Safety Data Sheet

according to Regulation (EC) No 1907/2006

SHERAORTHOMER

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

1.1. Product identifier

SHERAORTHOMER

Product group:	liquid component
UFI:	WSJG-4ER4-8609-M2GE

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

Use of the substance/mixture

Manufacture of dental products.

1.3. Details of the supplier of the safety data sheet

Company name:	SHERA Werkstoff-Technologie GmbH
Street:	Espholstraße 53
Place:	D-49448 Lemförde
Telephone:	+ 49 (0) 5443 9933-0
E-mail:	sdb@shera.de
Internet:	www.shera.de
Responsible Department:	Abteilung Produktsicherheit

1.4. Emergency telephone number:

Giftinformationszentrum-Nord: +49 (0) 551-19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flam. Liq. 2; H225
Skin Irrit. 2; H315
Skin Sens. 1; H317
STOT SE 3; H335

Full text of hazard statements: see SECTION 16.

2.2. Label elements

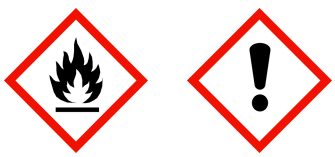
Regulation (EC) No 1272/2008

Hazard components for labelling

Methyl methacrylate
1,4-Butandiol dimethacrylate
2-(2H-Benzotriazol-2-yl)-p-kresol

Signal word: Danger

Pictograms:



Hazard statements

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

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.

P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P321	Specific treatment (see Additional information on this label).
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use Foam, Extinguishing powder, Carbon dioxide (CO2) to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to as hazardous waste – in accordance with local and national legislation – suitable, approved incineration plant for combustible, organic-chemical waste.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

mixture based on methyl methacrylate

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
80-62-6	Methyl methacrylate			90 - < 95 %
	201-297-1		01-2119452498-28	
	Flam. Liq. 2, Skin Irrit. 2, Skin Sens. 1, STOT SE 3; H225 H315 H317 H335			
2082-81-7	1,4-Butandiol dimethacrylate			5 - < 10 %
	218-218-1		01-2119967415-30	
	Skin Sens. 1; H317			
2440-22-4	2-(2H-Benzotriazol-2-yl)-p-kresol			< 1 %
	219-470-5			
	Skin Sens. 1, Aquatic Chronic 4; H317 H413			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
80-62-6	201-297-1	Methyl methacrylate	90 - < 95 %
	inhalation: LC50 = 29,8 mg/l (vapours); dermal: LD50 = >5000 mg/kg; oral: LD50 = >5000 mg/kg		
2082-81-7	218-218-1	1,4-Butandiol dimethacrylate	5 - < 10 %
	dermal: LD50 = > 3000 mg/kg; oral: LD50 = > 10000 mg/kg		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated, saturated clothing immediately. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.

After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. In case of skin irritation, consult a physician.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion

Do NOT induce vomiting. Rinse mouth. Call a physician immediately.

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

Causes skin irritation. May cause respiratory irritation. May cause an allergic skin reaction.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam, Extinguishing powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Highly flammable liquid and vapour. Can polymerise exothermically if heated, exposed to air, sunlight or by addition or free radical initiators. Vapours can form explosive mixtures with air.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Danger of explosion

6.3. Methods and material for containment and cleaning up

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

When using do not eat, drink, smoke, sniff. Use only in well-ventilated areas. Do not breathe gas/fumes/vapour/spray.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Flammable vapours can accumulate in head space of closed systems. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Further information on handling

Caution! Transport usually takes place at temperatures above the flash point.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place.
Protect from direct sunlight.

Hints on joint storage

Do not store together with: Material, oxygen-rich, Oxidising. Pyrophoric or self-heating substances.

7.3. Specific end use(s)

Manufacture of dental products.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limit values

CAS No	Name of agent	ppm	mg/m³	fib/cm³	Category	Origin
80-62-6	Methyl methacrylate	50	-		TWA (8 h)	
		100	-		STEL (15 min)	

DNEL/DMEL values

CAS No	Name of agent			
DNEL type		Exposure route	Effect	Value
80-62-6	Methyl methacrylate			
Worker DNEL, long-term		inhalation		208 mg/m³
Worker DNEL, long-term		dermal		17 mg/kg bw/day

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection.

Hand protection

Wear suitable protective gloves. For protection against splashes: Butyl; EN 374. For protection against immersion: Butyl; 0.7 mm or thicker, EN 374. The suitability of gloves should be agreed with the manufacturer. In case of contamination or if the breakthrough time is exceeded, change gloves. Resistance of the glove material: see information from the glove manufacturer.

Skin protection

Flame-retardant protective clothing. Wear anti-static footwear and clothing

Respiratory protection

Wear suitable respiratory protection if engineering controls are inadequate or non -existent and exposure is expected to exceed the DNEL (derived exposure level below which the substance does not cause adverse effects on human health). A suitable respiratory mask with filter type A (EN141 or EN405) is recommended. If particularly high vapour concentrations are formed, a self-contained breathing apparatus may be necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	colourless	
Odour:	characteristic	
Melting point/freezing point:		-48,2 °C
Boiling point or initial boiling point and boiling range:		100,3 °C
Flammability:		not applicable
		not applicable
Lower explosion limits:		2,1 vol. %
Upper explosion limits:		12,5 vol. %
Flash point:		10 °C
Auto-ignition temperature:		430 °C
Decomposition temperature:		not determined
pH-Value:		not determined
Water solubility: (at 20 °C)		15,9 g/l
Solubility in other solvents		
very soluble		
Partition coefficient n-octanol/water:		1,38
Vapour pressure: (at 20 °C)		38,7 hPa
Density:		0,94 g/cm³
Relative vapour density:		not determined

9.2. Other information

Information with regard to physical hazard classes

Self-ignition temperature	
Solid:	not applicable
Gas:	not applicable
Oxidizing properties	
Not oxidising.	

