

Safety Data Sheet

according to Regulation (EC) No 1907/2006

IP-n162

Revision date: 05/05/2021

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

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

UV-curable photoresin that can be used particularly for two-photon absorption lithography.

1.3. Details of the supplier of the safety data sheet

Company name:	Nanoscribe GmbH & Co.KG	
Street:	Hermann-von-Helmholtz-Platz 6	
Post code and city:	D-76344 Eggenstein-Leopoldshafen	
Telephone:	+49 721 981 980 0	Telefax: +49 721 981 980 130
Email:	service@nanoscribe.com	
Internet:	http://www.nanoscribe.com	

1.4. Emergency telephone number:

+49 761 19240 -- University Medical Center Freiburg (Poison Information Center)

Further Information

Technical information service: +49 721 981 980 4 -- The technical information service is only available during regular office hours: Monday – Friday 08:00 am – 04:00 pm UTC+1

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008****Hazard categories:**

Skin corrosion/irritation: Skin Irrit. 2

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 skin irritation.

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**

biphenyl-2-ol, ethoxylated, esters with acrylic acid

Signal word: Warning

Pictograms:**Hazard statements**

H315	Causes skin irritation.
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.

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.

5.2. 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 to enter drains or surface water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General measures**

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**

Absorb with liquid-binding material (e.g. 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**

Minimum standard for preventive measures while handling with working materials are specified according to TRGS 500.

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. Container should be labelled clearly. Store at 4 - 8 °C. Keep away from light and light sources. Store away from water.

Suggestions for combined storage

No special measures are necessary.

Further information on storage conditions

Please follow the manufacturer's instructions concerning storage and shelf life.

7.3. Specific end uses(s)**2.80**

Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P302+P352

P305+P351+P338

IF ON SKIN: Wash with plenty of water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

IF SKIN IRRITATION OR RASH OCCURS: Get medical advice/attention.

P333+P313

P337+P313

2.3. Other hazards

No information available.

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

CAS No	Chemical name	Quantity
EC No	Index No	REACH No
GHS Classification		
161182-73-6	9H-fluorene-9,9-diybis(4',1'-dilyl) bisacrylate	< 85 %
643-076-6	Aquatic Chronic 3: H412	
72009-86-0	biphenyl-2-ol, ethoxylated, esters with acrylic acid	< 25 %
600-247-9	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 2, H315 H319 H317 H411	
150-76-5	4-methoxyphenol	< 1 %
205-769-8	604-044-00-7	01-2119541813-40
Acute Tox. 4, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 3, H302 H319 H317 H412		

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			
150-76-5	205-769-8	4-methoxyphenol	< 1 %
dermal: LD50 = > 2000 mg/kg; oral: LD50 = 1630 mg/kg			

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, seek medical advice.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Immediately remove all contaminated clothing and wash contaminated items before reuse. Medical treatment necessary.

After contact with the 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

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

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

No information available.



Self-ignition temperature: not applicable
 Solid: not applicable
 Gas: not applicable
 Decomposition temperature: not determined
 Oxidizing properties: Not oxidising.
 Vapour pressure: not determined
 Density: not determined
 Water solubility: The property is not applicable because the substance is known to be insoluble in water.
 Solubility in other solvents: e.g. Acetone, Isopropanol
 Partition coefficient n-octanol/water: not determined
 Relative 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. Cures with UV light.
 10.2. Chemical stability
 The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions
 No known hazardous reactions.

10.4. Conditions to avoid
 Keep away from light and light sources.

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 Regulation (EC) No 1272/2008

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

CAS No	Chemical name	Exposure route	Dose	Species	Source	Method
150-76-5	4-methoxyphenol	oral	LD50 1630 mg/kg	Rat	supplier's MSDS	ATC METHOD
		dermal	LD50 > 2000 mg/kg	Rat	supplier's MSDS	OECD 402

Irritation and corrosivity



UV-curable photoinitiator

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls



Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Plan and execute 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.

