

SAFETY DATA SHEET

ISSUE DATE: 20.02.2020

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according to Regulation (EU) 2015/830

ENGLISH TRANSLATION OF GERMAN SDS

VERSION: 1.0

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

1.1. Product identifier

Trade name	Protho'shine spray
Product code	Protho'shine spray
SDS Number	6057
Product use	No data available

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

Relevant identified uses	
Industrial/Professional use spec	Professional use
Use of the substance/mixture	Dental laboratories and dental practices
Uses advised against	No additional information available.

1.3. Details of the supplier of the safety data sheet

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

Physical hazards	Aerosol, Category 1	H222;H229	Extremely flammable aerosol. Pressurised container: May burst if heated.
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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.

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.

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 01-2119474691-32-XXXX	60 - 80	Flam. Gas 1A, H220 Press. Gas (Comp.), H280	(Note C)(Note U)
Propane	74-98-6 200-827-9 601-003-00-5 01-2119486944-21-XXXX	15 - 25	Flam. Gas 1A, H220 Press. Gas (Comp.), H280	(Note U)
isobutane	75-28-5 200-857-2 601-004-00-0 01-2119485395-27-XXXX	1 - 5	Flam. Gas 1A, H220 Press. Gas (Comp.), H280	(Note C)(Note U)

Note C : Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.

Note U(table 3.1) : When put on the market gases have to be classified as 'Gases under pressure', in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.

Full text of H-statements: see section 16

4. SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove person to fresh air and keep comfortable for breathing.
Skin contact:	Wash skin with plenty of water. If skin irritation or rash occurs: Get medical advice/attention.
Eyes contact	Rinse eyes with water as a precaution.
Ingestion	Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after skin contact May cause an allergic skin reaction.

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

Treat symptomatically.

5. SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray. Dry powder. Foam.
Unsuitable extinguishing media	Do not use a water jet since it may cause the fire to spread.

5.2. Special hazards arising from the substance or mixture

Fire hazard	Extremely flammable aerosol.
Explosion hazard	Pressurised container: May burst if heated.
Hazardous combustion products	Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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6. SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Emergency procedures	Ventilate spillage area. No open flames, no sparks, and no smoking.
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For emergency responders

Protective equipment	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

For containment	Stop leak without risks if possible. Move containers from fire area if it can be done without personal risk. No open flame; Fire, open sources of ignition and smoking are prohibited.
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Methods for cleaning up	Mechanically recover the product. Cover spill with non combustible material, e.g.: sand/earth.
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Other information	Dispose of materials or solid residues at an authorized site.
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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	Ensure good ventilation of the work station. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use.
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Hygiene measures	Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
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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 cool.
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Heat and ignition sources	Do not handle, store or open near an open flame, sources of heat or sources of ignition.
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Storage class (LGK)	LGK 2B - Aerosols
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7.3. Specific end use(s)

Dental laboratories and dental practices.

8. SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Germany - TRGS900

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

DNEL: Derived no effect level

No data available

PNEC: Predicted no effect concentration

No data available

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

Materials for protective clothing

Wear suitable protective clothing.

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

Eye protection

Safety glasses

Skin protection	
Hand protection	The recommendation is only valid for the supplied product and the stated application. Special working conditions, like heat or mechanical strain, which deviate from the test conditions, can reduce the protective effect provided by the recommended glove. Chemical resistant gloves (according to European standard NF EN 374 or equivalent). Polyvinylchloride (PVC). Nitrile rubber gloves
Other protective measures	No additional information available.
Respiratory protection	No respiratory protection needed under normal use conditions. If the occupational exposure limit is exceeded: Filter AX (brown)
Skin and body protection	Wear suitable protective clothing
Thermal hazard protection	No additional information available.
Environmental exposure controls	Avoid release to the environment.

9. SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Gas
Appearance	Aerosol.
Colour	Colourless.
Odour	Characteristic.
Odour threshold	No data available
pH	No data available
Relative evaporation rate (butylacetate=1)	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	-42 °C
Flash point	No data available
Auto-ignition temperature	365 °C
Decomposition temperature	No data available
Flammability (solid, gas)	Extremely flammable aerosol
Vapour pressure	3.7 bar @ 20°C
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	0.96 g/m ³
Solubility	No data available
Log Pow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive properties	Pressurised container: May burst if heated.
Oxidising properties	No data available
Lower explosive limit (LEL)	1.8 vol %
Upper explosive limit (UEL)	9.5 vol %

9.2. Other information

VOC (EU)	Not applicable
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10. SECTION 10: Stability and reactivity

10.1. Reactivity	Extremely flammable aerosol. Pressurised container: May burst if heated.
10.2. Chemical stability	Stable under normal conditions.

