

## Safety Data Sheet

according to UK REACH Regulation

**e-shell 500**

Revision date: 17.01.2022

Product code: 1500410

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

e-shell 500

**Further trade names**

e-shell 500 clear

**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	
Place:	61169 Friedberg (GER)	
Telephone:	+49 6031 7283-0	Telefax: +49 6031 7283-29
e-mail:	info@deltamed.de	
Internet:	www.deltamed.de	
Responsible Department:	F&E	
	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 4  
Hazard Statements:  
May cause an allergic skin reaction.  
May damage the unborn child.  
May cause long lasting harmful effects to aquatic life.

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

Tetrahydrofurfurylmethacrylat (THFMA)  
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.
H413	May cause long lasting harmful effects to aquatic life.

**Precautionary statements**

P201	Obtain special instructions before use.
P273	Avoid release to the environment.

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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	
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	
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.

**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

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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****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.

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**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
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

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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·sWater 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.

**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.

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
2455-24-5	Tetrahydrofurfurylmethacrylat (THFMA)				
	oral	LD50 mg/kg	4000	Rat	OECD 401
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);  
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.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
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.

**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.

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**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)****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**

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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%

**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 4; H413	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.)*