Eye/face protection

Suitable eye protection: goggles.

Hand protection

When handling chemical substances, protective gloves with CE label, including the four control digits, must be worn. The quality of the protective gloves resistant to chemicals must be selected as a function of the specific working place concentration and amount of hazardous substances. For special requirements, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear 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: Yellowish

Odour: Characteristic

pH-Value: not determined

Changes in the physical state: not determined

Melting point: not determined

Boiling point or initial boiling point and boiling range: not determined

Flash point: not determined

Flammability: not determined

Solid/liquid: not applicable

Gas: not applicable

Explosive properties: The product is not Explosive.

Lower explosion limits: not determined

Upper explosion limits: not determined



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The product has not been tested.

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.

Contaminated packaging

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

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.

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.

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No dangerous good in sense of this transport regulation.

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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.

14.6. 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



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Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction: (biphenyl-2-ol, ethoxylated, esters with acrylic acid; 4-methoxypheno)

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

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

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

Chemical name

4-methoxyphenol

Aquatic toxicity

CAS No	Dose	[n] [d] Species	Source	Method
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Acute fish toxicity

LC50	28,5 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	supplier's MSDS	OECD 203
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Acute algae toxicity

EC50	54,7 mg/l	72 h	Pseudokirchneriella subcapitata	supplier's MSDS	OECD 201
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Acute crustacea toxicity

EC50	3 mg/l	48 h	Daphnia magna (Big water flea)	supplier's MSDS	OECD 202
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Algae toxicity

NOEC	2,96 mg/l		Freshwater algae	ECHA	
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Crustacea toxicity

NOEC	0,680 mg/l	21 d	Freshwater invertebrates	ECHA	
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12.2. Persistence and degradability

The product has not been tested.

Chemical name

CAS No	Method	Value	d	Source
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Evaluation

150-76-5	4-methoxyphenol	OECD 301 C	86%	28	supplier's MSDS
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12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

12.4. Mobility in soil

The product has not been tested.

Chemical name

CAS No	Chemical name	Log Pow
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4-methoxyphenol

150-76-5		1,34
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12.5. Results of PBT and vPvB assessment

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
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)

- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

Further information

The above information exclusively describes the safety requirements of the product and is based on our present-day knowledge. The information is intended to provide 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. Should the product be processed or mixed with other products, the information on this safety data sheet is not necessarily valid for the new formulation. The receiver of our product is singularly responsible for adhering to existing laws and regulations. It is prohibited to distribute or otherwise make available neither in full nor in part any Nanoscribe material safety data sheet in a publicly accessible manner.

Identified uses

No	Short title	LCS	SU	PC	PROC	ERC	AC	TF	Specification
1	UV-curable photoinitiator (two-photon absorption lithography)	-	-	-	-	-	-	-	IP resin

LCS: Life cycle stages
 PC: Product categories
 PROC: Process categories
 AC: Article categories
 TF: Technical functions

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

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

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

National regulatory information

Observe restrictions to employment for juveniles according to the juvenile work protection guideline (94/33/EC).

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 4,5,7,8,9,16.

Abbreviations and acronyms

CLP: Classification, Labeling and Packaging
 REACH: Registration, Evaluation and Authorization of Chemicals
 GHS: Globally Harmonised System of Classification, Labeling and Packaging
 UN: United Nations
 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%
 EC50: Effective Concentration 50%, Growth Rate
 NOEC: No Observed Effect Concentration
 BCF: Bio-Concentration Factor
 vPvB: very Persistent, very Bioaccumulative
 PBT: Persistent, Bioaccumulative, Toxic
 IMDG: International Maritime Code for Dangerous Goods
 EMS: Emergency Schedules
 MFA: Medical First Aid Guide
 IATA: International Air Transport Association
 ICAO: International Civil Aviation Organization
 MARPOL: International Convention for the Prevention of Marine Pollution from Ships
 IB: Intermediate Bulk Container
 SVHC: Substance of Very High Concern
 For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

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)