5.3 Advice for firefighters

Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.
Cool containers at risk with water spray jet.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
Keep away from all sources of ignition.
Use personal protective equipment (protective gloves, safety glasses, protective clothing).

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, sawdust, universal absorbent, diatomaceous earth).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.
Avoid spilling or spraying in enclosed areas.

Keep away from all sources of ignition - Refrain from smoking.
Take precautionary measures against static discharges.

Do not eat, drink, smoke or take drugs at work.
Wash hands before breaks and after work.
Use barrier skin cream.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.

Do not store together with oxidizing agents.

Keep in a cool place, heat causes increase in pressure and risk of bursting.
Protect from heat/overheating and from sun.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

Substance
Butane
CAS: 106-97-8
Long-term exposure: 600 ppm, 1450 mg/m³
Short-term exposure (15-minute): 750 ppm, 1810 mg/m³
iso-Butane
CAS: 75-28-5
Long-term exposure: 600 ppm, 1450 mg/m³, (Butane)
Short-term exposure (15-minute): 750 ppm, 1810 mg/m³
Pentane
CAS: 109-66-0
Long-term exposure: 600 ppm, 1800 mg/m³

DNEL

Substance
Butane, CAS: 106-97-8
There are no DNEL values established for the substance.
Propane, CAS: 74-98-6
There are no DNEL values established for the substance.
iso-Butane, CAS: 75-28-5
There are no DNEL values established for the substance.
Pentane, CAS: 109-66-0
Industrial, dermal, Long-term - systemic effects, 432 mg/kg bw/day
Industrial, inhalative, Long-term - systemic effects, 3000 mg/m³
general population, oral, Long-term - systemic effects, 214 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 643 mg/m³
general population, dermal, Long-term - systemic effects, 214 mg/kg bw/day

PNEC

Substance
Butane, CAS: 106-97-8
There are no PNEC values established for the substance.
Propane, CAS: 74-98-6
There are no PNEC values established for the substance.
iso-Butane, CAS: 75-28-5
There are no PNEC values established for the substance.
Pentane, CAS: 109-66-0
soil, 550 µg/kg soil dw
sediment (seawater), 1.2 mg/kg sediment dw
sediment (freshwater), 1.2 mg/kg sediment dw
sewage treatment plants (STP), 3.6 mg/L
seawater, 230 µg/L
freshwater, 230 µg/L

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
Eye protection	Safety glasses. (EN 166:2001)
Hand protection	0,7 mm Butyl rubber, >480 min (EN 374-1/-2/-3). The details concerned are recommendations. Please contact the glove supplier for further information.
Skin protection	Solvent-resistant protective clothing (EN 340)
Other	Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier. Avoid contact with eyes and skin. Do not inhale aerosols.
Respiratory protection	In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear appropriate respiratory protection. Short term: filter apparatus, filter AX (DIN EN 14387).
Thermal hazards	No information available.
Delimitation and monitoring of the environmental exposition	not determined

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	aerosol
Color	green
Odor	characteristic
Odour threshold	not determined
pH-value	7 - 10
pH-value [1%]	not applicable
Boiling point [°C]	not applicable
Flash point [°C]	not determined
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	not determined
Upper explosion limit	not determined
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	270
Density [g/cm³]	0,79 - 0,89 (Liquid)
Relative density	not determined
Bulk density [kg/m³]	not applicable
Solubility in water	partially miscible
Solubility other solvents	No information available.
Partition coefficient [n-octanol/water]	not determined
Kinematic viscosity	not determined
Relative vapour density	not determined
Evaporation speed	not applicable
Melting point [°C]	not determined
Auto-ignition temperature	not determined
Decomposition temperature [°C]	not applicable
Particle characteristics	No information available.

9.2 Other information

none

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Heat causes increase in pressure and risk of bursting.

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

Strong oxidizing agent.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity Based on available data, the classification criteria are not met.

Substance
Pentane, CAS: 109-66-0
LD50, oral, Rat, >2000 mg/kg bw

Acute dermal toxicity Based on available data, the classification criteria are not met.

Acute inhalational toxicity Based on available data, the classification criteria are not met.

Substance
Butane, CAS: 106-97-8
LC50, inhalative, Rat, 658 mg/L (IUCLID)
Propane, CAS: 74-98-6
LC50, inhalative, Rat, > 1443 mg/l (15 min) (Lit.)
iso-Butane, CAS: 75-28-5
LC50, inhalative, mouse, 1237 mg/L
Pentane, CAS: 109-66-0
LC50, inhalative, Rat, 25.3 mg/L, 4h

Serious eye damage/irritation Based on available data, the classification criteria are not met.

