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

1.1. Product identifier

Trade name: Lucitone 199, Liquid
Lucitone 199 Repair Material, Liquid
Lucitone FAS-POR, Liquid

REACH Registration No.: if available listed in Chapter. 3

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

Relevant applications identified: For dental use only.

1.3. Details of the supplier of the safety data sheet

Company: DeguDent GmbH
Postfach 1364
D-63403 Hanau

Telephone: +49 (0)6181/59-5767
Telefax: +49 (0)6181/59-5879
Email address: SDB.Degudent-DE@dentsplysirona.com

1.4. Emergency telephone number

Emergency information: +49 (0)6181/59-50 (This telephone number is available during office hours only.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids	Category 2	H225
Skin corrosion/irritation	Category 2	H315
Skin Sensitisation	Category 1	H317
Specific Target Organ Toxicity - Single exposure (inhalation)	Category 3	H335

2.2. Label elements

Labelling as per (EU) 1272/2008

Statutory basis: EU-CLP as per Regulation (EU) No. 1272/2008, Annex VI

hazard-defining component(s) (GHS)

- methyl methacrylate
- ethylene dimethacrylate

Hazard pictograms

Signal word	Danger
Hazard statement	H225 - Highly flammable liquid and vapour. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H335 - May cause respiratory irritation.
Precautionary statement: Prevention	P280 - Wear protective gloves/ eye protection/ face protection. P260 - Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Precautionary statement: Storage	P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
Precautionary statement: Disposal	P501 - Dispose of contents/container in accordance with local regulation.

2.3. Other hazards

When heated, formation of explosive vapour/air mixtures., Danger of bursting of closed systems to vigorous exothermic polymerization. Avoid uncontrolled polymerization.
A PBT/vPvB evaluation is not available, since a chemical safety evaluation is not required / has not been carried out.

SECTION 3: Composition/information on ingredients

Chemical nature
The preparation contains:, stabilisers

3.1. Substances

-

3.2. Mixtures

Information on ingredients / Hazardous components as per EU-CLP Regulation (EC) No. 1272/2008

• **methyl methacrylate**			80% - 100%		
CAS-No.	80-62-6	EC-No.	201-297-1		
Flammable liquids				Category 2	H225
Skin corrosion/irritation				Category 2	H315
Skin Sensitisation				Category 1	H317
Specific Target Organ Toxicity - Single exposure (inhalation)				Category 3	H335
• **ethylene dimethacrylate**			1% - 20%		
CAS-No.	97-90-5	EC-No.	202-617-2		
Skin Sensitisation				Category 1	H317
Specific Target Organ Toxicity - Single exposure				Category 3	H335

Texts of H phrases, see in Chapter 16

SECTION 4: First aid measures

4.1. Description of first aid measures

Take off all contaminated clothing immediately.

Inhalation
Move victims into fresh air.
Obtain medical attention.

Skin contact
Wash off immediately with soap and plenty of water.
Obtain medical attention.

Eye contact
With eye held open, thoroughly rinse immediately with plenty of water for at least 5 minutes.
Consult an ophthalmologist.

Ingestion
Do NOT induce vomiting.
Have the mouth rinsed with water.
Have patient drink plenty of water in small sips.
Obtain medical attention.

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

Symptoms
No information available.

4.3. Indication of any immediate medical attention and special treatment needed
If skin sensitisation has developed and a causal relationship has been confirmed, further exposure should not beallowed

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:	quenching powder Carbon dioxide (CO2) Alcohol-resistant foam
Unsuitable extinguishing media:	Water

5.2. Special hazards arising from the substance or mixture
In case of combustion or decomposition of the product, the fumes produced lead to irritations or inflammations of the respiratory tract.
When heated, formation of explosive vapour/air mixtures.

5.3. Advice for firefighters
In case of fire cool containers or take them to a safe place.
Use water spray to cool unopened containers.
In the case of fire, wear respiratory protective equipment independent of surrounding air and chemical protective suit.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Keep unauthorized persons away.
Wear personal protective equipment.
Avoid contact with skin, eyes and clothing.

6.2. Environmental precautions
Prevent substance from entering soil, natural bodies of water and sewer systems., Avoid penetration into drainage system or in rooms situated at a lower level because of danger of explosion.

