

Safety Data Sheet

according to UK REACH Regulation

e-shell 501

Revision date: 17.01.2022

Product code: 1500400

Page 1 of 9

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

e-shell 501

Further trade names

e-shell 501 pink

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

light curing resin for hearing aid devices

1.3. Details of the supplier of the safety data sheet

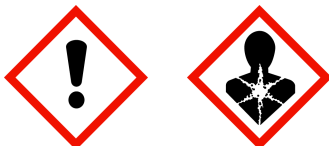
Company name:	DeltaMed GmbH	
Street:	Raiffeisenstr. 8a	
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	Telefax +49 6031 7283-29	

1.4. Emergency telephone number:Giftinformationszentrum Universitätsklinikum Mainz
Telefon +49 6131 19240**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Hazard categories:
Respiratory or skin sensitisation: Skin Sens. 1
Reproductive toxicity: Repr. 1B
Hazardous to the aquatic environment: Aquatic Chronic 3
Hazard Statements:
May cause an allergic skin reaction.
May damage the unborn child.
Harmful to aquatic life with long lasting effects.

2.2. Label elements**GB CLP Regulation****Hazard components for labelling**

Tetrahydrofurfurylmethacrylat (THFMA)
urethane dimethacrylate (UDMA)
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (TPO)

Signal word: Danger**Pictograms:****Hazard statements**

H317	May cause an allergic skin reaction.
H360D	May damage the unborn child.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P201	Obtain special instructions before use.
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Safety Data Sheet

according to UK REACH Regulation

e-shell 501

Revision date: 17.01.2022

Product code: 1500400

Page 2 of 9

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P501	Dispose of contents/container in accordance with local regulation.

Special labelling of certain mixtures

Restricted to professional users.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Hazardous components**

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	GHS Classification	
2455-24-5	Tetrahydrofurfurylmethacrylat (THFMA)	10-25 %
	Repr. 1B, Skin Sens. 1, Aquatic Chronic 3; H360D H317 H412	
	Acrylic resin	10-30 %
	Aquatic Chronic 4; H413	
72869-86-4	urethane dimethacrylate (UDMA)	1-10 %
	Skin Sens. 1, Aquatic Chronic 3; H317 H412	
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (TPO)	< 1 %
	278-355-8	015-203-00-X
	Repr. 2, Skin Sens. 1, Aquatic Chronic 2; H361f H317 H411	

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	
2455-24-5		Tetrahydrofurfurylmethacrylat (THFMA)	10-25 %
		oral: LD50 = 4000 mg/kg	
72869-86-4		urethane dimethacrylate (UDMA)	1-10 %
		inhalation: LC50 = >5 mg/l (dusts or mists); oral: LD50 = >2000 mg/kg	
75980-60-8	278-355-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (TPO)	< 1 %
		oral: LD50 = > 5000 mg/kg	

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Medical treatment is necessary if symptoms occur which are obviously caused by skin or eye contact with the product or by inhalation of its vapours. Take off all contaminated clothing immediately.

Safety Data Sheet

according to UK REACH Regulation

e-shell 501

Revision date: 17.01.2022

Product code: 1500400

Page 3 of 9

After inhalation

Provide fresh air. Medical treatment necessary.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Immediately remove any contaminated clothing, shoes or stockings. Medical treatment necessary.

After contact with eyes

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

After ingestion

Do NOT induce vomiting. Medical treatment necessary.

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

No information available.

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

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated: Carbon monoxide Carbon dioxide Hazardous decomposition products

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

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**

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 to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up**Other information**

Larger quantities: Take up mechanically (by pumping). Smaller quantities and/or residues: 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**

Safety Data Sheet

according to UK REACH Regulation

e-shell 501

Revision date: 17.01.2022

Product code: 1500400

Page 4 of 9

Advice on safe handling

Provide good room ventilation even at ground level (vapours are heavier than air). Keep container tightly closed. If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Advice on protection against fire and explosion

In the event of fire, cool the endangered containers with water. Keep away from sources of ignition --- No smoking. Take precautionary measures against static discharges. When heated above the flash point and/or during spraying (atomizing), ignitable mixtures may form in air.

Advice on general occupational hygiene

Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing. 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.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Protect from the action of light. Keep only in the original container at a temperature between 5 -30 °C. Can polymerize with intense heat release. Keep container tightly closed.

Hints on joint storage

No special measures are necessary.

7.3. Specific end use(s)

light curing resin for hearing aid devices

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****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**

tightly fitting goggles

Hand protection

butyl rubber gloves (0.7 mm), Break through time ca. 60 min (EN 374).Gloves should be replaced regularly, especially after extended contact with the product. For each work-place a suitable glove type has to be selected.

Skin protection

Wear suitable protective clothing.