Other safety characteristics

Evaporation rate:	not determined
Solid content:	not determined
Viscosity / dynamic: (at 20 °C)	0,63 mPa·s

Further Information

none

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable, Vapours can form explosive mixtures with air.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Can polymerise exothermically if heated, exposed to air, sunlight or by addition or free radical initiators.

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Can polymerise exothermically if heated, exposed to air, sunlight or by addition or free radical initiators. Protect from direct sunlight.

10.5. Incompatible materials

Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Based on available data, the classification criteria are not met.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) 16,37 mg/l; ATE (inhalation dust/mist) > 12,5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
80-62-6	Methyl methacrylate				
	oral	LD50 >5000 mg/kg	Rat	OECD 401	
	dermal	LD50 >5000 mg/kg	Rabbit		
	inhalation vapour	LC50 29,8 mg/l	Rat		
2082-81-7	1,4-Butandiol dimethacrylate				
	oral	LD50 > 10000 mg/kg	Rat		
	dermal	LD50 > 3000 mg/kg	Rabbit		

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Sensitising effects

May cause an allergic skin reaction. (Methyl methacrylate; 1,4-Butandiol dimethacrylate; 2-(2H-Benzotriazol-2-yl)-p-kresol)

Carcinogenic/mutagenic/toxic effects for reproduction

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

May cause respiratory irritation. (Methyl methacrylate)

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.

Additional information on tests

The mixture is classified as hazardous according to Directive 1999/45/EC.

SECTION 12: Ecological information

12.1. Toxicity

The product is not: Ecotoxic.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
80-62-6	Methyl methacrylate						
	Acute fish toxicity	LC50 mg/l	> 79	96 h	Oncorhynchus mykiss (Rainbow trout)	OECD 203	
	Acute algae toxicity	ErC50 mg/l	> 110	72 h	Selenastrum capricornutum	OECD 201	
	Acute crustacea toxicity	EC50	69 mg/l	48 h	Daphnia magna (Big water flea)	OECD 202	
	Crustacea toxicity	NOEC	37 mg/l	21 d	Daphnia magna (Big water flea)	OECD 202	
2082-81-7	1,4-Butandiol dimethacrylate						
	Acute fish toxicity	LC50 mg/l	32,5	96 h	Oncorhynchus mykiss (Rainbow trout)		
	Acute crustacea toxicity	EC50 mg/l	7,51	48 h	Daphnia magna (Big water flea)	OECD 211	
	Crustacea toxicity	NOEC mg/l	7,51		Selenastrum capricornutum		

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
80-62-6	Methyl methacrylate	1,38
2082-81-7	1,4-Butandiol dimethacrylate	3,1

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.
The product has not been tested.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 1247
14.2. UN proper shipping name:	METHYL METHACRYLATE MONOMER, STABILIZED
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3
Classification code:	F1
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	339
Tunnel restriction code:	D/E

Other applicable information (land transport)

SAPT: > 60 °C

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1247
14.2. UN proper shipping name:	METHYL METHACRYLATE MONOMER, STABILIZED
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3
Classification code:	F1
Limited quantity:	1 L
Excepted quantity:	E2

Other applicable information (inland waterways transport)

SAPT: > 60 °C

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1247
14.2. UN proper shipping name:	METHYL METHACRYLATE MONOMER, STABILIZED
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3
Special Provisions:	-
Limited quantity:	1 L
Excepted quantity:	E2
EmS:	F-E, S-D

Other applicable information (marine transport)

SAPT: > 60 °C

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 1247
14.2. UN proper shipping name:	METHYL METHACRYLATE MONOMER, STABILIZED
14.3. Transport hazard class(es):	3
14.4. Packing group:	II

Hazard label:	3	
Limited quantity Passenger:	1 L	
Passenger LQ:	Y341	
Excepted quantity:	E2	
IATA-packing instructions - Passenger:		353
IATA-max. quantity - Passenger:		5 L
IATA-packing instructions - Cargo:		364
IATA-max. quantity - Cargo:		60 L

Other applicable information (air transport)

SAPT: > 60 °C

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 40

Directive 2010/75/EU on industrial emissions:	90 % (846 g/l)
Directive 2004/42/EC on VOC in paints and varnishes:	90 % (846 g/l)
Information according to Directive 2012/18/EU (SEVESO III):	P5c FLAMMABLE LIQUIDS

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	2 - obviously hazardous to water
Skin resorption/Sensitization:	Causes allergic hypersensitivity reactions.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

Flam. Liq. 2: Flammable liquids, hazard category 2
Skin Irrit. 2: Skin irritation, hazard category 2
Skin Sens. 1: Skin sensitisation, hazard category 1
STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3
Aquatic Chronic 4: Hazardous to the aquatic environment, long-term hazard category: Chronic 4
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Skin Irrit. 2; H315	Calculation method
Skin Sens. 1; H317	Calculation method
STOT SE 3; H335	Calculation method

Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H413	May cause long lasting harmful effects to aquatic life.

Further Information

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.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)