6.3. Methods and material for containment and cleaning up
Remove all sources of ignition.
Absorb with liquid-binding material, e.g. inert absorbent, sand, universal binding agents.
Pick up mechanically with a suitable device and collect in a suitable container.

Additional advice

Ensure explosion proofness.Dispose of contaminated material as a waste in a correct manner.

6.4. Reference to other sections
Wear personal protective equipment; see section 8.
Disposal considerations; see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Always close container tightly after removal of product.
Avoid light effect heat sun rays.
Vapors are heavier than air.
Only fill up to 90 % of the container as air is required to stabilize.

7.2. Conditions for safe storage, including any incompatibilities

Advice on protection against fire and explosion
Keep away from sources of ignition - No smoking.
product is highly flammable.
Vapours are heavier than air and may spread along floors.
Formation of flammable or explosive vapour/air mixtures possible. Danger of explosion
Explosion-proof installations required.
Take precautionary measures against static discharges.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place.
Ensure there is good room ventilation.

German storage class
3 - Flammable liquids

7.3. Specific end use(s)

We are unaware of any specific end uses which go beyond the data reported in Section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

• **methyl methacrylate**			
CAS-No.	80-62-6	EC-No.	201-297-1
Control parameters	100 ppm 416 mg/m3		Short Term Exposure Limit (STEL):(EH40 WEL)
Control parameters	50 ppm 208 mg/m3		Time Weighted Average (TWA):(EH40 WEL)

8.2. Exposure controls

Engineering measures
Ensure suitable suction/aeration at the work place and with operational machinery.

Personal protective equipment

Respiratory protection
If workplace exposure limit is exceeded apply Respirator with brown A-type filter.

Hand protection
Wear protective gloves made of the following materials: solvent-resistant material.

Glove material	butyl-rubber
Material thickness	0.5 mm
Break through time	60 min
Method	Source: GESTIS substance database (hazardous substance information system of commercial professional associations)

The suitability for a specific workplace should be discussed with the producers of the protective gloves., The exact break through time can be obtained from the protective glove producer and this has to be observed.
Preventive skin protection, Use barrier cream regularly.

Eye/face protection
goggles

Skin and body protection
Immediately change moistened and saturated work clothes., Apply adequate skin protection agents before handling the product. Assure skin cleaning and skin care after work. Preventive skin protection is recommended.

Hygiene measures
Do not eat, drink, smoke, or sniff while at work. Wash your hands and/or face before breaks and before termination of work., If workplace exposure limits are exceeded and/or larger amounts are released (leakage, spilling, dust) the indicated respiratory protection should be used., Avoid contact with skin and eyes., After contact with skin, wash immediately with plenty of water., If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	
Form	liquid
Colour	colourless
Odour	ester-like
Odour threshold:	no data available
pH	not applicable
Melting point/range	-48.2 °C tested substance: methyl methacrylate
Boiling point/range	100.3 °C (1013 hPa) Method: DIN 51 751 tested substance: methyl methacrylate
Flash point	10 °C Method: DIN 51 755 tested substance: methyl methacrylate
Evaporation rate	no data available
Flammability (solid, gas)	no data available
Lower explosion limit	2.1 %(V) tested substance: methyl methacrylate
Upper explosion limit	12.5 %(V) tested substance:

	methyl methacrylate
Vapour pressure	38.7 hPa (20 °C) tested substance: methyl methacrylate
Density	0.94 g/cm3 (20 °C) Method: DIN 51757 tested substance: methyl methacrylate
Water solubility	15.9 g_l (20 °C) tested substance: methyl methacrylate
Partition coefficient: n-octanol/water	POW: 1.38 tested substance: methyl methacrylate
Autoinflammability	Not capable of spontaneous combustion or heating.
Thermal decomposition	no data available
Viscosity, dynamic	0.63 mPa.s (20 °C) Method: Brookfield method tested substance: methyl methacrylate
Explosiveness	Vapours can form explosive mixtures with air.
Oxidizing properties	no data available

9.2. Other information

Ignition temperature	430 °C Method: DIN 51 794 tested substance:, methyl methacrylate
Other information	No further physicochemical data were determined.

SECTION 10: Stability and reactivity

10.1. Reactivity
Vapours may form explosive mixture with air.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Danger of bursting of closed systems to vigorous exothermic polymerization. Avoid uncontrolled polymerization.

