Safety Data Sheet

LOCTITE AA 3321 BO1.8L EGFDI

SDS No. : 153595
V002.17
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Section 1. Identification of the substance/preparation and of the company/undertaking

Product name:
LOCTITE AA 3321 BO1.8L EGFDI

Other means of identification:
LOCTITE AA 3321 BO1.8L EGFDI

Product code:
IDH2079977

Recommended use of the chemical and restrictions on use

Intended use:
Ultraviolet adhesive

Manufacturer/Importer/Distributor Representative Company

Henkel Thailand Ltd. The Offices at Centralworld,
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E-mail address of person responsible for Safety Data Sheet:
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Emergency Telephone for Chemical Accidents:
FOR EMERGENCIES ONLY (Spill, major leak, Fire, Exposure, or Accident). Call: +662 209 8008

Section 2. Hazards identification

GHS Classification:

Hazard Class	Hazard Category	Route of Exposure
Acute toxicity	Category 4	Oral
Serious eye damage/eye irritation	Category 1	
Skin sensitizer	Category 1	
Toxic to reproduction	Category 1B	
Acute hazards to the aquatic environment	Category 1	
Chronic hazards to the aquatic environment	Category 1	

GHS label elements:

Hazard pictogram:



Signal word:
Danger

Hazard statement:
H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H360 May damage fertility or the unborn child.
H410 Very toxic to aquatic life with long lasting effects.

Precaution:

Prevention:
P201 Obtain special instructions before use.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/… if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Disposal:
P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Section 3. Composition / information on ingredients

Substance or Mixture:
Mixture

Declaration of hazardous chemical:

Hazard component CAS-No.	Content	GHS Classification
Isobornyl acrylate 5888-33-5	30- 60 %	Acute toxicity 5; Oral H303 Skin sensitizer 1A H317 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410
N,N-Dimethylacrylamide 2680-03-7	10- 30 %	Flammable liquids 4 H227 Acute toxicity 3; Oral H301 Acute toxicity 3; Dermal H311 Serious eye damage/eye irritation 1 H318 Skin sensitizer 1B H317
Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8	1- 10 %	Acute toxicity 4; Oral H302 Specific target organ toxicity - repeated exposure 2 H373 Acute hazards to the aquatic environment 3 H402 Chronic hazards to the aquatic environment 3 H412
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	1- 10 %	Acute toxicity 5; Dermal H313 Serious eye damage/eye irritation 1 H318 Acute hazards to the aquatic environment 3 H402 Chronic hazards to the aquatic environment 3 H412
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	0.1- 1 %	Skin sensitizer 1B H317 Toxic to reproduction 1B H360 Acute hazards to the aquatic environment 2 H401 Chronic hazards to the aquatic environment 2 H411
Camphene 79-92-5	0.1- 1 %	Flammable solids 2 H228 Serious eye damage/eye irritation 2B H320 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410
1,7,7-Trimethyltricyclo[2.2.1.02,6]heptane 508-32-7	0.1- 1 %	Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410
2-Hydroxyethyl acrylate 818-61-1	0.1- 1 %	Acute toxicity 4; Oral H302 Acute toxicity 3; Dermal H311 Skin corrosion/irritation 1 H314 Skin sensitizer 1 H317 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 3 H412

Section 4. 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:
Rinse with running water and soap.
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.

Section 5. Fire fighting measures

Suitable extinguishing media:
Carbon dioxide, foam, powder

Specific hazards arising from the chemical:
In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released.

Special protection equipment and precautions for firefighters:
Wear self-contained breathing apparatus.
Wear protective equipment.

Additional fire fighting advice:
In case of fire, keep containers cool with water spray.

Section 6. Accidental release measures

Personal precautions:
Avoid skin and eye contact.
Ensure adequate ventilation.
Wear protective equipment.
See advice in section 8

Environmental precautions:
Do not empty into drains / surface water / ground water.

Clean-up methods:
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.
Wash spillage site thoroughly with soap and water or detergent solution.
Dispose of contaminated material as waste according to Section 13.

Section 7. Handling and storage

Handling:
Ventilation will remove any ozone that may be produced by the ultra violet lamp
Avoid skin and eye contact.
See advice in section 8

Storage:
Store in a cool, well-ventilated place.
Refer to Technical Data Sheet.

Section 8. Exposure controls / personal protection

Components with specific control parameters for workplace:

Respiratory protection:
Ensure adequate ventilation.
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area
Filter type: A (EN 14387)

Hand protection:
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:
Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.
Protective eye equipment should conform to EN166.

Body protection:
Wear suitable protective clothing.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Engineering controls:
Provide local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from the handling of this product.

General protection and hygiene measures:
The workplace should be equipped with an emergency shower and eye-rinsing facility.

Hygienic measures:
Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.
Take off contaminated clothing and wash before reuse.

