



Safety Data Sheet according to (EC) No 1907/2006

Page 1 of 11

3491 Light Cure Adhesive UV Cure

sds no. : 153581
V005.2

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

Product identifier:

3491 Light Cure Adhesive UV Cure

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

Intended use:
Ultraviolet adhesive

Details of the supplier of the safety data sheet:

Henkel Limited
2 Bishop Square Business Park
AL109EY Herfordshire Hatfield

Great Britain

Phone: +44 1606 593933
Fax-no.: +44 1606 863762

ua-productsafety.uk@uk.henkel.com

Emergency Telephone Number:

24 Hours Emergency Tel: +44 (0)1442 278497

SECTION 2: Hazards identification

Classification of the substance or mixture:

Classification (DPD):

Xi - Irritant
R36/37/38 Irritating to eyes, respiratory system and skin.
Xi - Irritant
R43 May cause sensitisation by skin contact.
N - Dangerous for the environment
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Label elements (DPD):

N - Dangerous for the environment

Xi - Irritant



Risk phrases:

R36/37/38 Irritating to eyes, respiratory system and skin.

R43 May cause sensitisation by skin contact.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:

S23 Do not breathe vapour/spray.

S24/25 Avoid contact with skin and eyes.

S36/37 Wear suitable protective clothing and gloves.

S51 Use only in well-ventilated areas.

S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

Additional labeling:

For consumer use only: S2 Keep out of the reach of children

S46 If swallowed, seek medical advice immediately and show this container or label.

Contains:

2-Hydroxyethyl methacrylate,

Hydroxypropyl methacrylate,

[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane

Other hazards:

None if used properly.

SECTION 3: Composition/information on ingredients

General chemical description:

UV curing acrylic adhesive

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Isobornyl acrylate 5888-33-5	227-561-6	30- 60 %	Serious eye irritation 2 H319 Skin irritation 2 H315 Chronic hazards to the aquatic environment 2 H411 Specific target organ toxicity - single exposure 3 H335
Isobornyl methacrylate 7534-94-3	231-403-1	1- 10 %	Serious eye irritation 2 H319 Skin irritation 2 H315 Specific target organ toxicity - single exposure 3 H335
Acrylic acid 79-10-7	201-177-9 01-2119452449-31	1- 5 %	Acute toxicity 4; Oral H302 Skin corrosion 1A H314 Flammable liquids 3 H226 Acute toxicity 4; Dermal H312 Acute hazards to the aquatic environment 1 H400 Acute toxicity 4; Inhalation H332
2-Hydroxyethyl methacrylate 868-77-9	212-782-2 01-2119490169-29	1- 10 %	Serious eye irritation 2 H319 Skin irritation 2 H315 Skin sensitizer 1 H317
[3-(2,3- Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	219-784-2 01-2119513212-58	1- 5 %	Serious eye damage/eye irritation 1 H318

Only dangerous ingredients for which a CLP classification is already available are displayed in this table.
For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.

Declaration of ingredients according to DPD (EC) No 1999/45:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Isobornyl acrylate 5888-33-5	227-561-6	30 - 60 %	Xi - Irritant; R36/37/38 N - Dangerous for the environment; R51/53
Isobornyl methacrylate 7534-94-3	231-403-1	1 - 10 %	N - Dangerous for the environment; R51/53 Xi - Irritant; R36/37/38
Acrylic acid 79-10-7	201-177-9 01-2119452449-31	1 - 5 %	Xn - Harmful; R20/21/22 R10 C - Corrosive; R35 N - Dangerous for the environment; R50
Hydroxypropyl methacrylate 27813-02-1	248-666-3	1 - 5 %	Xi - Irritant; R36, R43
2-Hydroxyethyl methacrylate 868-77-9	212-782-2 01-2119490169-29	1 - 10 %	Xi - Irritant; R36/38 R43
[3-(2,3- Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	219-784-2 01-2119513212-58	1 - 5 %	Xi - Irritant; R41

For full text of the R-Phrases indicated by codes see section 16 'Other Information'.
Substances without classification may have community workplace exposure limits available.

SECTION 4: First aid measures

Description of first aid measures:

Inhalation:

Move to fresh air. If symptoms persist, seek medical advice.
Consideration should be given to the possible effects of a faulty UV source (Stray radiation, ozone).

Skin contact:

Immediately wash skin thoroughly with soap and water.
In case of adverse health effects seek medical advice.

Eye contact:

Rinse immediately with plenty of running water (for 10 minutes). Seek medical attention if necessary.

Ingestion:

Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

Most important symptoms and effects, both acute and delayed:

SKIN: Rash, Urticaria.

