

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Occlusion spray non flammable

Print date: 21.04.2015

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

1.1. Product identifier

Occlusion spray non flammable

Further trade names

(-green, -red, -blue, -white)

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

Use of the substance/mixture

Occlusion spray

1.3. Details of the supplier of the safety data sheet

Company name:	DIASWISS SA
Street:	Rte de St Cergue 293
Place:	CH-1260 Nyon
Telephone:	+41 (0) 22 301 56 00
Contact person:	Nghia Diep
e-mail:	mail@diaswiss.ch
Internet:	http://www.diaswiss.ch
1.4. Emergency telephone number:	+41 (0) 22 301 56 00 Mo-Fr 9 a.m. – 3 p.m. UTC+1

SECTION 2: Identification of hazards

2.1. Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC

R phrases:

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

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Hazard categories:

Aerosol: Aerosol 3

Specific target organ toxicity - single exposure: STOT SE 3

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Pressurized container: may burst if heated.

May cause drowsiness or dizziness.

Harmful to aquatic life with long lasting effects.

2.2. Label elements

Hazardous components which must be listed on the label

pentane

Signal word: Warning

Pictograms: GHS07



Hazard statements

Pressurized container: may burst if heated.

May cause drowsiness or dizziness.

Harmful to aquatic life with long lasting effects.

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Safety recommendations

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Do not pierce or burn, even after use.
Avoid breathing dust/fume/gas/mist/vapors/spray.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor if you feel unwell.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of waste according to applicable legislation

Special labelling of certain mixtures

< 10 % by mass of the contents is flammable.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification according to Directive 67/548/EEC	
Index No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
REACH No		
200-578-6	ethanol, ethyl alcohol	2.5 - < 5 %
64-17-5	F - Highly flammable, Xi - Irritant R11-36	
603-002-00-5	Flam. Liq. 2, Eye Irrit. 2; H225 H319	
01-2119457610-43		
203-692-4	pentane	2.5 - < 5 %
109-66-0	F+ - Extremely flammable, Xn - Harmful, N - Dangerous for the environment R12-65-66-67-51-53	
601-006-00-1	Flam. Liq. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H225 H336 H304 H411 EUH066	
01-2119459286-30		

Full text of R-, H- and EUH-phrases: see section 16.

SECTION 4: First aid

4.1. Description of first aid measures

After inhalation

Provide fresh air. In case of accident or indisposition, seek medical advice immediately (show directions for use or safety data sheet if possible).

After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash before reuse.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water.

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

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

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Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing devices

Suitable extinguishing devices

Adapt fire-fighting measures to the surroundings of the fire.

5.2. Special hazards arising from the substance or mixture

Non flammable.

5.3. Advice for firefighters

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

Additional information

Use water spray jet to protect persons and to cool endangered containers. Suppress gases/vapors/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow water to enter drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Do not breathe gas/fumes/vapor/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Do not pierce or burn, even after use. If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapor/spray.

Advice on protection against fire and explosion

Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.

Advice on storage compatibility

No special measures are necessary.

7.3. Specific end use(s)

Occlusion spray

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
811-97-2	1,1,1,2-Tetrafluoroethane (HFC 134a)	1000	4240		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL
109-66-0	Pentane	600	1800		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
64-17-5	ethanol, ethyl alcohol			
Worker DNEL, long-term		inhalation	systemic	950 mg/m ³
Worker DNEL, acute		inhalation	local	1900 mg/m ³
Worker DNEL, long-term		dermal	systemic	343 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	114 mg/m ³
Consumer DNEL, acute		inhalation	local	950 mg/m ³
Consumer DNEL, long-term		dermal	systemic	206 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	87 mg/kg bw/day

PNEC values

CAS No	Substance	Value
64-17-5	ethanol, ethyl alcohol	
Freshwater		0,96 mg/l
Marine water		0,79 mg/l
Micro organisms in sewage treatment plants (STP)		580 mg/l
Freshwater sediment		3,6 mg/kg
Marine sediment		2,9 mg/kg
Secondary poisoning		0,72 mg/kg
Soil		0,63 mg/kg

8.2. Exposure controls



Appropriate engineering controls

If handled uncovered, equipment with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapor/spray.

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Protective and hygiene measures

Remove contaminated, soaked clothing immediately. Draw up and observe skin protection program. Wash hands and face before breaks and after work and take a shower if necessary. Do not consume food or drinks while using the product.

Eye/face protection

Wear eye/face protection.

Hand protection

When handling chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals should be chosen depending on the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	red
Odour:	characteristic

Test method

pH-Value:	not determined
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Changes in the physical state

Melting point:	not determined
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Initial boiling point and boiling range:	-26 °C
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Flash point:	not determined
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Flammability

Solid:	not applicable
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Gas:	not applicable
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Lower explosion limits:	not determined
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Upper explosion limits:	not determined
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Ignition temperature:	400 °C
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Auto-ignition temperature

Solid:	not applicable
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Gas:	not applicable
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Decomposition temperature:	not determined
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Oxidizing properties

Not oxidizing.

