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

1.1 Product identifier

Tradename:	CAD/CAM Spray pro beige
Registration number (REACH):	not relevant (mixture)

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

Relevant identified uses:	coating
Uses advised against:	Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

1.3 Details of the supplier of the safety data sheet

Company / Manufacturer:	al dente Dentalprodukte GmbH
Street / mailbox:	Borsigstr. 1
Country code. / postal code / city:	D - 38644 Goslar
Phone:	0 53 21 / 80031
Fax:	0 53 21 / 50881
E-mail / Website:	info@aldente.de / www.aldente.de
Further information obtainable from:	al dente Dentalprodukte GmbH

1.4 Emergency telephone number:

al dente Dentalprodukte GmbH:	+49 (0) 53 21 / 80031 (Mo-Fr 8:00-16:00)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.3	aerosols	1	Aerosol 1	H222,H229

For full text of abbreviations: see SECTION 16.

2.2 Label elements:

Labelling according to Regulation (EC) No 1272/2008:

Signal word: Danger.

Pictograms:

GHS02

Hazard statements:

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.

Precautionary statements:

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.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Additional labelling according to Directive 75/324/EEC relating to aerosol dispensers: Extremely flammable. Pressurized container: may burst if heated. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not pierce or burn, even after use. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

2.3 Other hazards: There is no additional information.

SECTION 3: Composition/information on ingredients

3.1 Substances: Not relevant (mixture)

3.2 Mixtures: Description of the mixture

Hazardous ingredients acc. to GHS				
Name of substance	**Identifier**	**Wt%**	**Classification acc. to GHS**	**Pictograms**
butane	CAS No 106-97-8 EC No 203-448-7 REACH Reg. No 01-2119474691-32-xxxx	50 – < 75	Flam. Gas 1A / H220 Press. Gas L / H280	
bioethanol	CAS No 64-17-5 EC No 200-578-6 Index No 603-002-00-5 REACH Reg. No 01-2119457610-43-xxxx	10 – < 25	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319	
propane	CAS No 74-98-6 EC No 200-827-9 REACH Reg. No 01-2119486944-21-xxxx	10 – < 25	Flam. Gas 1A / H220 Press. Gas L / H280	
isobutane	CAS No 75-28-5 EC No 200-857-2 Index No 601-004-00-0 REACH Reg. No 01-2119485395-27-xxxx	1 – < 5	Flam. Gas 1A / H220 Press. Gas L / H280 Aquatic Chronic 3 / H412	

Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
bioethanol	Eye Irrit. 2; H319: C ≥ 50 %	-	-	

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes: Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation: If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact: Wash with plenty of soap and water. Take off contaminated clothing. Thaw frosted parts with lukewarm water. Do not rub affected area.

Following eye contact: Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing.

Following ingestion: Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed: Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed: none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Water spray, BC-powder

Unsuitable extinguishing media: Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon monoxide (CO), Carbon dioxide (CO2)

5.3 Advice for firefighters In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Follow emergency procedures such as the need to evacuate the danger area or to consult an expert. Remove persons to safety.

For emergency responders: Wear breathing apparatus if exposed to vapours/dust/spray/gases. Personal protective equipment shall be used when the risks cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organization.

6.2 Environmental precautions: Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill:	Covering of drains
Advice on how to clean up a spill	
Equipment required for containment/clean-up:	Non-sparking tools and equipment, Collecting basins for spills, Personal protective equipment
Other information relating to spills and releases:	Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections: Hazardous combustion products: see section 5.
Personal protective equipment: see section 8.
Incompatible materials: see section 10.
Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:

Recommendations	
Measures to prevent fire as well as aerosol and dust generation:	Use local and general ventilation. Use only in well-ventilated areas. Prevent from heating up above 50 °C/122 °F. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Advice on general occupational hygiene:	Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks	
Explosive atmospheres	Use local and general ventilation. Prevent from heating up above 50 °C/122 °F. Protect from sunlight.
Corrosive conditions:	Protect from moisture.
Flammability hazards:	Keep away from sources of ignition - No smoking. 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. Protect from sunlight.
Control of effects:	Do not pierce or burn, even after use.
Protect against external exposure, such as:	Heat
Specific designs for storage rooms or vessels	
Maximum storage period:	Best before date
Packaging compatibilities:	Only packagings which are approved (e.g. acc. to ADR) may be used.
Storage class (LGK) - TRGS 510:	LGK 2 B (aerosol dispensers and lighters)