Indication of any immediate medical attention and special treatment needed:

See section: Description of first aid measures

SECTION 5: Firefighting measures

Extinguishing media:

Suitable extinguishing media:

Carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:

None known

Special hazards arising from the substance or mixture:

None
Oxides of carbon.

Advice for firefighters:

Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Avoid skin and eye contact.
Ensure adequate ventilation.

Environmental precautions:

Do not let product enter drains.

Methods and material for containment and cleaning up:

For small spills wipe up with paper towel and place in container for disposal.
For large spills absorb onto inert absorbent material and place in sealed container for disposal.

Reference to other sections:

See advice in chapter 8

SECTION 7: Handling and storage

Precautions for safe handling:

Use only in well-ventilated areas.
Avoid skin and eye contact.
Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.

Hygiene measures:

Good industrial hygiene practices should be observed.
Good industrial hygiene practices should be observed.

Conditions for safe storage, including any incompatibilities:

Store in original containers at 8-21°C (46.4-69.8°F) and do not return residual materials to containers as contamination may reduce the shelf life of the bulk product.

Specific end use(s):

Ultraviolet adhesive

SECTION 8: Exposure controls/personal protection**Control parameters:****Exposure controls:****Engineering controls:**

UV lamp should be designed, installed and operated in such a way as to eliminate exposure of the skin and eyes to stray radiation

Respiratory protection:

Use only in well-ventilated areas.
Do not inhale vapors and fumes.

Hand protection:

The use of chemical resistant gloves such as Nitrile are recommended.
Please note that in practice the working life of chemical resistant gloves may be considerably reduced as a result of many influencing factors (e.g. temperature). Suitable risk assessment should be carried out by the end user. If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:

Wear protective glasses.

Skin protection:

Wear suitable protective clothing.

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

Appearance	liquid Clear
Odor	characteristic
pH	No data available / Not applicable
Initial boiling point	> 148,0 °C (> 298.4 °F)
Flash point	> 93 °C (> 199.4 °F)
Decomposition temperature	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Density	1,0500 g/cm ³
()	
Bulk density	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Solubility (qualitative)	Slight
(Solvent: Water)	
Solidification temperature	No data available / Not applicable
Melting point	No data available / Not applicable
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	No data available / Not applicable
Partition coefficient: n-octanol/water	No data available / Not applicable
Evaporation rate	No data available / Not applicable

Vapor density
Oxidising properties

No data available / Not applicable
No data available / Not applicable

Other information:

No data available / Not applicable

SECTION 10: Stability and reactivity**Reactivity:**

Reaction with strong acids.
Reacts with strong oxidants.

Chemical stability:

Stable under recommended storage conditions.

Possibility of hazardous reactions:

See section reactivity

Conditions to avoid:

Stable under normal conditions of storage and use.
Protect from direct sunlight.

Incompatible materials:

No data available.

Hazardous decomposition products:

carbon oxides.

SECTION 11: Toxicological information**General toxicological information:**

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Oral toxicity:

May cause irritation to the digestive tract.

Inhalative toxicity:

Irritating to respiratory system

Skin irritation:

It is irritating and sensitising to the skin

Eye irritation:

Irritating to eyes.

Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
[3-(2,3-Epoxypropoxy)propyl]tri methoxysilane 2530-83-8	LD50 LC50 LD50	> 5,3 mg/l	oral inhalation dermal		rat rat rabbit	OECD Guideline 401 (Acute Oral Toxicity) OECD Guideline 403 (Acute Inhalation Toxicity) OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
[3-(2,3-Epoxypropoxy)propyl]tri methoxysilane 2530-83-8	not irritating	24 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
[3-(2,3-Epoxypropoxy)propyl]tri methoxysilane 2530-83-8	highly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
[3-(2,3-Epoxypropoxy)propyl]tri methoxysilane 2530-83-8	not sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Acrylic acid 79-10-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		
2-Hydroxyethyl methacrylate 868-77-9	positive negative	in vitro mammalian chromosome aberration test bacterial reverse mutation assay (e.g Ames test)	with and without with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) OECD Guideline 471 (Bacterial Reverse Mutation Assay)
[3-(2,3-Epoxypropoxy)propyl]tri methoxysilane 2530-83-8	A Mutagenic potential cannot be excluded.	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
[3-(2,3-Epoxypropoxy)propyl]tri methoxysilane 2530-83-8	A Mutagenic potential cannot be excluded.			mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Repeated dose toxicity

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
[3-(2,3-Epoxypropoxy)propyl]tri methoxysilane 2530-83-8	NOAEL=500 mg/kg	oral: unspecified	28 d	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
[3-(2,3-Epoxypropoxy)propyl]tri methoxysilane 2530-83-8	NOAEL=0,225 mg/kg	inhalation	14 d	rat	OECD Guideline 412 (Repeated Dose Inhalation Toxicity: 28/14-Day)

SECTION 12: Ecological information**General ecological information:**

Do not empty into drains / surface water / ground water.

