

## SAFETY DATA SHEET

according to Regulation (EU) 2015/830

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VERSION: 1.2

**1. SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Trade name	Occlusionsspray
Product code	150855, 150840, 150800, 150805, 150870, 150860
SDS Number	5380
Product use	Professional use

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

Relevant identified uses	Coating
Uses advised against	intraoral application

**1.3. Details of the supplier of the safety data sheet****Supplier**

Dentaco GmbH & Co.KG  
 Max-Keith-Str. 46  
 45136 Essen  
 Deutschland  
 Tel.: + 49 ( 0) 201/ 8098290  
 Fax: + 49 (0) 201/ 80982999  
 Internet: www.dentaco.de ; info@dentaco.de  
 E-Mail: HSE@rle.de

**1.4. Emergency telephone number**

+ 49 ( 0) 201/ 8098290 (Mo. - Fr. 09:00 - 17:00)

**2. SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008**

<b>Physical hazards</b>	Aerosol, Category 1	H222;H229	Extremely flammable aerosol. Pressurised container: May burst if heated.
<b>Health hazards</b>	Specific target organ toxicity — Single exposure, Category 3, Narcosis	H336	May cause drowsiness or dizziness.
<b>Environmental hazards</b>	Hazardous to the aquatic environment — Chronic Hazard, Category 3	H412	Harmful to aquatic life with long lasting effects.

**2.2. Label elements****Labelling according to Regulation (EC) No. 1272/2008****Hazard pictograms****Signal word**

Danger

**Hazard statements**

H222

Extremely flammable aerosol.

H229 Pressurised container: May burst if heated.  
H336 May cause drowsiness or dizziness.  
H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention**

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.

**Storage**

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C.

**Supplemental hazard information**

Extra phrases For professional users only.

**2.3. Other hazards**

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII.  
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII.

**3. SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

Chemical name	CAS- No EC- No Index No RRN	%	Classification according to Regulation (EC) No. 1272/2008	Notes
Butane	106-97-8 203-448-7 601-004-00-0	50 - < 100	Flam. Gas 1, H220	Note U, Note C
Propane	74-98-6 200-827-9 601-003-00-5	10- < 25	Flam. Gas 1, H220	Note U
isobutane	75-28-5 200-857-2 601-004-00-0	1 - < 10	Flam. Gas 1, H220	Note U, Note C
pentane	109-66-0 203-692-4 601-006-00-1 01-2119459286-30-XXXX	1 - < 10	Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	#, Note C

#: This substance has been assigned Community workplace exposure limit(s)

Note: Regulation No. 1272/2008 - Annex VI

Full text of H-statements: see section 16

**4. SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**Inhalation:**

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

**Skin contact:**

Wash skin with plenty of water. If skin irritation or rash occurs: Get medical advice/attention.

<b>Eyes contact</b>	Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.
<b>Ingestion</b>	Get medical advice/attention.
<b>4.2. Most important symptoms and effects, both acute and delayed</b>	
<b>Symptoms/effects:</b>	May cause drowsiness or dizziness.
<b>4.3. Indication of any immediate medical attention and special treatment needed</b>	
	Provide general supportive measures and treat symptomatically.
<b>5. SECTION 5: Firefighting measures</b>	
<b>5.1. Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Water spray. Dry chemical, CO <sub>2</sub> , dry sand, or alcohol-resistant foam.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>5.2. Special hazards arising from the substance or mixture</b>	
<b>Fire hazard</b>	Extremely flammable aerosol.
<b>Explosion hazard</b>	Pressurised container: May burst if heated.
<b>Reactivity in case of fire</b>	In the event of fire hazardous gases may occur.
<b>5.3. Advice for firefighters</b>	
<b>Firefighting instructions</b>	Move container from fire area if it can be done without risk. Use water spray or fog for cooling exposed containers.
<b>Protection during firefighting</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Wear fire/flame resistant/retardant clothing.
<b>Other information</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>6. SECTION 6: Accidental release measures</b>	
<b>6.1. Personal precautions, protective equipment and emergency procedures</b>	
<b>General measures</b>	Do not handle until all safety precautions have been read and understood. Eliminate every possible source of ignition.
<b>For non-emergency personnel</b>	
<b>Emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
<b>For emergency responders</b>	
<b>Protective equipment</b>	Wear recommended personal protective equipment.
<b>Emergency procedures</b>	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the MSDS.
<b>6.2. Environmental precautions</b>	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
<b>6.3. Methods and material for containment and cleaning up</b>	
<b>Methods for cleaning up</b>	Remove all sources of ignition. Keep away from combustible material. Stop the leak.
<b>Other information</b>	Prevent entry into waterways, sewer, basements or confined areas.