Vapor pressure: (at 20 °C)	5740 hPa
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Vapor pressure: (at 50 °C)	13200 hPa
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Density:	not determined
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Water solubility:	insoluble
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Solubility in other solvents

not determined

Partition coefficient:

not determined

Vapor density:

not determined

Evaporation rate:

not determined

9.2. Other information

Solid content:

not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to instructions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

none

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

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

Acute toxicity

CAS No	Chemical name	Exposure routes	Method	Dose	Species	Source
64-17-5	ethanol, ethyl alcohol	oral	LD50	10470 mg/kg	Rat	OECD 401
		inhalative (4 h) vapour	LC50	117 mg/l	Rat	OECD 402
109-66-0	pentane	oral	LD50	>2000 mg/kg	Rat	OECD 401
		inhalative (4 h) vapour	LC50	364 mg/l	Rat	GESTIS

Irritation and corrosivity

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

Sensitising effects

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

STOT-single exposure

May cause drowsiness or dizziness (pentane).

Severe effects after repeated or prolonged exposure

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

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Carcinogenic/mutagenic/toxic effects for reproduction

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

Aspiration hazard

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

Additional information on tests

This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

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

CAS No	Chemical name					
	Aquatic toxicity	Method	Dose	[h] [d]	Species	Source
64-17-5	ethanol, ethyl alcohol					
	Acute fish toxicity	LC50	14200 mg/l	96 h	Pimephales promelas (fathead minnow)	IUCLID
	Acute crustacea toxicity	EC50 mg/l	9268 - 14221	48 h	Daphnia magna	IUCLID
109-66-0	pentane					
	Acute fish toxicity	LC50	4,26 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	OECD 203
	Acute algae toxicity	ErC50	7,51 mg/l	72 h	Scenedesmus subspicatus	OECD 201
	Acute crustacea toxicity	EC50	9,74 mg/l	48 h	Daphnia magna	IUCLID

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
64-17-5	ethanol, ethyl alcohol			
	OECD 301B/ ISO 9439/ EEC 92/69/V, C.4-C	97 %	28	IUCLID
	Readily biodegradable (according to OECD criteria).			
109-66-0	pentane			
	O2 consumption	87 %	28	OECD 301 F
	Readily biodegradable (according to OECD criteria).			

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
64-17-5	ethanol, ethyl alcohol	-0,31
109-66-0	pentane	3,39

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The product has not been tested.

12.6. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Waste disposal number of waste from residues/unused products

160505 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers other than those mentioned in 16 05 04

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN 1950
14.2. UN proper shipping name: AEROSOLS (Norflurane (R 134a))
14.3. Transport hazard class(es): 2
14.4. Packing group: -
 Hazard label: 2.2



Classification code: 5A
 Special provisions: 190 327 344 625
 Limited quantity: 1 L
 Transport category: 3
 Tunnel restriction code: E

Other applicable information (land transport)

Excepted quantity: E0

Inland waterways transport (ADN)

14.1. UN number: UN 1950
14.2. UN proper shipping name: AEROSOLS (Norflurane (R 134a))
14.3. Transport hazard class(es): 2
14.4. Packing group: -
 Hazard label: 2.2



Classification code: 5A
 Special provisions: 190 327 344 625
 Limited quantity: 1 L

Other applicable information (inland waterways transport)

Excepted quantity: E0

Marine transport (IMDG)

14.1. UN number: UN 1950

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14.2. UN proper shipping name: AEROSOLS (1,1,1,2-TETRAFLUOROETHANE (R 134a))

14.3. Transport hazard class(es): 2.2

14.4. Packing group: -

Hazard label: 2.2



Special provisions: 63, 190, 277, 327, 344, 959

Limited quantity: 1000 mL

EmS: F-D, S-U

Other applicable information (marine transport)

Excepted quantity: E0

Air transport (ICAO)

14.1. UN number: UN 1950

14.2. UN proper shipping name: AEROSOLS, non-flammable (1,1,1,2-TETRAFLUOROETHANE (R 134a))

14.3. Transport hazard class(es): 2.2

14.4. Packing group: -

Hazard label: 2.2



Special provisions: A98 A145 A167 A802

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)

Excepted quantity: E0

Passenger-LQ: Y203

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

No information available.

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

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

2010/75/EU (VOC): > 95 %

2004/42/EC (VOC): > 95 %

Additional information

To follow: 850/2004/EC, 689/2008/EC, 2008/47/EC

National regulatory information

Employment restrictions: Observe employment restrictions for adolescents.

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Water contaminating class (D): 2 - water contaminating

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
ethanol, ethyl alcohol
pentane

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,2,3,7,8,14,15.

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
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Relevant R-phrases (Number and full text)

Highly flammable.
Extremely flammable.
Irritating to eyes.
Toxic to aquatic organisms.
May cause long-term adverse effects in the aquatic environment.
Harmful: may cause lung damage if swallowed.
Repeated exposure may cause skin dryness or cracking.
Vapours may cause drowsiness and dizziness.

Relevant H- and EUH-phrases (Number and full text)

Highly flammable liquid and vapor.
Pressurized container: May burst if heated.
May be fatal if swallowed and enters airways.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Toxic to aquatic life with long lasting effects.
Harmful to aquatic life with long lasting effects.
Repeated exposure may cause skin dryness or cracking.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new material.

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