

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 09.01.2020

Version number 2001

Revision: 09.01.2020

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

1.1 Product identifier

Trade name: **RS-Spray**
 Article number: 5140-1092

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

Application of the substance / the mixture: Attachment for dental instruments

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Hager & Meisinger GmbH
 Hansemanstrasse 10
 41468 Neuss

Telephone: +49(0)2131/20 12 - 0
 Telefax: +49(0)2131/20 12 - 222
 e-mail : info@meisinger.de

Further information obtainable from: QMB : Frau Wiebke Eckhardt

1.4 Emergency telephone number:

Advice centre for poisoning university Mainz phone +49(0)6131/19240
 or poison information:+49(0)700/GIFTINFO

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
 Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
 Eye Irrit. 2 H319 Causes serious eye irritation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008
 Hazard pictograms

The product is classified and labelled according to the CLP regulation.



GHS02 GHS07

Signal word: Danger

Hazard statements: H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
 H319 Causes serious eye irritation.

Precautionary statements

P102 Keep out of reach of children.
 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.
 P264 Wash thoroughly after handling.
 P280 Wear eye protection / face protection.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Additional information: Buildup of explosive mixtures possible without sufficient ventilation.

2.3 Other hazards

Results of PBT and vPvB assessment
 PBT: Not applicable.
 vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Active substance with propellant

Dangerous components:

CAS: 106-97-8 EINECS: 203-448-7	butane (containing ≤ 0,1 % butadiene (106-99-0)) ⚠ Flam. Gas 1, H220; ⚠ Press. Gas C, H280	25 – 50%
CAS: 109-87-5 EINECS: 203-714-2	dimethoxymethane ⚠ Flam. Liq. 2, H225	10 – 25%
CAS: 67-64-1 EINECS: 200-662-2	acetone ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	10 – 25%
CAS: 74-98-6 EINECS: 200-827-9	propane ⚠ Flam. Gas 1, H220; ⚠ Press. Gas C, H280	10 – 25%
CAS: 75-28-5 EINECS: 200-857-2	isobutane (containing ≤ 0,1 % butadiene (106-99-0)) ⚠ Flam. Gas 1, H220; ⚠ Press. Gas C, H280	< 2.5%

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. Additional information: For the wording of the listed hazard phrases refer to section 16.

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SECTION 4: First aid measures**4.1 Description of first aid measures**

- . General information: Immediately remove any clothing soiled by the product.
Take affected persons out of danger area and lay down.
Position and transport stably in side position.
- . After inhalation: Supply fresh air; consult doctor in case of complaints.
- . After skin contact: Wash with water and soap and rinse thoroughly
If skin irritation continues, consult a doctor.
- . After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- . After swallowing: Seek immediate medical advice.
A person vomiting while laying on their back should be turned onto their side.

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, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- . For safety reasons unsuitable extinguishing agents: Water in the full ray
- . **5.2 Special hazards arising from the substance or mixture**
- Formation of toxic gases is possible during heating or in case of fire.
- . **5.3 Advice for firefighters**
- . Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- . **6.1 Personal precautions, protective equipment and emergency procedures**
- Keep away from ignition sources.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Do not get in eyes, on skin, or on clothing.
- . **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 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- . **7.1 Precautions for safe handling**
- . Information about fire - and explosion protection: Keep away from heat and direct sunlight.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Pressurised 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.
Do not spray onto a naked flame or any incandescent material.
- . **7.2 Conditions for safe storage, including any incompatibilities**
- . Storage: Store in a cool location.
Observe official regulations on storing packagings with pressurised containers.
- . Requirements to be met by storerooms and receptacles: Store away from foodstuffs.
Do not store together with oxidising and acidic materials.
- . Information about storage in one common storage facility: Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
- . Further information about storage conditions: No further relevant information available.
- . **7.3 Specific end use(s)**

SECTION 8: Exposure controls/personal protection

- . Additional information about design of technical facilities: No further data; see item 7.