- 10.3. Possibility of hazardous reactions** No dangerous reactions known under normal conditions of use.
- 10.4. Conditions to avoid** Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.
- 10.5. Incompatible materials** No additional information available.
- 10.6. Hazardous decomposition products** Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	Based on available data, the classification criteria are not met.
Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/irritation	Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	Based on available data, the classification criteria are not met.
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.

12. SECTION 12: Ecological information

12.1. Toxicity

Ecology - general The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Hazardous to the aquatic environment, short-term (acute)

Substance / Product	Trophic level	Species	Type	Value	Duration	Remarks
butane (106-97-8)	Fish	Fish	LC50	27,98 mg/l	96 h	
	aquatic invertebrates	Daphnia magna	LC50	14,22 mg/l	48 h	
	algae	algae	EC50	7,71 mg/l	96 h	

12.2. Persistence and degradability

butane (106-97-8)

Persistence and degradability Readily biodegradable.

Propane (74-98-6)

Persistence and degradability Readily biodegradable.

12.3. Bioaccumulative potential

butane (106-97-8)

Log Pow 1.09 – 2.8 @ 20 °C, pH 7

Propane (74-98-6)

Log Pow 1.09 – 2.8 @ 20 °C, pH 7

12.4. Mobility in soil

No additional information available.

12.5. Results of PBT and vPvB assessment

Protho's shine spray

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

No additional information available.

13. SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	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.
Product/Packaging disposal recommendations	Since emptied containers may retain product residue, follow label warnings even after container is emptied. 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).
Additional information	Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Flammable vapours may accumulate in the container. Dispose in accordance with all applicable regulations.
European List of Waste (LoW) code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
15 01 10*	packaging containing residues of or contaminated by dangerous substances
16 05 00	gases in pressure containers and discarded chemicals

14. SECTION 14: Transport information

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

14.1. UN number

UN-No. (ADR)	1950
UN-No. (IMDG)	1950
UN-No. (IATA)	1950
UN-No. (ADN)	1950
UN-No. (RID)	1950

14.2. UN proper shipping name

Proper Shipping Name (ADR)	AEROSOLS
Proper Shipping Name (IMDG)	AEROSOLS
Proper Shipping Name (IATA)	Aerosols, flammable
Proper Shipping Name (ADN)	AEROSOLS
Proper Shipping Name (RID)	AEROSOLS

14.3. Transport hazard class(es)

ADR	
Transport hazard class(es) (ADR)	2.2
Danger labels (ADR)	2.2
IMDG	
Transport hazard class(es) (IMDG)	2.2
Danger labels (IMDG)	2.2

IATA	
Transport hazard class(es) (IATA)	2.1
Hazard labels (IATA)	2.1
ADN	
Transport hazard class(es) (ADN)	2.2
Danger labels (ADN)	2.2
RID	
Transport hazard class(es) (RID)	2.2
Danger labels (RID)	2.2
14.4. Packing group	
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
14.5. Environmental hazards	
Dangerous for the environment	No
Marine pollutant	No
Other information	No supplementary information available.
14.6. Special precautions for user	
Overland transport	
Classification code (ADR)	5A
Special provisions (ADR)	190, 327, 344, 625
Limited quantities (ADR)	1I
Packing instructions (ADR)	P207
Tunnel restriction code (ADR)	E
Transport by sea	
Special provisions (IMDG)	63, 190, 277, 327, 344, 381, 959
Packing instructions (IMDG)	P207, LP200
EmS-No. (Fire)	F-D
EmS-No. (Spillage)	S-U
Stowage category (IMDG)	None
Air transport	
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
Inland waterway transport	
Classification code (ADN)	5A

Special provisions (ADN)	190, 327, 344, 625
Limited quantities (ADN)	1 L

Rail transport

Classification code (RID)	5A
Special provisions (RID)	190, 327, 344, 625
Limited quantities (RID)	1L
Packing instructions (RID)	P207, LP200
Hazard identification number (RID)	20

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

butane ; Propane ; isobutane	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.
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Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

VOC (EU) Not applicable

Seveso Information P3a FLAMMABLE AEROSOLS
'Flammable' aerosols Category 1 or 2, containing flammable gases Category 1 or 2 or flammable liquids Category 1

National regulations

Regulatory reference WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1)

