

Safety Data Sheet

according to UK REACH Regulation

M-PRINT Model 2.0 desert

Revision date: 12.12.2025

Product code: M2.0des

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

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UFI: XDH1-3ANS-6W61-V1QJ

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

, Observe instructions for use.

Uses advised against

Direct manufacture of medical devices

1.3. Details of the supplier of the safety data sheet

Company name:	Merz Dental GmbH	
Street:	Kieferweg 1	
Place:	D-24321 Luetjenburg (GERMANY)	
Telephone:	+49-(0)4381-403-0	Telefax: +49-(0)4381-403-100
E-mail:	info@merz-dental.de	
Contact person:	Chemical Compliance Manager	
Internet:	www.merz-dental.de	
Responsible Department:	Chemical Compliance Management CLP/GHS	

1.4. Emergency telephone number: +49-(0)551-19240 (Giftinformationszentrum-Nord, Göttingen) 24h / 7d

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****GB CLP Regulation**

Skin Irrit. 2; H315
Eye Irrit. 2; H319
Skin Sens. 1; H317

Full text of hazard statements: see SECTION 16.

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

Aliphatic diurethane dimethacrylate
ethylene dimethacrylate
2-[[[butylamino]carbonyl]oxy]ethyl acrylate
phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide
propoxylated glycerol triacrylate

Signal word: Warning**Pictograms:****Hazard statements**

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.

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Precautionary statements

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing and eye protection/face protection.
P362+P364	Take off contaminated clothing and wash it before reuse.
P501	Dispose of contents/container to an appropriate recycling or disposal facility.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Chemical characterization**

Light-curing (meth-)acrylate mixture

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
	Aliphatic diurethane dimethacrylate			50 - < 100 %
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1; H315 H319 H317			
97-90-5	ethylene dimethacrylate			1 - < 5 %
	202-617-2	607-114-00-5		
	Skin Sens. 1, STOT SE 3; H317 H335			
63225-53-6	2-[[[(butylamino)carbonyl]oxy]ethyl acrylate			1 - < 5 %
	Acute Tox. 4, Skin Sens. 1A, Aquatic Chronic 2; H332 H317 H411			
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide			0.1 - < 1 %
	423-340-5	015-189-00-5		
	Skin Sens. 1A, Aquatic Chronic 4; H317 H413			
52408-84-1	propoxylated glycerol triacrylate			0.1 - < 1 %
	Eye Irrit. 2, Skin Sens. 1; H319 H317			

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		
		Aliphatic diurethane dimethacrylate	50 - < 100 %
	oral: LD50 = > 5000 mg/kg		
97-90-5	202-617-2	ethylene dimethacrylate	1 - < 5 %
	oral: LD50 = 8700 mg/kg STOT SE 3; H335: >= 10 - 100		
63225-53-6		2-[[[(butylamino)carbonyl]oxy]ethyl acrylate	1 - < 5 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg		
162881-26-7	423-340-5	phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide	0.1 - < 1 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg		

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

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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.

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

Rinse mouth immediately and drink 1 glass of water.

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**

Co-ordinate fire-fighting measures to the fire surroundings.

5.3. Advice for firefighters

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

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**For cleaning up**

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**

No special measures are necessary.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

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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, drink, smoke, sniff.

Further information on handling

Sensitivity to light (photosensitive). Keep container tightly closed. Heat (> 30 °C) or UV light should be avoided in order to prevent a spontaneous and explosive polymerisation and also to prevent the accompanying generation of heat. none UV-radiation/sunlight. Can polymerise exothermically if heated, exposed to air, sunlight or by addition or free radical initiators. Avoid high temperatures or direct sunlight.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.

Hints on joint storage

No special measures are necessary.

7.3. Specific end use(s)

, Observe instructions for use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
128-37-0	2,6-Di-tert-butyl-p-cresol	-	10		TWA (8 h)	WEL

8.2. Exposure controls



Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: goggles.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. 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.

Skin protection

Use of protective clothing.

Respiratory protection

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: beige

Test method

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Boiling point or initial boiling point and boiling range:	Polym. at ~230 °C
Flammability:	not determined
Flash point:	161 °C
Auto-ignition temperature:	445 °C calculated.
Decomposition temperature:	ASTM D 2879
Viscosity / kinematic: (at 23 °C)	1126 mm ² /s DIN EN ISO 3104
Solubility in other solvents not determined	
Partition coefficient n-octanol/water:	not determined
Density:	ca. 1,1 g/cm ³
Relative vapour density:	not determined
Particle characteristics:	not applicable

9.2. Other information**Information with regard to physical hazard classes**

Explosive properties

The product is not: Explosive.

Oxidizing properties

The product is not: oxidising.

Other safety characteristicsViscosity / dynamic:
(at 23 °C)

1250 mPa·s OECD 114

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

In the presence of radical formers (e.g. peroxides, persulfates), reducing or oxidising substances and/or heavy metal ions and other polymerisation initiators as well as polymethyl methacrylates (polymer powder), polymerisation takes place under heat generation.

10.4. Conditions to avoid

UV-radiation/sunlight.

