CEREC OPTISPRAY

SAFETY DATA SHEET

according to OSHA 29 CFR 1910.1200

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1. SECTION 1: Identification

1.1. Identification

Trade name	Cerec Optispray
Product code	6144179
SDS Number	29

1.2. Recommended use and restrictions on use

Use of the substance/mixture	Coating material for the optical impression For medical use

1.3. Supplier

Supplier

Sirona Dental Systems GmbH
Fabrikstrasse 31
64625 Bensheim
Deutschland
Tel.: + 49 6251 16-0
Fax: + 49 6251 16-2591
Internet: www.sirona.com
E-Mail: contact@sirona.com

1.4. Emergency telephone number

Emergency number	+ 49 (0) 6131 19240 GIZ (Poison Center) Mainz

2. SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

according to OSHA 29 CFR 1910.1200, paragraph (d)

Physical hazards	Flammable aerosol Category 2	Flammable aerosol
Health hazards	Specific target organ toxicity (single exposure) Category 3	May cause drowsiness or dizziness

2.2. Label elements

according to OSHA 29 CFR 1910.1200, paragraph (f)

Hazard pictograms

Signal word	Warning
Contains	Pentane

Hazard statements

Flammable aerosol
May cause drowsiness or dizziness.

Precautionary statements

Keep away from heat, sparks, open flames, hot surfaces. - No smoking
Do not spray on an open flame or other ignition source
Pressurized container: Do not pierce or burn, even after use
Avoid breathing spray, mist
Use only outdoors or in a well-ventilated area
If inhaled: Remove person to fresh air and keep comfortable for breathing
Call a POISON CENTER if you feel unwell
Store in a well-ventilated place. Keep container tightly closed
Store locked up
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F
Dispose of contents/container to an approved waste disposal plant.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification Repeated exposure may cause skin dryness or cracking.

2.4. Unknown acute toxicity (GHS US)

0% of the mixture consists of ingredient(s) of unknown acute oral toxicity

3. SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical name	Common Name (Synonyms)	CAS- No	%	Notes
1,1,1,2,3,3,3-heptafluoropropane		431-89-0	75 - < 90	
Pentane		109-66-0	10 - < 25	

Full text of hazard classes and 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: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

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

Eye contact Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.

Ingestion Immediately call a poison center or doctor/physician. Do not induce vomiting. Rinse mouth.

4.2. Most important symptoms and effects (acute and delayed)

May cause drowsiness or dizziness.

4.3. Immediate medical attention and special treatment, if necessary

Provide general supportive measures and treat symptomatically. Symptoms may be delayed.

5. SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	Water spray. Dry powder.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Specific hazards arising from the chemical

Fire hazard	Flammable aerosol.
Explosion hazard	Pressurized container: may burst if heated.
Reactivity	Flammable aerosol. Pressurized container: may burst if heated.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	Move containers from fire area if it can be done without personal risk. Use water spray or fog for cooling exposed containers.
Protection during firefighting	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Wear fire/flame resistant/retardant clothing.
Other information	Use standard firefighting procedures and consider the hazards of other involved materials.

6. SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Do not handle until all safety precautions have been read and understood. Eliminate every possible source of ignition.
Protective equipment	Use personal protective equipment as required,Wear appropriate protective equipment and clothing during clean-up Use personal protective equipment as required. Wear appropriate protective equipment and clothing during clean-up.
Emergency procedures	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 MSDS. Keep unnecessary personnel away. For personal protection, see section 8 of the MSDS.

6.2 Methods and material for containment and cleaning up

Remove all sources of ignition. Keep away from combustible material. Stop the leak.

Prevent entry into waterways, sewer, basements or confined areas.

7. SECTION 7: Handling and storage

7.1. Precautions for safe handling

General information	Keep away from sources of ignition - No smoking. Pressurized container: 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

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

8. SECTION 8: Exposure controls/personal protection

8.1. Control parameters

USA - ACGIH

	Substance	Type	Value
	Pentane (109-66-0) Pentane, all isomers (1989)	ACGIH TWA	1000 ppm

USA - OSHA

	Substance	Type	Value
OSHA	**Pentane (109-66-0)**	OSHA PEL (TWA)	2950 mg/m³
	Pentane	OSHA PEL (TWA)	1000

USA - NIOSH

	Substance	Type	Value
	Pentane (109-66-0)	NIOSH REL (TWA)	350 mg/m³
		NIOSH REL (TWA)	120 ppm
		NIOSH REL (ceiling)	1800 mg/m³
		NIOSH REL (ceiling)	610 ppm

8.2. 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.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing: Personal protection equipment should be chosen according to the ANSI/ISEA standards and in discussion with the supplier of the personal protective equipment.

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

Eye protection: If contact is likely, safety glasses with side shields are recommended.

Skin protection

Hand protection: Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls

Respiratory protection: In case of inadequate ventilation wear respiratory protection.

Device	Filter type	Condition	Comments
	Type AX - Low-boiling (<65 °C) organic compounds, Type P2		

Thermal hazard protection: Wear appropriate thermal protective clothing, when necessary.