Hazardous Incident Ordinance (12. BImSchV) Is not subject of the 12. BImSchV (Hazardous Incident Ordinance).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

16. SECTION 16: Other information

Abbreviations and acronyms

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AGW	Occupational exposure limit value
ATE	Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)
BAM	Federal Institute for Materials Research and Testing, Germany
BAT	Maximum permissible concentration of biological working substances.
BCF	Bio-concentration factor.
BLV	Biological limit values
BLV	Biological limit values (BGW, Austria)
BMGV	Biological Monitoring Guidance Value (EH40,UK).
BOD5	Biochemical oxygen demand within 5 days

BOD	Biochemical oxygen demand
bw	Body weight.
calcd.	Calculated
CAS	Chemical Abstract Service.
CEN	European Committee for Standardization
CESIO	European Committee on Organic Surfactants and their Intermediates.
COD	Chemical oxygen demand
CLP	Classification, Labeling and Packaging REGULATION (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures.
CMR	Carcinogenic, Mutagenic or Reproduction Toxic Substances
CSA	Chemical safety assessment
CSR	Chemical Safety Report.
DMEL	Derived Minimum Effect Level.
DNEL	Derived no effect level
EAC	European waste catalogue
EC	European community
EC50	Effective concentration
EINECS	European Inventory of Existing Commercial Chemical Substances.
ELINCS	European List of Notified Chemical Substances.
EN	European norm.
ERC	ERC (Environmental Release category)
EU	European Union
GLP	Good Laboratory Practice.
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.
GW/VL	Occupational exposure limit value.
GW-kw/VL-cd	Occupational exposure limit value - short term.
GW-M/VL-M	Occupational exposure limit value – "Ceiling".
IATA	International Air Transport Association
IBC code	International Bulk Chemical (Code) (International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk).
ICAO	International Civil Aviation Organization
IC50	Inhibition Concentration 50%.
IECSC	Inventory of Existing Chemical Substances in China.
IMDG	International Maritime Dangerous Goods
ISO	International Standards Organization.
IUPAC	International Union of Pure and Applied Chemistry
LC50	Lethal Concentration 50%.
LCLo	Lowest published lethal concentration.
LD50	Lethal Dose 50%.
LOAEL	Lowest Observed Adverse Effect Level
LOEC	Lowest observable effect concentration.
LOEL	Lowest observable effect level.
LQ	Limited quantities
TRK-Kzw	Threshold limit value - Short-term exposure limit / Technical reference concentration - short-time value, Austria.
MAK-Mow	Maximum allowable workplace concentration – instantaneous value, Austria.

MAK-Tmw, TRK-Tmw	Maximum allowable workplace concentration – daily mean value / Technical standard concentration – daily mean value, Austria.
MAK	Threshold limit values Germany.
MARPOL	International Convention for the Prevention of Pollution from Ships.
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
NOEL	no-observed-effect level
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limits
PBT	Persistent Bioaccumulative Toxic
PC (Chemical product category)	PC (Chemical product category)
PNEC	Predicted No-Effect Concentration
POCP	Photochemical ozone creation potential.
POP	Persistent Organic Pollutants
PPE	Personal protective equipment
Process category	Process category
REACH	Registration, Evaluation and Authorization of Chemicals (REGULATION (EC) No 1907/2006 concerning Registration, Evaluation Authorization and Restriction of Chemicals).
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SCL	Specific concentration limit.
STEL	Short-term Exposure Limit
STP	Sewage treatment plant
SU (Sector of use)	SU (Sector of use)
SVHC	Substance of Very High Concern.
TLV	Threshold Limit Value
TRGS	Technical Rules for Hazardous Substances (German Standard).
TWA	Time Weighted Average
UVCB	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
VbF	Ordinance on Flammable Liquids, Austria
VOC	Volatile organic compounds
vPvB	Very Persistent and Very Bioaccumulative
WEL-TWA	Workplace Exposure Limit-Long term exposure limit (8-hour TWA(=time weighted average)reference period).
WEL-STEL	Workplace Exposure Limit-Short term exposure limit (15-minute reference period).

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

Aerosol 1	H222;H229
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Full text of H- and EUH-statements

Aerosol 1	Aerosol, Category 1.
Flam. Gas 1A	Flammable gases, Category 1A.
Press. Gas (Comp.)	Gases under pressure : Compressed gas.
H220	Extremely flammable gas..
H222	Extremely flammable aerosol..
H229	Pressurised container: May burst if heated..

H280

Contains gas under pressure; may explode if heated..

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

Aerosol 1

H222;H229 On basis of test data

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.