**6.4. Reference to other sections** For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

## 7. SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Precautions for safe handling** Keep away from sources of ignition - No smoking. Do not pierce or burn, even after use. Use only outdoors or in a well-ventilated area. Ground/bond container and receiving equipment. Avoid prolonged exposure. Avoid contact with eyes. Observe good industrial hygiene practices. Do not eat, drink or smoke when using this product. Wear appropriate personal protective equipment. Keep only in original container. Avoid release to the environment.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage conditions** Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F. Store in a well-ventilated place. Keep container tightly closed. Keep away from ignition sources.

**Storage class (LGK)** LGK 2B - Aerosols

**7.3. Specific end use(s)** Coating.

## 8. SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### EU

Regulation	Substance	Type	Value
COMMISSION DIRECTIVE 2006/15/EC	<b>pentane (109-66-0)</b>	IOELV TWA	3000 mg/m <sup>3</sup>
	Pentane	IOELV TWA	1000 ppm

#### Germany - TRGS900

Regulation	Substance	Type	Value
TRGS900	<b>Butane (106-97-8)</b> Butan	Occupational exposure limit value	2400 mg/m <sup>3</sup>
		Occupational exposure limit value	1000 ppm
		Limitation of exposure peaks	9600 mg/m <sup>3</sup>
		Limitation of exposure peaks	4000 ppm
		Remark	DFG
		Occupational exposure limit value	1800 mg/m <sup>3</sup>
	<b>Propane (74-98-6)</b> Propan	Occupational exposure limit value	1000 ppm
		Limitation of exposure peaks	7200 mg/m <sup>3</sup>
		Limitation of exposure peaks	4000 ppm
		Remark	DFG
		Occupational exposure limit value	2400 mg/m <sup>3</sup>
		Occupational exposure limit value	1000 ppm
		Limitation of exposure peaks	9600 mg/m <sup>3</sup>
<b>isobutane (75-28-5)</b> Isobutan	Limitation of exposure peaks	4000 ppm	
	Remark	DFG	

## Germany - TRGS900

pentane (109-66-0) Pentan	Occupational exposure limit value	3000 mg/m <sup>3</sup>
	Occupational exposure limit value	1000 ppm
	Limitation of exposure peaks	6000 mg/m <sup>3</sup>
	Limitation of exposure peaks	2000 ppm
	Remark	DFG,EU,Y

### DNEL: Derived no effect level

No data available

Components	Type	Route	Value	Form
pentane (109-66-0)	Worker	Dermal	432 mg/kg bodyweight/day	Long-term - systemic effects
		Inhalation:	3000 mg/m <sup>3</sup>	Long-term - systemic effects
	Consumer	Oral	214 mg/kg bodyweight/day	Long-term - systemic effects
		Inhalation:	643 mg/m <sup>3</sup>	Long-term - systemic effects
		Dermal	214 mg/kg bodyweight/day	Long-term - systemic effects

### PNEC: Predicted no effect concentration

No data available

Components	Type	Route	Value	Form
pentane (109-66-0)	Not applicable	Freshwater	230 µg/L	
		Seawater	230 µg/L	
		Freshwater	880 µg/L	Intermittent release
		sediment	1.2 mg/kg dwt	Freshwater
		sediment	1.2 mg/kg dwt	Seawater
		Soil	0.55 mg/kg dwt	
		STP	3600 µg/L	

## 8.2. Exposure controls

### Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level

### Materials for protective clothing

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment

### Individual protection measures, such as personal protective equipment (PPE)

#### Eye protection

If skin or eye contact with the product is probable, protective glasses with side shield are recommended

#### Skin protection

##### Hand protection

Wear appropriate protective gloves for prolonged or repeated skin contact

##### Other protective measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

<b>Thermal hazard protection</b>	Wear appropriate thermal protective clothing, when necessary.
<b>Environmental exposure controls</b>	Inform appropriate managerial or supervisory personnel of all environmental releases.

