HinriPrint cast UV

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

1.1 Product identifier

Tradename: HinriPrint cast UV

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

Relevant identified uses: Light curing resin for the generative fabrication of cast objects using precision casting technology

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:	ERNST HINRICHS Dental GmbH
Street / mailbox:	Borsigstr. 1
Country code. / postal code / city:	D - 38644 Goslar
Phone:	0 53 21 / 5 06 24
Fax:	0 53 21 / 5 08 81
E-mail / Website:	info@hinrichs-dental.de / www.hinrichs-dental.de
Further information obtainable from:	ERNST HINRICHS Dental GmbH

1.4 Emergency telephone number

ERNST HINRICHS Dental GmbH: +49 (0) 53 21 / 5 06 24 (Mon-Fri. 8 a.m. – 4 p.m.)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Regulation (EC) No 1272/2008:
Hazard categories:
Serious eye damage/eye irritation: Eye Irrit. 2
Respiratory or skin sensitisation: Skin Sens. 1
Hazardous to the aquatic environment: Aquatic Chronic 3
Hazard Statements:
Causes serious eye irritation.
May cause an allergic skin reaction.
Harmful to aquatic life with long lasting effects.

2.2 Label elements

Regulation (EC) No 1272/2008:

Hazard components for labelling:
aliphatic urethane acrylate
tripropyleneglycol diacrylate
tetrahydrofurfuryl methacrylate THFMA purified grade
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Signal word: Warning

Hazard pictograms:

Hazard statements:

H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements:

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water.

P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P501:	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards No information available.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical characterization: Mixture of acrylic/ methacrylic resins with auxilliary matters.

Hazardous components:

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
	acrylated resin			10-40 %
	Eye Irrit. 2; H319			
108-32-7	propylene carbonate			10-30 %
	203-572-1	607-194-00-1	01-2119537232-48	
	Eye Irrit. 2; H319			
	aliphatic urethane acrylate			1-10 %
	906-949-5		01-2120266262-	
	Skin Sens. 1B, Aquatic Chronic 2; H317 H411			
42978-66-5	tripropyleneglycol diacrylate			1-10 %
	256-032-2		01-2119484613-34	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3, Aquatic Chronic 2; H315 H319 H317 H335 H411			
2455-24-5	tetrahydrofurfuryl methacrylate THFMA purified grade			1-15 %
	Repr. 2, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3; H361 H315 H319 H317 H335			
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide			0,1-5 %
	278-355-8	015-203-00-X		
	Repr. 2, Skin Sens. 1B, Aquatic Chronic 2; H361f H317 H411			
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide			0,1-5 %
	423-340-5	015-189-00-5	01-2119489401-38	
	Skin Sens. 1, Aquatic Chronic 4; H317 H413			

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

SECTION 4: First aid measures

4.1 Description of first aid measures

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

After skin contact: After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

	After ingestion:	Rinse mouth immediately and drink plenty of water. Seek immediately medical advice. Do not induce vomiting. In case of spontaneous vomiting take care of an unhindered flow out of the vomit (danger of suffocation).
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 agents:**	Co-ordinate fire-fighting measures to the fire surroundings.
5.2	**Special hazards arising from the substance or mixture:**	Non-flammable.
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:**	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:**	Take up mechanically. 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.
7.2	**Conditions for safe storage, including any incompatibilities**	
	Requirements for storage rooms and vessels:	Keep container tightly closed.
	Advice on storage compatibility:	Keep away from spontaneous flammable or combustible substances.
	Further information on storage conditions:	Keep only in the original container in a dry and well-ventilated place, away from foodstuffs. Keep away from all kind of light. An inert gas blanket should not be applied,

because the stability of the product depends on the presence of oxygen (air).

7.3 Specific end use(s) Light-curing resin for the generative fabrication of cast objects using precision casting technology For use by trained specialist staff.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls:

Protective and hygiene measures: 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.

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. Suitable are gloves of the following material: Butyl caoutchouc (butyl rubber)

Skin protection: Wear suitable 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:	red - transparent	
Odour:	faintly like esters	
		Test method
pH:	not determined	
Changes in the physical state:		
Melting point:	not determined	
Initial boiling point and boiling range:	not determined	
Flash point:	>100 °C	DIN 51755
Flammability		
Solid:	not determined	
Gas:	not applicable	
Lower explosion limits:	not determined	
Upper explosion limits:	not determined	
Auto-ignition temperature		
Solid:	not determined	
Gas:	not applicable	
Decomposition temperature:	>=190 °C	
Oxidizing properties	Not oxidizing.	
Vapour pressure (at 20 °C):	<1 hPa	
Density (at 20 °C):	1,12 g/cm³	DIN 51757
Water solubility (at 20 °C):	practically insoluble	

Solubility in other solvents:	not determined
Partition coefficient:	not determined
Vapour density:	not determined
Evaporation rate:	not determined

9.2 Other information

Solid content:	not determined

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 Reacts with: strong oxidising agents, strong alcaline or acidic materials.