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8.1 Control parameters

. Ingredients with limit values that require monitoring at the workplace:

CAS: 106-97-8 butane (containing ≤ 0,1 % butadiene (106-99-0))

WEL	Short-term value: 1810 mg/m ³ , 750 ppm Long-term value: 1450 mg/m ³ , 600 ppm Carc (if more than 0.1% of buta-1.3-diene)
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CAS: 109-87-5 dimethoxymethane

WEL	Short-term value: 3950 mg/m ³ , 1250 ppm Long-term value: 3160 mg/m ³ , 1000 ppm
-----	---

CAS: 67-64-1 acetone

WEL	Short-term value: 3620 mg/m ³ , 1500 ppm Long-term value: 1210 mg/m ³ , 500 ppm
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. DNELs

CAS: 109-87-5 dimethoxymethane

Oral	DNEL Long-term - systemic effects	18.1 mg/kg bw/day (general (Allgemeinbevölkerung))
Dermal	DNEL Long-term - systemic effects	18.1 mg/kg bw/day (general (Allgemeinbevölkerung)) 17.9 mg/kg bw/day (employee / Arbeitnehmer)
Inhalative	DNEL Long-term - systemic effects	31.5 mg/m ³ (general (Allgemeinbevölkerung)) 126.6 mg/m ³ (employee / Arbeitnehmer)

CAS: 67-64-1 acetone

Oral	DNEL Long-term - systemic effects	62 mg/kg bw/day (general (Allgemeinbevölkerung))
Dermal	DNEL Long-term - systemic effects	62 mg/kg bw/day (general (Allgemeinbevölkerung)) 186 mg/kg bw/day (Workers (Arbeitnehmer))
Inhalative	DNEL Acute - local effects DNEL Long-term - systemic effects	2,420 mg/m ³ (Workers (Arbeitnehmer)) 200 mg/m ³ (general (Allgemeinbevölkerung)) 1,210 mg/m ³ (Workers (Arbeitnehmer))

CAS: 73398-61-5 Glycerides, mixed decanoyl and octanoyl

Oral	DNEL Long-term - systemic effects	12.61 mg/kg bw/day (general (Allgemeinbevölkerung))
Dermal	DNEL Long-term - systemic effects	12.61 mg/kg bw/day (general (Allgemeinbevölkerung)) 25.21 mg/kg bw/day (Workers (Arbeitnehmer))
Inhalative	DNEL Long-term - systemic effects	43.84 mg/m ³ (general (Allgemeinbevölkerung)) 177.79 mg/m ³ (Workers (Arbeitnehmer))

. PNECs

CAS: 109-87-5 dimethoxymethane

PNEC Soil (Boden)	4.65 mg/kg
PNEC fresh water sediment (Süßwassersediment)	13.135 mg/kg
PNEC fresh water (Süßwasser)	14.5 mg/l
PNEC marine water sediment	1.3135 mg/kg
PNEC Marine water	1.48 mg/l

CAS: 67-64-1 acetone

PNEC Soil (Boden)	29.5 mg/kg ()
PNEC fresh water sediment (Süßwassersediment)	30.4 mg/kg ()
PNEC fresh water (Süßwasser)	10.6 mg/l ()
PNEC marine water sediment	14 mg/kg ()
PNEC Marine water	1.06 mg/l ()
PNEC-STP	100 mg/l ()

. Additional information:

The lists valid during the making were used as basis.

8.2 Exposure controls. Personal protective equipment:
. General protective and hygienic measures:Avoid close or long term contact with the skin.
Do not eat or drink while working.

Wash hands before breaks and at the end of work.

. Respiratory protection:

Use suitable respiratory protective device in case of insufficient ventilation.

. Protection of hands:

Solvent resistant gloves

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

. Material of gloves

Nitrile rubber, NBR

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.