## 9. SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	Aerosol
<b>Appearance</b>	Aerosol.
<b>Colour</b>	Green. Blue. Red.
<b>Odour</b>	Characteristic.
<b>Odour threshold</b>	No data available
<b>pH</b>	No data available
<b>Relative evaporation rate (butylacetate=1)</b>	No data available
<b>Melting point</b>	No data available
<b>Freezing point</b>	No data available
<b>Boiling point</b>	-44 °C
<b>Flash point</b>	Aerosol Not applicable
<b>Auto-ignition temperature</b>	No data available
<b>Decomposition temperature</b>	No data available
<b>Flammability (solid, gas)</b>	Extremely flammable aerosol
<b>Vapour pressure</b>	2700 hPa (@ 20 °C)
<b>Relative vapour density at 20 °C</b>	No data available
<b>Relative density</b>	No data available
<b>Density</b>	1.28 g/m <sup>3</sup>
<b>Solubility</b>	Water: Negligible
<b>Log Pow</b>	No data available
<b>Viscosity, kinematic</b>	No data available
<b>Viscosity, dynamic</b>	No data available
<b>Explosive properties</b>	May form explosive/flammable vapor/air mixtures during use.
<b>Oxidising properties</b>	No data available
<b>Lower explosive limit (LEL)</b>	1.5 vol %
<b>Upper explosive limit (UEL)</b>	10.9 vol %

### 9.2. Other information

<b>VOC (EU)</b>	Not applicable.
<b>Ignition temperature</b>	365 °C (689 °F)

## 10. SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	Extremely flammable aerosol. Pressurised container: May burst if heated.
<b>10.2. Chemical stability</b>	Stable under normal conditions of use.
<b>10.3. Possibility of hazardous reactions</b>	No dangerous reactions known under normal conditions of use.
<b>10.4. Conditions to avoid</b>	Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.
<b>10.5. Incompatible materials</b>	Strong oxidizers.

**10.6. Hazardous decomposition products** Carbon monoxide. Carbon dioxide. Hydrocarbon fragments.

## 11. SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

<b>Acute toxicity</b>	Based on available data, the classification criteria are not met
<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met
<b>Serious eye damage/irritation</b>	Based on available data, the classification criteria are not met
<b>Respiratory or skin sensitisation</b>	Based on available data, the classification criteria are not met
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met
<b>STOT-single exposure</b>	May cause drowsiness or dizziness.
<b>STOT-repeated exposure</b>	Based on available data, the classification criteria are not met
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met
<b>Potential adverse human health effects and symptoms</b>	Occupational exposure to the substance or mixture may cause adverse effects.

## 12. SECTION 12: Ecological information

### 12.1. Toxicity

**Ecology - general** Harmful to aquatic life with long lasting effects.

#### Acute aquatic toxicity

Substance / Product	Trophic level	Species	Type	Value	Duration	Remarks
pentane (109-66-0)	crustacea	Daphnia magna	EC50	< 10 mg/l	48h	

### 12.2. Persistence and degradability

#### pentane (109-66-0)

**Persistence and degradability** Readily biodegradable. (OECD 301F method).

**Biodegradation** 87 %

### 12.3. Bioaccumulative potential

#### isobutane (75-28-5)

**Log Pow** 1.09 - 2.8 @ 20 °C, pH 7

#### pentane (109-66-0)

**Bioconcentration factor (BCF REACH)** 171

**Log Pow** 3.39

### 12.4. Mobility in soil

No additional information available.

### 12.5. Results of PBT and vPvB assessment

#### Occlusionspray

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII.

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII.

### 12.6. Other adverse effects

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this product.

### 13. SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

<b>Regional legislation (waste)</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Waste treatment methods</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with licensed collector's sorting instructions.
<b>Product/Packaging disposal recommendations</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>Additional information</b>	Dispose in accordance with all applicable regulations.
<b>European List of Waste (LoW) code</b>	
08 02 01	waste coating powders
15 01 04	metallic packaging

### 14. SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

<b>UN-No. (ADR)</b>	1950
<b>UN-No. (IMDG)</b>	1950
<b>UN-No. (IATA)</b>	1950
<b>UN-No. (ADN)</b>	1950
<b>UN-No. (RID)</b>	1950