7.3 Specific end use(s): Coating

SECTION 8: Exposure controls/personal protection

8.1 Control parameters:

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
GB	butane	106-97-8	WEL	600	1,450	750	1,810				EH40/2005
GB	ethanol	64-17-5	WEL	1,000	1,920						EH40/2005

Notation

Ceiling-C ceiling value is a limit value above which exposure should not occur

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
bioethanol	64-17-5	DNEL	1,900 mg/m³	human, inhalatory	worker (industry)	acute - local effects
bioethanol	64-17-5	DNEL	343 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
bioethanol	64-17-5	DNEL	950 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
bioethanol	64-17-5	DNEL	87 mg/kg	human, oral	consumer (private households)	chronic - systemic effects
bioethanol	64-17-5	DNEL	206 mg/kg	human, dermal	consumer (private households)	chronic - systemic effects
bioethanol	64-17-5	DNEL	114 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects

Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
bioethanol	64-17-5	PNEC	0.96 mg/l	aquatic organisms	freshwater	short-term (single instance)
bioethanol	64-17-5	PNEC	0.79 mg/l	aquatic organisms	marine water	short-term (single instance)
bioethanol	64-17-5	PNEC	580 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
bioethanol	64-17-5	PNEC	3.6 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)

bioethanol	64-17-5	PNEC	0.63 mg/kg	terrestrial organisms	soil	short-term (single instance)
bioethanol	64-17-5	PNEC	2.75 mg/l	aquatic organisms	water	intermittent release

8.2 Exposure controls

Appropriate engineering controls: General ventilation.

Individual protection measures (personal protective equipment): Personal protective equipment shall be used when the risks cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organization.

Eye/face protection: Wear eye/face protection.

Skin protection
Hand protection: Butyl rubber; Layer thickness: 0.7 mm; Break through time: 240 min. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Check leak-tightness/ impermeability prior to use. Do not wear gloves near rotary machines or tools.

Other protection measures: Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection: [In case of inadequate ventilation] wear respiratory protection. Type: ABEK-P2 (combined filters against gases, vapours and particles, colour code: Brown/Grey/Yellow/Green/White).

Environmental exposure controls: The disposal by sewage disposal systems is generally not allowed.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state: liquid, solid, gaseous (spray aerosol)
Colour: not determined
Odour: characteristic
Melting point/freezing point: not determined
Boiling point or initial boiling point and boiling range: -161.5 °C at 1,013 hPa
Flammability: flammable aerosol in accordance with GHS criteria
Lower and upper explosion limit:2.5 vol% - 15 vol%:
Flash point: -88.6 °C at 1,013 hPa
calculated value, referring to a component of the mixture
Auto-ignition temperature: 287 °C (auto-ignition temperature (liquids and gases))
Decomposition temperature: not relevant
pH (value): not applicable
Kinematic viscosity: not relevant
Solubility(ies): not determined
Partition coefficient
Partition coefficient n-octanol/water (log value): this information is not available

Vapour pressure:	169.3 hPa at 25 °C
Density and/or relative density	
Density:	not determined
Relative vapour density:	information on this property is not available
Particle characteristics:	not relevant (aerosol)
Decomposition temperature:	not determined

9.2 Other information: 90.71 % by mass of the contents are flammable

Information with regard to physical hazard classes

Aerosols

Components (flammable):	90.71 %
Other safety characteristics:	there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity: Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains reactive substance(s). Risk of ignition.

10.2 Chemical stability: See below "Conditions to avoid".

10.3 Possibility of hazardous reactions: No known hazardous reactions.

10.4 Conditions to avoid: Do not spray on an open flame or other ignition source. Keep away from heat.

Hints to prevent fire or explosion: Protect from sunlight.

10.5 Incompatible materials: Oxidisers

10.6 Hazardous decomposition products: Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008: Test data are not available for the complete mixture.

Classification procedure: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity:	Shall not be classified as acutely toxic.
Skin corrosion/irritation:	Shall not be classified as corrosive/irritant to skin.
Serious eye damage/eye irritation:	Shall not be classified as seriously damaging to the eye or eye irritant.
Respiratory or skin sensitisation:	Shall not be classified as a respiratory or skin sensitiser.
Germ cell mutagenicity:	Shall not be classified as germ cell mutagenic.
Carcinogenicity:	Shall not be classified as carcinogenic.
Reproductive toxicity:	Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure: Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure: Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard: Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards: There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity: Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components of the mixture					
Name of substance	**CAS No**	**Endpoint**	**Value**	**Species**	**Exposure time**
butane	106-97-8	LC50	27.98 mg/l	fish	96 h
butane	106-97-8	EC50	7.71 mg/l	algae	96 h
bioethanol	64-17-5	LC50	15,400 mg/l	fish	96 h
bioethanol	64-17-5	EC50	12,700 mg/l	fish	96 h
bioethanol	64-17-5	ErC50	22,000 mg/l	algae	96 h
propane	74-98-6	LC50	27.98 mg/l	fish	96 h
propane	74-98-6	EC50	7.71 mg/l	algae	96 h
isobutane	75-28-5	LC50	49.9 mg/l	fish	96 h
isobutane	75-28-5	EC50	19.37 mg/l	algae	96 h