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- . Penetration time of glove material Value for the permeation: Level \leq 0,7 mm 480min (8h) EN374
The determined penetration times according to EN 16523-1:2015 are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.
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

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

- | | |
|--|----------|
| Initial boiling point and boiling range: | -44.5 °C |
|--|----------|

- | | |
|--------------|--------|
| Flash point: | -97 °C |
|--------------|--------|

- | | |
|----------------------------|-----------------|
| Flammability (solid, gas): | Not applicable. |
|----------------------------|-----------------|

- | | |
|-----------------------|--------|
| Ignition temperature: | 235 °C |
|-----------------------|--------|

- | | |
|----------------------------|-----------------|
| Decomposition temperature: | Not determined. |
|----------------------------|-----------------|

- | | |
|----------------------------|------------------------------|
| Auto-ignition temperature: | Product is not selfigniting. |
|----------------------------|------------------------------|

- | | |
|-----------------------|---|
| Explosive properties: | Product is not explosive. However, formation of explosive air/vapour mixtures are possible. |
|-----------------------|---|

Explosion limits:

- | | |
|--------|------------|
| Lower: | 1.5 Vol % |
| Upper: | 17.6 Vol % |

- | | |
|---------------------------|-----------|
| Vapour pressure at 20 °C: | 8,300 hPa |
|---------------------------|-----------|

- | | |
|-------------------|-------------------------|
| Density at 20 °C: | 0.726 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. |
|----------|-----------------|

Solvent content:

- | | |
|-------------------|--------|
| Organic solvents: | 96.4 % |
| Water: | 0.0 % |
| VOC (EC) | 97.5 % |

- | | |
|-----------------|--------|
| Solids content: | 44.1 % |
|-----------------|--------|

- | | |
|------------------------------|--|
| 9.2 Other information | No further relevant information available. |
|------------------------------|--|

SECTION 10: Stability and reactivity

10.1 Reactivity

- | |
|--|
| No further relevant information available. |
|--|

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. |
|-------------------------------|

- | |
|--|
| No further relevant information available. |
|--|

10.5 Incompatible materials:

- | |
|--|
| No further relevant information available. |
|--|

10.6 Hazardous decomposition products:

- | |
|---|
| Hazardous thermal decomposition products may include: Formaldehyde, Carbon dioxide, Carbon monoxide, Methanol |
|---|

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

LD/LC50 values relevant for classification:

CAS: 109-87-5 dimethoxymethane

- | | | |
|------|------|-------------------|
| Oral | LD50 | 6,453 mg/kg (rat) |
|------|------|-------------------|

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Dermal	LD50	> 5,000 mg/kg (rabbit)
CAS: 67-64-1 acetone		
Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	> 15,688 mg/kg (rabbit)
Inhalative	LC50/4h	76 mg/l (rat)
CAS: 73398-61-5 Glycerides, mixed decanoyl and octanoyl		
Oral	LD50	> 5,000 mg/kg (rat)
Dermal	LD50	> 2,000 mg/kg (rat)
. Primary irritant effect:		
. Skin corrosion/irritation		Based on available data, the classification criteria are not met.
. Serious eye damage/irritation		
CAS: 67-64-1 acetone		
Schwere Augenschädigung/-reizung (rabbit) (Acute Eye Irritation/Corrosion)		
Causes serious eye irritation.		
. Respiratory or skin sensitisation		Based on available data, the classification criteria are not met.
. CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)		
. Germ cell mutagenicity		Based on available data, the classification criteria are not met.
. Carcinogenicity		Based on available data, the classification criteria are not met.
. Reproductive toxicity		Based on available data, the classification criteria are not met.
. STOT-single exposure		Based on available data, the classification criteria are not met.
. STOT-repeated exposure		Based on available data, the classification criteria are not met.
. Aspiration hazard		Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

. 12.1 Toxicity

. Aquatic toxicity:

CAS: 106-97-8 butane (containing ≤ 0,1 % butadiene (106-99-0))

EC50 (96h) 7.71 mg/l (Algae)

LC50 (96h) 27.98 mg/l (Fisch)

CAS: 109-87-5 dimethoxymethane

EC50 (48h) > 1,000 mg/l (daphnia magna/gr. Wasserfloh)