Other information: 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

9. SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Appearance

Color: light blue

Odor: Characteristic

Odor threshold: No data available

pH	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	No data available
Boiling range	No data available
Flash point	-40 °C (calculated value)
Relative evaporation rate (butyl acetate=1)	No data available
Flammability (solid, gas)	Extremely flammable aerosol.
Vapor pressure	3000 - 4000 hPa
Relative vapor density at 20 °C	No data available
Relative density	No data available
Specific gravity / density	1.3 g/ml
Solubility	No data available
Log Pow	No data available
Auto-ignition temperature	260 °C
Decomposition temperature	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosion limits	LEL: 1.4 vol % UEL: 8 vol %
Explosive properties	May form explosive/flammable vapor/air mixtures during use.
Oxidizing properties	None.

9.2. Other information

No additional information available.

10. SECTION 10: Stability and reactivity

10.1. Reactivity Flammable aerosol. Pressurized container: may burst if heated.

10.2. Chemical stability Stable under normal conditions of use.

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 Carbon monoxide. Carbon dioxide. Various hydrocarbon fragments.

11. SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	Not classified
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified

STOT-single exposure	May cause drowsiness or dizziness.
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified
Potential Adverse human health effects and symptoms	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.

Aquatic acute

Substance / Product	Trophic level	Species	Type	Value	Duration	Remarks
1,1,1,2,3,3,3-heptafluoropropane (431-89-0)	crustacea		EC50	>200 mg/l	48h	
	algae		ErC50	>114 mg/l	72h	
Pentane (109-66-0)	Fish		LL50	27,55 mg/l	96h	

12.2. Persistence and degradability

No additional information available.

12.3. Bioaccumulative potential

1,1,1,2,3,3,3-heptafluoropropane (431-89-0)

Log Kow	2.289

Pentane (109-66-0)

Bioconcentration factor (BCF REACH)	171
Log Kow	3.45

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

Other adverse effects	This product contains a fluorinated greenhouse gas.
Effect on the global warming	No known effects from this product.
GWPmix comment	No known effects from this product.

13. SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste)	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).
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 should be taken to an approved waste handling site for recycling or disposal.
Additional information	Dispose in accordance with all applicable regulations.
EPA hazardous waste No.	D003 - Waste Reactive material

14. SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description	UN1950 Aerosols, 2.1
UN-No.(DOT)	UN1950
Proper Shipping Name (DOT)	Aerosols
Class (DOT)	2.1 - Class 2.1 - Flammable gas 49 CFR 173.115
Hazard labels (DOT)	2.1 - Flammable gas
Dangerous for the environment	No
Marine pollutant	No
DOT Packaging Non Bulk (49 CFR 173.xxx)	None
DOT Packaging Bulk (49 CFR 173.xxx)	None
DOT Special Provisions (49 CFR 172.102)	N82
DOT Packaging Exceptions (49 CFR 173.xxx)	306
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	75 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	150 kg
DOT Vessel Stowage Location	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	25 - Shade from radiant heat,87 - Stow ‘‘separated from’’ Class 1 (explosives) except Division 14,126 - Segregation same as for Class 9, miscellaneous hazardous materials
Emergency Response Guide (ERG) Number	126
Other information	No supplementary information available.

Transportation of Dangerous Goods

Transport by sea

Transport document description (IMDG)	UN 1950 AEROSOLS, 2.1
UN-No. (IMDG)	1950
Proper Shipping Name (IMDG)	AEROSOLS
Class (IMDG)	2 - Gases
Limited quantities (IMDG)	SP277
Marine pollutant	No

Air transport

Transport document description (IATA)	UN 1950 Aerosols, flammable, 2.1
UN-No. (IATA)	1950
Proper Shipping Name (IATA)	Aerosols, flammable
Class (IATA)	2

15. SECTION 15: Regulatory information

15.1 US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

Pentane (109-66-0)

1990 Hazardous Air Pollutant (Clean Air Act)

15.2 US State regulations

No additional information available.

16. SECTION 16: Other information

Revision date	11/23/2017
Data sources	This Safety Data Sheet complies with the requirements of 29 CFR 1910.1200 (2012).
Training advice	Normal use of this product shall imply use in accordance with the instructions on the packaging.

Indication of changes

Logo.

Abbreviations and acronyms

ATE	Acute Toxicity Estimate.
BCF	Bioconcentration factor.
CAO	Cargo Aircraft Only.
DNEL	Derived-No Effect Level.
IATA	International Air Transport Association.
IMDG	International Maritime Dangerous Goods.
OEL	Occupational Exposure Limit.
PBT	Persistent Bioaccumulative Toxic.
PCA	Passenger and Cargo Aircraft.
PNEC	Predicted No-Effect Concentration.
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail.
SDS	Safety Data Sheet.
STP	Sewage treatment plant.
TLM	Median Tolerance Limit.
TWA	Time Weighted Average.
vPvB	Very Persistent and Very Bioaccumulative.

Full text of H-phrases

H223	Flammable aerosol.
H225	Highly flammable liquid and vapour.
H280	Contains gas under pressure; may explode 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.

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.