Toxic to aquatic organisms

May cause long-term adverse effects in the aquatic environment.

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Mobility:

Cured adhesives are immobile.

Toxicity:

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Isobornyl acrylate 5888-33-5	EC50	1 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Isobornyl acrylate 5888-33-5	IC50	4,2 mg/l	Algae	72 h	Pseudokirchnerella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Isobornyl methacrylate 7534-94-3	LC50	1,79 mg/l	Fish	96 h		OECD Guideline 203 (Fish, Acute Toxicity Test)
Isobornyl methacrylate 7534-94-3	EC50	1,1 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Acrylic acid 79-10-7	LC50	27 mg/l	Fish	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	OECD Guideline 203 (Fish, Acute Toxicity Test)
Acrylic acid 79-10-7	EC50	47 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Acrylic acid 79-10-7	EC50	0,04 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Hydroxypropyl methacrylate 27813-02-1	LC50	493 mg/l	Fish	48 h	Leuciscus idus melanotus	
2-Hydroxyethyl methacrylate 868-77-9	LC50	227 mg/l	Fish	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-Hydroxyethyl methacrylate 868-77-9	EC50	380 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-Hydroxyethyl methacrylate 868-77-9	EC50	345 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
[3-(2,3- Epoxypropoxy)propyl]trimeth oxysilane 2530-83-8	LC50	55 mg/l	Fish	96 h	Cyprinus carpio	OECD Guideline 203 (Fish, Acute Toxicity Test)
[3-(2,3- Epoxypropoxy)propyl]trimeth oxysilane 2530-83-8	EC50	473 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
[3-(2,3- Epoxypropoxy)propyl]trimeth oxysilane 2530-83-8	EC50	255 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)

Persistence and degradability:

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
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Isobornyl acrylate 5888-33-5		no data	72,9 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Isobornyl methacrylate 7534-94-3			26,8 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Acrylic acid 79-10-7	readily biodegradable	aerobic	81 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Hydroxypropyl methacrylate 27813-02-1	readily biodegradable	aerobic	94,2 %	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
2-Hydroxyethyl methacrylate 868-77-9	readily biodegradable	aerobic	98 %	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8		aerobic	37 %	OECD Guideline 301 A (new version) (Ready Biodegradability: DOC Die Away Test)

Bioaccumulative potential / Mobility in soil:

Hazardous components CAS-No.	LogKow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
Isobornyl acrylate 5888-33-5	4,21					OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Acrylic acid 79-10-7	0,46				25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Hydroxypropyl methacrylate 27813-02-1	0,97					

SECTION 13: Disposal considerations**Waste treatment methods:**

Product disposal:

Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:

After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

Disposal must be made according to official regulations.

Waste code

08 04 09 waste adhesives and sealants containing organic solvents and other dangerous substances

SECTION 14: Transport information**Road transport ADR:**

Class:	9
Packaging group:	III
Classification code:	M6
Hazard ident. number:	90
UN no.:	3082
Label:	9
Technical name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl acrylate)
Tunnelcode:	(E)

Railroad transport RID:

Class: 9
Packaging group: III
Classification code: M6
Hazard ident. number: 90
UN no.: 3082
Label: 9
Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (Isobornyl acrylate)
Tunnelcode:

Inland water transport ADN:

Class: 9
Packaging group: III
Classification code: M6
Hazard ident. number: 90
UN no.: 3082
Label: 9
Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (Isobornyl acrylate)

Marine transport IMDG:

Class: 9
Packaging group: III
UN no.: 3082
Label: 9
EmS: F-A ,S-F
Seawater pollutant: Marine pollutant
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (Isobornyl acrylate)

Air transport IATA:

Class: 9
Packaging group: III
Packaging instructions (passenger): 964
Packaging instructions (cargo): 964
UN no.: 3082
Label: 9
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Isobornyl
acrylate)

SECTION 15: Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture:**

VOC content < 5,00 % (As defined in the Council Directive 2004/42/EC)
(2004/42/EC)

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

- R10 Flammable.
- R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
- R35 Causes severe burns.
- R36 Irritating to eyes.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R36/38 Irritating to eyes and skin.
- R41 Risk of serious damage to eyes.
- R43 May cause sensitisation by skin contact.
- R50 Very toxic to aquatic organisms.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- H226 Flammable liquid and vapor.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H400 Very toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.

Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

This safety data sheet was prepared in accordance with Council Directive 67/548/EEC and its subsequent amendments, and Commission Directive 1999/45/EC.