10.5. Incompatible materials

No information available.

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.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
	Aliphatic diurethane dimethacrylate				
	oral	LD50 > 5000 mg/kg	Rat oral	REACH Dossier	OECD 401
97-90-5	ethylene dimethacrylate				
	oral	LD50 8700 mg/kg	Rat	ECHA Dossier	FDA (1959)
63225-53-6	2-[[[(butylamino)carbonyl]oxy]ethyl acrylate				
	oral	LD50 > 2000 mg/kg	Rat oral	Lieferant	OECD 401
	dermal	LD50 > 2000 mg/kg	Rabbit oral	Lieferant	OECD 402
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide				
	oral	LD50 > 2000 mg/kg	Rat	Supplier	OECD 401
	dermal	LD50 > 2000 mg/kg	Rat	Supplier	OECD 402

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. (Aliphatic diurethane dimethacrylate; ethylene dimethacrylate; 2-[[[(butylamino)carbonyl]oxy]ethyl acrylate; phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide; propoxylated glycerol triacrylate)

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

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

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.

11.2. Information on other hazards

Other information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

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

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
	Aliphatic diurethane dimethacrylate					
	Acute fish toxicity	LC50 mg/l	0,715	96 h	Pimephales promelas (fathead minnow)	EpiSuite QSAR tool Quantitative structure-activity relationship (QSAR)
	Acute algae toxicity	ErC50 mg/l	> 0,68	72 h	Desmodesmus subspicatus	REACH Dossier OECD 201
	Acute crustacea toxicity	EC50 mg/l	> 1,2	48 h	Daphnia magna (Big water flea)	REACH Dossier OECD 202
	Algae toxicity	NOEC mg/l	> 0,21	3 d	Desmodesmus subspicatus	REACH Dossier OECD 201
	Crustacea toxicity	NOEC mg/l	> 1,2	2 d	Daphnia magna (Big water flea)	REACH Dossier OECD 202
63225-53-6	2-[[[butylamino]carbonyl]oxy]ethyl acrylate					
	Acute fish toxicity	LC50 mg/l	3348	96 h	Pimephales promelas (fathead minnow)	EpiSuite QSAR tool Quantitative structure-activity relationship (QSAR)
	Acute algae toxicity	ErC50 mg/l	0,294		Pseudokirchneriella subcapitata s.	EpiSuite QSAR tool Quantitative structure-activity relationship (QSAR)
	Acute crustacea toxicity	EC50 mg/l	7306	48 h	Daphnia magna (Big water flea)	EpiSuite QSAR tool Quantitative structure-activity relationship (QSAR)
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide					
	Acute fish toxicity	LC50 mg/l	> 0,09	96 h	Danio rerio (zebrafish)	Supplier
	Crustacea toxicity	NOEC mg/l	> 0,0081			Supplier OECD 211
	Acute bacteria toxicity	EC50 mg/l ()	> 100			Supplier OECD 209

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
	Aliphatic diurethane dimethacrylate			
	OECD 301 B	22 %	28	REACH Dossier
	Not readily biodegradable (according to OECD criteria)			
97-90-5	ethylene dimethacrylate			
	OECD 301 F, GLP	69 %	28	ECHA Dossier
	Readily biodegradable (according to OECD criteria).			
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide			
	OECD 301B	1%	29	
	Not readily biodegradable (according to OECD criteria)			

12.3. Bioaccumulative potential

The product has not been tested.

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Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
	Aliphatic diurethane dimethacrylate	4,69
97-90-5	ethylene dimethacrylate	2,4
63225-53-6	2-[[[(butylamino)carbonyl]oxy]ethyl acrylate	1.82
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)phosphine oxide	5,8

BCF

CAS No	Chemical name	BCF	Species	Source
	Aliphatic diurethane dimethacrylate	24,41	n/h	EpiSuite QSAR tool
97-90-5	ethylene dimethacrylate	13,32	n.n.	EPIWIN Tool
63225-53-6	2-[[[(butylamino)carbonyl]oxy]ethyl acrylate	7,325	n/h	EpiSuite QSAR tool

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 UK REACH.

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

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. 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

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

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14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Marine transport (IMDG)**14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)**14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

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, Entry 75

Information according to Directive
2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

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):

3 - highly hazardous to water

Skin resorption/Sensitization:

Causes allergic hypersensitivity reactions.

SECTION 16: Other information

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Abbreviations and acronyms

Acute Tox: Acute toxicity
Skin Irrit: Skin irritation
Eye Irrit: Eye irritation
Skin Sens: Skin sensitisation
STOT SE: Specific target organ toxicity - single exposure
Aquatic Chronic: Chronic aquatic hazard
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
EC/EEC: European Community/European Economic Community
EU: European Union
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
M-factor: Multiplying factor
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
IMDG: International Maritime Code for Dangerous Goods
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
DGR: Dangerous Goods Regulations
ICAO: International Civil Aviation Organization
TI: Technical Instructions
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

Key literature references and sources for data

ECHA
Rahn Pre-supplier/manufacturer

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

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method

Relevant H and EUH statements (number and full text)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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