10.4. Conditions to avoid
Avoid exposure to light /sunlight, Protect from heat sources of ignition.

10.5. Incompatible materials
Product polymerizes on contact with radical generating substances such as peroxides, azo compounds, heavy metal compounds, solutions.

10.6. Hazardous decomposition products
Heating can release vapours which can be ignited.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity	LD50 Rat: > 5000 mg/kg Method: OECD Test Guideline 401 Test substance: methyl methacrylate literature
Acute inhalation toxicity	LC50 Rat: 29.8 mg/l / 4 h Test substance: methyl methacrylate (literature value)
Acute dermal toxicity	LD50 Rabbit: > 5000 mg/kg Test substance: methyl methacrylate literature
Skin irritation	irritating Test substance: methyl methacrylate literature
Eye irritation	slightly irritating Test substance: methyl methacrylate literature
Sensitization	May cause sensitisation by skin contact. Test substance: methyl methacrylate literature
Repeated dose toxicity	inhalative Rat Testing period: 2 Jahre NOAEL: 25 mg/kg target organ/effect: irritative effects, skin linings Test substance: methyl methacrylate literature Oral Rat Testing period: 2 Jahre NOAEL: 2000 mg/kg Test substance: methyl methacrylate drinking water analysis, no therapy-related results, literature
Assessment of STOT single exposure	no data available
Assessment of STOT repeat exposure	no data available
Risk of aspiration toxicity	no data available
Gentoxicity in vitro	positive and negative

	Test substance: methyl methacrylate literature
Gentoxicity in vivo	no evidence of mutagenic effects Test substance: methyl methacrylate literature
Mutagenicity assessment	in vivo: no evidence of mutagenic effects
carcinogenicity assessment	no evidence that cancer may be caused, literature., tested substance:, methyl methacrylate
Toxicity to reproduction	no data available
teratogenicity assessment	no evidence of teratogenic properties, tested substance:, methyl methacrylate
Human experience	Frequent and continual skin contact can cause skin reaction (skin irritation, skin sensitization).

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish	LC50 Lepomis macrochirus: 191 mg/l / 96 h Test substance: methyl methacrylate literature
	Oncorhynchus mykiss: > 79 mg/l / 96 h Test substance: methyl methacrylate Method: OECD 203 literature
Toxicity in aquatic invertebrates	EC50 Daphnia magna: 68 mg/l / 48 h Test substance: methyl methacrylate Method: OECD 202 (literature value)
	EC50 Daphnia magna: 49 mg/l / 21 d Test substance: methyl methacrylate Method: OECD 202 part 2 (literature value)
Toxicity to algae	EC50 selenastrum capricornutum: 170 mg/l / 96 h Test substance: methyl methacrylate Method: OECD 201 literature
Toxicity to bacteria	EC0 Pseudomonas putida: 100 mg/l Test substance: methyl methacrylate literature

12.2. Persistence and degradability

Biodegradability

Exposure time:	14 Tage
Result:	94 % Readily biodegradable.
Test substance:	methyl methacrylate
Method:	OECD 301 C

12.3. Bioaccumulative potential

Bioaccumulation: Significant bioaccumulation need not be expected.

12.4. Mobility in soil

Mobility: If the product penetrates the soil it will become mobile and might pollute the groundwater.

12.5. Results of PBT and vPvB assessment

A PBT/vPvB evaluation is not available, since a chemical safety evaluation is not required / has not been carried out.

12.6. Other adverse effects

Further Information: Introduction into soil, natural water bodies or sewerage must be prevented.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product

Disposal according to local authority regulations.

Uncleaned packaging

Disposal according to local authority regulations.

SECTION 14: Transport information

Transport on land (ADR/RID/GGVSEB)

14.1.	UN number:	UN 1247
14.2.	UN proper shipping name:	METHYL METHACRYLATE MONOMER, STABILIZED SOLUTION
14.3.	Transport hazard class(es):	3
14.4.	Packing group:	II
14.5.	Environmental hazards:	--
14.6.	Special precautions for user:	Yes

ADR: Tunnel Restriction Code: (D/E)

ADR: Measures as 2.2.3.2.2 ADR/RID/ADN have been applied., Observe listed materials regulation §35, paragraph 1 GGVSEB

RID: Measures as 2.2.3.2.2 ADR/RID/ADN have been applied.