#### 14.2. UN proper shipping name

<b>Proper Shipping Name (ADR)</b>	AEROSOLS
<b>Proper Shipping Name (IMDG)</b>	AEROSOLS
<b>Proper Shipping Name (IATA)</b>	Aerosols, flammable
<b>Proper Shipping Name (ADN)</b>	AEROSOLS
<b>Proper Shipping Name (RID)</b>	AEROSOLS

#### 14.3. Transport hazard class(es)

<b>ADR</b>	
<b>Transport hazard class(es) (ADR)</b>	2.1
<b>Danger labels (ADR)</b>	2.1
<b>IMDG</b>	
<b>Transport hazard class(es) (IMDG)</b>	2.1
<b>Danger labels (IMDG)</b>	2.1
<b>IATA</b>	
<b>Transport hazard class(es) (IATA)</b>	2.1
<b>Hazard labels (IATA)</b>	2.1
<b>ADN</b>	
<b>Transport hazard class(es) (ADN)</b>	2.1
<b>Danger labels (ADN)</b>	2.1

#### **RID**



Transport hazard class(es) (RID)	2.1
Danger labels (RID)	2.1
<b>14.4. Packing group</b>	
Packing group (ADR)	Not applicable
Packing group (IMDG)	Not applicable
Packing group (IATA)	Not applicable
Packing group (ADN)	Not applicable
Packing group (RID)	Not applicable
<b>14.5. Environmental hazards</b>	
Dangerous for the environment	No
Marine pollutant	No
Other information	No supplementary information available.
<b>14.6. Special precautions for user</b>	
<b>Overland transport</b>	
Classification code (ADR)	5F
Special provisions (ADR)	190, 327, 344, 625
Limited quantities (ADR)	1I
Packing instructions (ADR)	P207, LP02
Tunnel restriction code (ADR)	D
<b>Transport by sea</b>	
Special provisions (IMDG)	63, 190, 277, 327, 344, 381, 959
Limited quantities (IMDG)	SP277
Packing instructions (IMDG)	P207, LP200
EmS-No. (Fire)	F-D
EmS-No. (Spillage)	S-U
Stowage category (IMDG)	None
<b>Air transport</b>	
PCA Excepted quantities (IATA)	E0
PCA Limited quantities (IATA)	Y203
PCA limited quantity max net quantity (IATA)	30kgG
PCA packing instructions (IATA)	203
PCA max net quantity (IATA)	75kg
CAO packing instructions (IATA)	203
CAO max net quantity (IATA)	150kg
Special provisions (IATA)	A145, A167, A802
ERG code (IATA)	10L
<b>Inland waterway transport</b>	
Classification code (ADN)	5F
Special provisions (ADN)	190, 327, 344, 625
Limited quantities (ADN)	1 L
<b>Rail transport</b>	
Classification code (RID)	5F
Special provisions (RID)	190, 327, 344, 625
Limited quantities (RID)	1L
Packing instructions (RID)	P207, LP02
Hazard identification number (RID)	23

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

### 15. SECTION 15: Regulatory information

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

##### EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006

Pentane	<p>3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008</p> <p>3(a) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F</p> <p>3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10</p> <p>3(c) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1</p>
Butane - isobutane - Pentane	<p>40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.</p>
Contains no substance on the REACH candidate list	
Contains no REACH Annex XIV substances	
<b>VOC (EU)</b>	Not applicable.
<b>Seveso Information</b>	P3a
<b>National regulations</b>	
<b>Reference to AwSV</b>	Water hazard class (WGK) 2, significant hazard to waters (Classification according to AwSV, Annex 1)
<b>12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV</b>	Listed in the 12. BImSchV (Annex I) under: 8 Quantity threshold for operational area under § 1 para. 1 - Sentence 1: 10000 kg - Sentence 2: 50000 kg

#### 15.2. Chemical safety assessment

No additional information available.

### 16. SECTION 16: Other information

##### Indication of changes

Section 1 - Section 16.

##### Full text of H- and EUH-statements

Aerosol 1	Aerosol, Category 1.
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2.
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3.
Asp. Tox. 1	Aspiration hazard, Category 1.
Flam. Gas 1	Flammable gases, Category 1.

Flam. Liq. 1	Flammable liquids, Category 1.
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis.
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H224	Extremely flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H304	May be fatal if swallowed and enters airways.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]**

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Aerosol 1	H222;H229	Expert judgment
STOT SE 3	H336	Expert judgment
Aquatic Chronic 3	H412	Calculation method

*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 made-up material.*