Substance
Butane, CAS: 106-97-8
Eye, non-irritating
Propane, CAS: 74-98-6
Eye, non-irritating
iso-Butane, CAS: 75-28-5
Eye, non-irritating

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Substance
Butane, CAS: 106-97-8
dermal, non-irritating
Propane, CAS: 74-98-6
dermal, non-irritating
iso-Butane, CAS: 75-28-5
dermal, non-irritating

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Substance
Butane, CAS: 106-97-8
inhalative, non-sensitizing
dermal, non-sensitizing
Propane, CAS: 74-98-6
inhalative, non-sensitizing
dermal, non-sensitizing
iso-Butane, CAS: 75-28-5
inhalative, non-sensitizing

dermal, non-sensitizing

Specific target organ toxicity — single exposure Based on available data, the classification criteria are not met.

Substance
Butane, CAS: 106-97-8
inhalative, non-irritating
Propane, CAS: 74-98-6
inhalative, non-irritating
iso-Butane, CAS: 75-28-5
inhalative, non-irritating

Specific target organ toxicity — repeated exposure Based on available data, the classification criteria are not met.

Substance
Propane, CAS: 74-98-6
NOAEC, inhalative, Rat, 4437 mg/m³

Mutagenicity Does not contain a relevant substance that meets the classification criteria.

Reproduction toxicity Does not contain a relevant substance that meets the classification criteria.

Carcinogenicity Does not contain a relevant substance that meets the classification criteria.

Aspiration hazard Based on available data, the classification criteria are not met.

General remarks

Toxicological data of complete product are not available.
The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 12: Ecological information

12.1 Toxicity

Substance
Pentane, CAS: 109-66-0
EL50, (72h), Algae, 20.33 mg/L
EL50, (48h), Invertebrates, 48.11 mg/L
LL50, (96h), fish, 27.55 mg/L

12.2 Persistence and degradability

Behaviour in environment compartments not determined

Behaviour in sewage plant not determined

Biological degradability not determined

12.3 Bioaccumulative potential

Accumulation in organisms is not expected.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Endocrine disrupting properties

Contains no ingredients with endocrine-disrupting properties.

12.7 Other adverse effects

Ecological data of complete product are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with national regulations.

Product

Dispose of as hazardous waste.

Contaminated packaging

Uncontaminated packaging may be taken for recycling.

SECTION 14: Transport information

14.1 UN number or ID number

Transport by land according to ADR/RID	1950
Inland navigation (ADN)	1950
Marine transport in accordance with IMDG	1950
Air transport in accordance with IATA	1950

14.2 UN proper shipping name

Transport by land according to ADR/RID	Aerosols
- Classification Code	5F
- Label	
- ADR LQ	1 l
- ADR 1.1.3.6 (8.6)	Transport category (tunnel restriction code) 2 (D)
Inland navigation (ADN)	Aerosols
- Classification Code	5F
- Label	
Marine transport in accordance with IMDG	Aerosols
- EMS	F-D, S-U
- Label	
- IMDG LQ	1 l
Air transport in accordance with IATA	Aerosols, flammable
- Label	

14.3 Transport hazard class(es)

Transport by land according to ADR/RID	2
Inland navigation (ADN)	2
Marine transport in accordance with IMDG	2.1
Air transport in accordance with IATA	2.1

14.4 Packing group

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.5 Environmental hazards

Transport by land according to ADR/RID	no
Inland navigation (ADN)	no
Marine transport in accordance with IMDG	no
Air transport in accordance with IATA	no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

TRANSPORT-REGULATIONS	ADR (2021); IMDG-Code (2021, 40. Amdt.); IATA-DGR (2021)
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011).
- Observe employment restrictions for people	Observe employment restrictions for young people.
- VOC (2010/75/CE)	99 %

15.2 Chemical safety assessment

No information available.

SECTION 16: Other information

16.1 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ATE = acute toxicity estimate
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
EL50 = Median effective loading
ELINCS = European List of Notified Chemical Substances
EmS = Emergency Schedules
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform ChemicaL Information Database
IVIS = In vitro irritation score
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
LC0 = lethal concentration, 0%
LOAEL = lowest-observed-adverse-effect level
LL50 = Median lethal loading
LQ = Limited Quantities
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
STP = Sewage Treatment Plant
TLV®/TWA = Threshold limit value – time-weighted average
TLV®STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.2 Other information

Classification procedure

Aerosol 1: H222 Extremely flammable aerosol. (Bridging principle "Aerosols") H229
Pressurised container: May burst if heated. (Bridging principle "Aerosols")
Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects. ()

Modified position

none