Inland waterway transport (ADN/GGVSEB (Germany))

14.1.	UN number:	UN 1247
14.2.	UN proper shipping name:	METHYL METHACRYLATE MONOMER, STABILIZED SOLUTION
14.3.	Transport hazard class(es):	3

14.4. Packing group: II
14.5. Environmental hazards: --
14.6. Special precautions for user: Yes
Measures as 2.2.3.2.2 ADR/RID/ADN have been applied.

Air transport ICAO-TI/IATA-DGR

14.1. UN number: UN 1247
14.2. UN proper shipping name: Methyl methacrylate monomer, stabilized solution
14.3. Transport hazard class(es): 3
14.4. Packing group: II
14.5. Environmental hazards: --
14.6. Special precautions for user: Yes
IATA-C: FOR USA ONLY: When shipping in, by or via USA note of the Reportable Quantity-Regulation!
IATA-P: FOR USA ONLY: When shipping in, by or via USA note of the Reportable Quantity-Regulation!

Sea transport IMDG-Code/GGVSee (Germany)

14.1. UN number: UN 1247
14.2. UN proper shipping name: METHYL METHACRYLATE MONOMER, STABILIZED SOLUTION
14.3. Transport hazard class(es): 3
14.4. Packing group: II
14.5. Environmental hazards: --
14.6. Special precautions for user: Yes
EmS: F-E,S-D
Clear of living quarters., FOR USA ONLY: When shipping in, by or via USA note of the Reportable Quantity-Regulation!

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
for transportapproval see regulatory information

SECTION 15: Regulatory information

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

National legislation

employment restriction	Note employment restrictions for pregnant and lactating women., Note employment restrictions for minors.

15.2. Chemical safety assessment

Chemical safety assessment	No Chemical Safety Report as per Articles 2(8), 2(9) or 14 of the REACH Regulatione is required for this product.

SECTION 16: Other information

Classification and applied procedure to derive the classification of mixtures according to EU Regulation (EC) No. 1272/2008 (CLP)

Classification	Classification procedure
Flam. Liq., 2 , H225 Skin Corr./Skin Irrit., 2 , H315 Skin.sens., 1 , H317 STOT SE, 3 , H335	

Relevant H phrases from chapter 3

H225	:	Highly flammable liquid and vapour.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H335	:	May cause respiratory irritation.

Further information

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Legend

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ASTM	American Society for Testing and Materials
ATP	Adaptation to Technical Progress
BCF	Bioconcentration factor
BetrSichV	German Ordinance on Industrial Safety and Health
c.c.	closed cup
CAS	Chemical Abstract Services
CESIO	European Committee of Organic Surfactants and their Intermediates
ChemG	German Chemicals Act
CMR	carcinogenic-mutagenic-toxic for reproduction
DIN	German Institute for Standardization
DMEL	Derived minimum effect level
DNEL	Derived no effect level
EINECS	European Inventory of Existing Commercial Chemical Substances
EC50	half maximal effective concentration
GefStoffV	German Ordinance on Hazardous Substances
GGVSEB	German ordinance for road, rail and inland waterway transportation of dangerous goods
GGVSee	German ordinance for sea transportation of dangerous goods
GLP	Good Laboratory Practice
GMO	Genetic Modified Organism
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization

IMDG	International Maritime Dangerous Goods
ISO	International Organization For Standardization
LOAEL	Lowest observed adverse effect level
LOEL	Lowest observed effect level
NOAEL	No observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
o. c.	open cup
OECD	Organisation for Economic Cooperation and Development
OEL	Occupational Exposure Limit
PBT	Persistent, bioaccumulative, toxic
PEC	Predicted effect concentration
PNEC	Predicted no effect concentration
REACH	REACH registration
RID	Convention concerning International Carriage by Rail
STOT	Specific Target Organ Toxicity
SVHC	Substances of Very High Concern
TA	Technical Instructions
TPR	Third Party Representative (Art. 4)
TRGS	Technical Rules for Hazardous Substances
VCI	German chemical industry association
vPvB	very persistent, very bioaccumulative
VOC	volatile organic compounds
VwVwS	German Administrative Regulation on the Classification of Substances Hazardous to Waters into Water Hazard Classes
WGK	Water Hazard Class
WHO	World Health Organization