LC50 (96h) > 1,000 mg/l (Brachydanio rerio)

CAS: 67-64-1 acetone

EC50 (48h) > 100 mg/l (daphnia magna/gr. Wasserfloh) (Daphnia sp. Acute Immobilisation Test)

EC50 (96h) 8,300 mg/l (Lepomis macrochirus)

7,500 mg/l (Selenastrum capricornutum)

LC50 (96h) 7,500 mg/l (Leuciscus idus (Goldorfe))

6,500 mg/l (Oncorhynchus mykiss)

8,120 mg/l (Pimephales promelas (fettköpf. Ellritze)) (Fish, Acute Toxicity Test)

CAS: 74-98-6 propane

EC50 (96h) 7.71 mg/l (Algae)

LC50 (96h) 27.98 mg/l (Fisch)

CAS: 73398-61-5 Glycerides, mixed decanoyl and octanoyl

EC0 (18h) > 100 mg/l (Pseudomonas putida) (Mikroorganismen/Wirkung auf Belebtschlamm)

EC50 > 100 mg/l (daphnia magna/gr. Wasserfloh)

> 100 mg/l (Scenedesmus subspicatus)

LC50 (72h) > 100 mg/l (Brachydanio rerio) (Fish, Acute Toxicity Test)

CAS: 75-28-5 isobutane (containing ≤ 0,1 % butadiene (106-99-0))

EC50 (96h) 7.71 mg/l (Algae)

LC50 (96h) 27.98 mg/l (Fisch)

. 12.2 Persistence and degradability

CAS: 109-87-5 dimethoxymethane

Biodegradability 30d | 88 %

CAS: 67-64-1 acetone

Biodegradability | 81 – 92 % (aerob) ((Derterm. of the "Ready" Biodegr. Closed Bottle))

. 12.3 Bioaccumulative potential

CAS: 67-64-1 acetone

Log Kow | 0.24

. 12.4 Mobility in soil

No further relevant information available.

. Additional ecological information:

. General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

. 12.5 Results of PBT and vPvB assessment

. PBT:

Not applicable.

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. vPvB: Not applicable.
 . 12.6 Other adverse effects: No further relevant information available.

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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

HP3 | Flammable

. 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

. 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): -
 . EMS Number: F-D,S-U
 . Stowage Code: SW1 Protected from sources of heat.
 SW22 For AEROSOLS with a maximum capacity of 1 litre:
 Category A. For AEROSOLS with a capacity above 1 litre:
 Category B. For WASTE AEROSOLS: Category C, Clear of living quarters.
 SG69 For AEROSOLS with a maximum capacity of 1 litre:
 Segregation as for class 9. Stow "separated from" class 1 except for division 1.4.
 For AEROSOLS with a capacity above 1 litre:
 Segregation as for the appropriate subdivision of class 2.
 For WASTE AEROSOLS:
 Segregation as for the appropriate subdivision of class 2.

. 14.7 Transport in bulk according to Annex II of Marpol 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

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. UN "Model Regulation":

UN 1950 AEROSOLS, 2.1

SECTION 15: Regulatory information

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

. Directive 2012/18/EU

. Named dangerous substances - ANNEX I

None of the ingredients is listed.

. Seveso category

P3a FLAMMABLE AEROSOLS

. Qualifying quantity (tonnes) for the application of lower-tier requirements

150 t

. Qualifying quantity (tonnes) for the application of upper-tier requirements

500 t

. REGULATION (EC) No 1907/2006 ANNEX XVII

Conditions of restriction: 3

. 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.

. Department issuing SDS:

Environment protection department.

. Contact:

QMB Helmut Pötgen

. 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 Harmonised 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)
 DNEL: Derived No-Effect Level (REACH)
 PNEC: Predicted No-Effect Concentration (REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Flam. Gas 1: Flammable gases – Category 1
 Aerosol 1: Aerosols – Category 1
 Press. Gas C: Gases under pressure – Compressed gas
 Flam. Liq. 2: Flammable liquids – Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

. * Data compared to the previous version altered.

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