10.4 Conditions to avoid Oxidising agents, radicals forming substances or heavy metal ions. Ultra-violet light and daylight initiate polymerisation of the product. Therefore keep only in tightly closed containers away from any sources of light at 15°C - 28°C / 59°F - 82 °F.

10.5 Incompatible materials No information available.

10.6 Hazardous decomposition products In case of fire, acrid acrylic fumes may occur.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity: Based on available data, the classification criteria are not met.
For the product itself no toxicological data are available. In products with a comparable composition, a LD50 (orally, species rat) of > 5000 mg/kg has been found.

CAS No	Chemical name				
	Exposure route	**Dose**	**Species**	**Source**	**Method**
	acrylated resin				
	oral	LD50 >2000 mg/kg	Rat		
	dermal	LD50 >2000 mg/kg	Rabbit		
108-32-7	propylene carbonate				
	oral	LD50 34600 mg/kg	Rat	GESTIS	
	dermal	LD50 >23800 mg/kg	Rabbit	GESTIS	
42978-66-5	tripropyleneglycol diacrylate				
	oral	LD50 6200 mg/kg	Rat		
	dermal	LD50 >2000 mg/kg	Rabbit		
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide				
	oral	LD50 >5000 mg/kg	Rat		
	dermal	LD50 >2000 mg/kg	Rat		
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide				
	oral	LD50 >2000 mg/kg	Rat	OECD 401	
	dermal	LD50 >2000 mg/kg	Rat	OECD 402	

Irritation and corrosivity: Causes serious eye irritation. Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects: May cause an allergic skin reaction. (aliphatic urethane acrylate; tripropyleneglycol diacrylate; tetrahydrofurfuryl methacrylate THFMA purified grade; diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide; phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide)

Carcinogenic/mutagenic/toxic effects for reproduction: 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.

Additional information on tests: This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP].

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

CAS No	Chemical name					
	Aquatic toxicity	**Dose**	**[h] | [d]**	**Species**	**Source**	**Method**
108-32-7	propylene carbonate					
	Acute fish toxicity	LC50 5300 mg/l	96 h	Leuciscus idus (golden orfe)	IUCLID	
	Acute crustacea toxicity	EC50 >1000 mg/l	48 h	Daphnia magna (Big water flea)	IUCLID	
42978-66-5	tripropyleneglycol diacrylate					
	Acute fish toxicity	LC50 4,5-10 mg/l	96 h	Leuciscus idus (golden orfe)		
	Acute algae toxicity	ErC50 >28 mg/l	72 h	Desmodesmus subspicatus.		
	Acute crustacea toxicity	EC50 88,7 mg/l	48 h	Daphnia magna (Big water flea)		
2455-24-5	tetrahydrofurfuryl methacrylate THFMA purified grade					
	Acute fish toxicity	LC50 34,7 mg/l	96 h			
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide					
	Acute algae toxicity	ErC50 >2,01 mg/l	72 h	Scenedesmus subspicatus		
	Acute crustacea toxicity	EC50 3,53 mg/l	48 h	Daphnia magna (Big water flea)		
	Acute bacteria toxicity	(>1000 mg/l)	3 h	Activated sludge		
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide					
	Acute fish toxicity	LC50 >0,09 mg/l	96 h	Brachydanio rerio	OECD 203	

				(zebra-fish)		
	Acute algae toxicity	ErC50 >0,26 mg/l	72 h	Desmodesmus subspicatus.	OECD 201	
	Acute crustacea toxicity	EC50 >1,175 mg/l	48 h	Daphnia magna (Big water flea)	OECD 202	
	Crustacea toxicity	NOEC >0,008 mg/l	21 d	Daphnia magna (Big water flea)	OECD 211	
	Acute bacteria toxicity	(>100 mg/l)	3 h	OECD 209		

12.2 Persistence and degradability: The product has not been tested

CAS No	Chemical name			
	Method	**Value**	**d**	**Source**
	Evaluation			
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide			
		0-10%	28	
	Not readily biodegradable (according to OECD criteria)			
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide			
	CO2 formation (% of the theoretical value).	1%	29	
	Not readily biodegradable (according to OECD criteria)			

12.3 Bioaccumulative potential: The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
108-32-7	propylene carbonate	-0,41
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	3,1
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	5,8

BCF

CAS No	Chemical name	BCF	Species	Source
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	47-55	Cyprinus carpio (Common Carp)	
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	<5	Cyprinus carpio (Common Carp)	OECD 305

12.4 Mobility in soil: The product has not been tested.

12.5 Results of PBT and vPvB assessment: Not identified as PBT/ vPvB substances

12.6 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

Advice on disposal: 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.

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:**	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:**	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.

Marine transport (IMDG)

14.1	**UN 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:**	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	**Marine pollutant:**	No dangerous good in sense of this transport regulation.
14.6	**Special precautions for user:**	No information available.
14.7	**Transport in bulk according to Annex II of Marpol and the IBC Code:**	Not applicable.

SECTION 15: Regulatory information

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

National regulatory information

Employment restrictions:	Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).
Water contaminating class (D):	3 - highly water contaminating
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:

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**
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

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