



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

Page 1 of 12

3211 Adhesive

sds no. : 153593
V005.1

Revision: 17.08.2011
printing date: 17.04.2012

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

Product identifier:

3211 Adhesive

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 Ireland Limited
Product Safety & Regulatory Affairs
Tallaght Business Park, Whitestown
Dublin 24

Ireland

Phone: +353 (14046444)

Fax-no.: +353 (14519926)

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:

S24 Avoid contact with skin.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28 After contact with skin, wash immediately with plenty of water and soap.

S37 Wear suitable gloves.

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

Contains:

2-Hydroxyethyl 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- 40 %	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
2-Hydroxyethyl methacrylate 868-77-9	212-782-2	10- 20 %	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	1- 3 %	Serious eye damage 1 H318
2-Hydroxyethyl acrylate 818-61-1	212-454-9	0,1 - < 0,2 %	Skin corrosion 1B H314 Acute hazards to the aquatic environment 1 H400 Acute toxicity 3; Dermal H311 Skin sensitizer 1 H317

**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 - 40 %	Xi - Irritant; R36/37/38 N - Dangerous for the environment; R51/53
2-Hydroxyethyl methacrylate 868-77-9	212-782-2	10 - 20 %	Xi - Irritant; R36/38 R43
Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8	246-386-6	1 - 5 %	N - Dangerous for the environment; R50/53
[3-(2,3- Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	219-784-2	1 - 3 %	Xi - Irritant; R41
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	278-355-8	1 - < 5 %	N - Dangerous for the environment; R51/53 Toxic for reproduction - category 3.; Xn - Harmful; R62
2-Hydroxyethyl acrylate 818-61-1	212-454-9	0,1 - < 0,2 %	T - Toxic; R24 C - Corrosive; R34 R43 N - Dangerous for the environment; R50

**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.

Skin contact:

Rinse with running water and soap.
Seek medical advice.

Eye contact:

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

Ingestion:

Rinse out mouth, drink 1-2 glasses of water, do not induce vomiting.
Seek medical advice.

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, oxides of nitrogen, irritating organic vapors.

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.

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.

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.

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.

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

nitrile rubber (NBR; ≥ 0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):

nitrile rubber (NBR; ≥ 0.4 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). 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	mild
pH	No data available / Not applicable
Initial boiling point	> 93 °C (> 199.4 °F)
Flash point	86 °C (186.8 °F)
Decomposition temperature	No data available / Not applicable
Vapour pressure	6,67 mbar
Density (ρ)	1,1642 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) (Solvent: Water)	Slight
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	No data available / Not applicable
Oxidising properties	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

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	not 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
2-Hydroxyethyl methacrylate 868-77-9	negative positive	bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test	with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
[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)
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)
Ethanone, 2,2-dimethoxy-1,2- diphenyl- 24650-42-8	LC50	7,2 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Ethanone, 2,2-dimethoxy-1,2- diphenyl- 24650-42-8	EC50	26 mg/l	Daphnia	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Ethanone, 2,2-dimethoxy-1,2- diphenyl- 24650-42-8	EC50	0,17 mg/l	Algae	72 h	Scenedesmus sp.	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)
Diphenyl-2,4,6- trimethylbenzoyl phosphine oxide 75980-60-8	LC50	1 - 10 mg/l	Fish	48 h	Oryzias latipes	OECD Guideline 203 (Fish, Acute Toxicity Test)
Diphenyl-2,4,6- trimethylbenzoyl phosphine oxide 75980-60-8	EC50	10 - 100 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Diphenyl-2,4,6- trimethylbenzoyl phosphine oxide 75980-60-8	EC50	10 - 100 mg/l	Algae	72 h		OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Hydroxyethyl acrylate 818-61-1	LC50	4,8 mg/l	Fish	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-Hydroxyethyl acrylate 818-61-1	EC50	0,78 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Persistence and degradability:

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
---------------------------------	--------	-------------------------	---------------	--------

Isobornyl acrylate 5888-33-5		no data	72,9 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle 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)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8			< 20 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
2-Hydroxyethyl acrylate 818-61-1	readily biodegradable	aerobic	> 70 %	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)
Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8	3,42					
2-Hydroxyethyl acrylate 818-61-1	-0,21					

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. (2,2-Dimethoxy-1,2-diphenylethan-1-one)
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. (2,2-Dimethoxy-1,2-diphenylethan-1-one)
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. (2,2-Dimethoxy-1,2-diphenylethan-1-one)

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. (2,2-Dimethoxy-1,2-diphenylethan-1-one)

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. (2,2-Dimethoxy-
1,2-diphenylethan-1-one)

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

VOC content < 3,00 %
(1999/13/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:

- R24 Toxic in contact with skin.
- R34 Causes burns.
- 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.
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R62 Possible risk of impaired fertility.

- H311 Toxic 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.
- 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.