Aquatic toxicity (chronic) of components of the mixture					
Name of substance	**CAS No**	**Endpoint**	**Value**	**Species**	**Exposure time**
bioethanol	64-17-5	EC50	22.6 g/l	algae	10 d
bioethanol	64-17-5	LC50	1,806 mg/l	aquatic invertebrates	10 d
bioethanol	64-17-5	ErC50	675 mg/l	algae	4 d

12.2 Persistence and degradability: Data are not available.

12.3 Bioaccumulative potential: Data are not available.

Bioaccumulative potential of components of the mixture				
Name of substance	**CAS No**	**BCF**	**Log KOW**	**BOD5/COD**
butane	106-97-8		1.09 (pH value: 7, 20 °C)	
bioethanol	64-17-5		-0.77	0.6211
propane	74-98-6		1.09 (pH value: 7, 20 °C)	
isobutane	75-28-5		1.09 (pH value: 7, 20 °C)	

12.4 Mobility in soil: Data are not available.

12.5 Results of PBT and vPvB assessment: Data are not available.

12.6 Endocrine disrupting properties: Information on this property is not available.

12.7 Other adverse effects: Data are not available.

SECTION 13: Disposal considerations

13.1	**Waste treatment methods:**	The disposal by sewage disposal systems is generally not allowed.
	Sewage disposal-relevant information:	Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.
	Waste treatment of containers/packagings:	It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.
	Remarks:	Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN-Number**	
	ADR/RID/ADN:	UN 1950
	IMDG-Code:	UN 1950
	ICAO-TI:	UN 1950
14.2	**UN proper shipping name**	
	ADR/RID/ADN:	AEROSOLS
	IMDG-Code:	AEROSOLS
	ICAO-TI:	Aerosols, flammable
14.3	**Transport hazard class(es)**	
	ADR/RID/ADN:	2 (2.1)
	IMDG-Code:	2.1
	ICAO-TI:	2.1
14.4	**Packaging group:**	not assigned
14.5	**Environmental hazards:**	non-environmentally hazardous acc. to the dangerous goods regulations
14.6	**Special precautions for user:**	Provisions for dangerous goods (ADR) should be complied within the premises.
14.7	**Maritime transport in bulk according to IMO instruments:**	The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations
Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

Classification code:	5F
Danger label(s):	2.1

Special provisions (SP):	190, 327, 344, 625
Excepted quantities (EQ):	E0

Limited quantities (LQ):	1 L
Transport category (TC):	2
Tunnel restriction code (TRC):	D

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant:	-
Danger label(s):	2.1

Special provisions (SP):	190, 327, 344, 625
Excepted quantities (EQ):	E0
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC):	D

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant:	-
Danger label(s):	2.1

Special provisions (SP):	63, 190, 277, 327, 344, 381, 959
Excepted quantities (EQ):	E0
Limited quantities (LQ):	1 L
EmS:	F-D, S-U
Stowage category:	-

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Danger label(s):	2.1

Special provisions (SP):	A145, A167
Excepted quantities (EQ):	E0
Limited quantities (LQ):	30 kg

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list:	none of the ingredients are listed

Directive 75/324/EEC relating to aerosol dispensers

Classification of the gas/aerosol:	extremely flammable
Labelling:	Pressurized container: may burst if heated. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not pierce or burn, even after use. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

15.2 Chemical Safety Assessment: Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling-C Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Gas	Flammable gas
Flam. Liq.	Flammable liquid
GHS	Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LGK	Lagerklasse (storage class according to TRGS 510, Germany)
log KOW	n-Octanol/water
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic

PNEC	Predicted No-Effect Concentration
ppm	Parts per million
Press. Gas	Gas under pressure
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
SVHC	Substance of Very High Concern
TRGS	Technische Regeln für GefahrStoffe (technical rules for hazardous substances, Germany)
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data.

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure:

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	**Text**
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H280	Contains gas under pressure; may explode if heated.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Disclaimer: This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.