Respiratory protection

Breathing apparatus in case of high concentrations, short term: filter appliance, filter A In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	Liquid
Colour:	various, depending on coloration
Odour:	characteristic

Changes in the physical state

Melting point/freezing point:	not determined
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Safety Data Sheet

according to UK REACH Regulation

e-shell 501

Revision date: 17.01.2022

Product code: 1500400

Page 5 of 9

Boiling point or initial boiling point and boiling range: > 100 °C

Flash point: > 150 °C

Flammability

Solid/liquid: not applicable

Gas: not applicable

Lower explosion limits: not determined

Upper explosion limits: not determined

Self-ignition temperature

Solid: not applicable

Gas: not applicable

Decomposition temperature: not determined

pH-Value: not determined

Viscosity / dynamic:
(at 20 °C) 400 mPa·s

Water solubility: The study does not need to be conducted because the substance is known to be insoluble in water.

Solubility in other solvents

The substance is not soluble in water.

Partition coefficient n-octanol/water: not determined

Vapour pressure: not determined

Density: not determined

Relative vapour density: not determined

9.2. Other information**Other safety characteristics**

Solid content: not determined

Evaporation rate: not determined

Further Information**SECTION 10: Stability and reactivity****10.1. Reactivity**

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

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

10.4. Conditions to avoid

Protect from the action of light. Keep only in the original container at a temperature between 5 -30 °C. Can polymerize with intense heat release.

10.5. Incompatible materials

Oxidising agent, Reducing agent, Heavy metals, acids, Alkali (lye)

10.6. Hazardous decomposition products

No known hazardous decomposition products.

Safety Data Sheet

according to UK REACH Regulation

e-shell 501

Revision date: 17.01.2022

Product code: 1500400

Page 6 of 9

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in GB CLP Regulation****Acute toxicity**

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
2455-24-5	Tetrahydrofurfurylmethacrylat (THFMA)				
	oral	LD50 mg/kg	4000	Rat	OECD 401
72869-86-4	urethane dimethacrylate (UDMA)				
	oral	LD50 mg/kg	>2000	Rat	OECD 401
	inhalation (4 h) aerosol	LC50	>5 mg/l		
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (TPO)				
	oral	LD50 mg/kg	> 5000	Rat	RTECS

Irritation and corrosivity

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

May cause mild skin and eye irritation.

Sensitising effects

May cause an allergic skin reaction. (Tetrahydrofurfurylmethacrylat (THFMA); urethane dimethacrylate (UDMA); Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (TPO))

Possible sensitization in case of persons suffering from hypersensitivity.

Carcinogenic/mutagenic/toxic effects for reproduction

May damage the unborn child. (Tetrahydrofurfurylmethacrylat (THFMA))

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: 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.

Repeated dose toxicity (Tetrahydrofurfuryl methacrylate (THFMA)): Rat, oral, OECD 422, NOAEL: 300 mg/kg

Aspiration hazard

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

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. Special hazards arising from the substance or mixture!

Further information

Product has not been tested. The statement is derived from the properties of the components.

SECTION 12: Ecological information**12.1. Toxicity**

Aquatic toxicity: The classification criteria for this hazard class are not met by definition.

Safety Data Sheet

according to UK REACH Regulation

e-shell 501

Revision date: 17.01.2022

Product code: 1500400

Page 7 of 9

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
72869-86-4	urethane dimethacrylate (UDMA)					
	Acute fish toxicity	LC50 mg/l	10,1	96 h	Danio rerio (zebrafish)	OECD 203
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (TPO)					
	Acute crustacea toxicity	EC50 mg/l	3,53	48 h	Daphnia	

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name				
	Method	Value	d	Source	
	Evaluation				
72869-86-4	urethane dimethacrylate (UDMA)				
	Biodegradation	22 %	28	OECD 301 F	

12.3. Bioaccumulative potential

The product has not been tested.

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The product has not been tested.

12.7. Other adverse effects

No information available.

Further information

Do not allow uncontrolled discharge of product into the environment. Do not allow to enter into surface water or drains.

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.

List of Wastes Code - residues/unused products

070208 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; other still bottoms and reaction residues; hazardous waste

List of Wastes Code - used product

070208 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; other still bottoms and reaction residues; hazardous waste

List of Wastes Code - contaminated packaging

070208 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; other still bottoms and reaction residues; hazardous waste

Contaminated packaging

This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information**Land transport (ADR/RID)**

Safety Data Sheet

according to UK REACH Regulation

e-shell 501

Revision date: 17.01.2022

Product code: 1500400

Page 8 of 9

Other applicable information (land transport)

No dangerous good in sense of these transport regulations.

Inland waterways transport (ADN)**Other applicable information (inland waterways transport)**

No dangerous good in sense of these transport regulations.

Marine transport (IMDG)**Other applicable information (marine transport)**

No dangerous good in sense of these transport regulations.

Air transport (ICAO-TI/IATA-DGR)**Other applicable information (air transport)**

No dangerous good in sense of these transport regulations.

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 3

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D):

1 - slightly hazardous to water

15.2. Chemical safety assessment

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

SECTION 16: Other information**Changes**

SECTION 9: Physical and chemical properties: Boiling point or initial boiling point and boiling range

Abbreviations and acronyms

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%

Safety Data Sheet

according to UK REACH Regulation

e-shell 501

Revision date: 17.01.2022

Product code: 1500400

Page 9 of 9

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Skin Sens. 1; H317	Calculation method
Repr. 1B; H360D	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H317	May cause an allergic skin reaction.
H360D	May damage the unborn child.
H361f	Suspected of damaging fertility.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
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 hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)