Section 9. Physical and chemical properties

Appearance:	Clear liquid
Odor:	mild

Odor threshold (CA):	No data available.
pH:	Not applicable, Product reacts with water.
Melting point / freezing point:	Not applicable, Product is a liquid
Specific gravity:	1.078
Boiling point:	> 93 °C (> 199.4 °F)
Flash point:	77.8 °C (172.04 °F)
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Lower explosive limit:	No data available.
Upper explosive limit:	No data available.
Vapor pressure: (; 20 °C (68 °F))	< 5 mm hg
Vapor density:	> 1
Density:	1.078 g/cm3
Solubility:	Slight (20 °C)
Partition coefficient: n-octanol/water:	No data available.
Auto ignition:	Not applicable
Decomposition temperature:	No data available.
Viscosity:	No data available.
VOC content: (2010/75/EC)	< 3.00 %

Section 10. Stability and reactivity

Reactivity/Incompatible materials:
Reaction with strong bases
Reaction with strong acids.
Chemical stability:
Stable under recommended storage conditions.
Conditions to avoid:
Protect from direct sunlight.
Avoid contact with acids and oxidizing agents.
Hazardous decomposition products:
carbon oxides.

Section 11. Toxicological information

Oral toxicity:	Acute toxicity estimate (ATE) : 1,288 mg/kg Method: Calculation method
Dermal toxicity:	Acute toxicity estimate (ATE) : > 2,000 mg/kg Method: Calculation method

Symptoms of Overexposure**:** None known.

Acute oral toxicity:

Isobornyl acrylate 5888-33-5	Value type	LD50
	Value	4,350 mg/kg
	Species	rat
	Method	not specified
N,N-Dimethylacrylamide 2680-03-7	Value type	LD50
	Value	> 215 - 464 mg/kg
	Species	rat
	Method	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
N,N-Dimethylacrylamide 2680-03-7	Value type	Acute toxicity estimate (ATE)
	Value	216 mg/kg
	Species	
	Method	Expert judgement
Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8	Value type	LD50
	Value	1,470 mg/kg
	Species	rat
	Method	QSAR (Quantitative Structure Activity Relationship)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Value type	LD50
	Value	8,025 mg/kg
	Species	rat
	Method	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
Camphene 79-92-5	Value type	LD50
	Value	>= 5,000 mg/kg
	Species	rat
	Method	Limit Test
2-Hydroxyethyl acrylate 818-61-1	Value type	LD50
	Value	540 mg/kg
	Species	rat
	Method	not specified

Acute inhalative toxicity:

[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Value type	LC50
	Value	> 5.3 mg/l
	Exposure time	4 h
	Species	rat
	Method	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)

Acute dermal toxicity:

Isobornyl acrylate 5888-33-5	Value type	LD50
	Value	> 3,000 mg/kg
	Species	rabbit
	Method	not specified
N,N-Dimethylacrylamide 2680-03-7	Value type	LD50
	Value	500 mg/kg
	Species	rat
	Method	not specified
Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	not specified
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Value type	LD50
	Value	4,250 mg/kg
	Species	rabbit
	Method	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation:

Isobornyl acrylate 5888-33-5	Result	not irritating
	Exposure time	24 h
	Species	rabbit
	Method	other guideline:
N,N-Dimethylacrylamide 2680-03-7	Result	not irritating
	Exposure time	24 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	not irritating
	Exposure time	24 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Result	not irritating
	Exposure time	24 h
	Species	rabbit
	Method	not specified
Camphene 79-92-5	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Isobornyl acrylate 5888-33-5	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	other guideline:
N,N-Dimethylacrylamide 2680-03-7	Result	irritating or corrosive
	Exposure time	
	Species	rabbit
	Method	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
N,N-Dimethylacrylamide 2680-03-7	Result	corrosive
	Exposure time	
	Species	Bovine, cornea, in vitro test
	Method	OECD Guideline 437 (BCOP)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	corrosive
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	not specified
Camphene 79-92-5	Result	irritating
	Exposure time	24 h
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Isobornyl acrylate 5888-33-5	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
N,N-Dimethylacrylamide 2680-03-7	Result	Sub-Category 1B (sensitising)
	Test type	
	Species	
	Method	Weight of evidence
N,N-Dimethylacrylamide 2680-03-7	Result	positive
	Test type	Patch-Test
	Species	human
	Method	Patch Test
N,N-Dimethylacrylamide 2680-03-7	Result	positive
	Test type	Direct peptide reactivity assay (DPRA)
	Species	cysteine and lysine, in chemico test
	Method	OECD Guideline 442C (Direct Peptide Reactivity Assay (DPRA))
N,N-Dimethylacrylamide 2680-03-7	Result	positive
	Test type	Activation of keratinocytes
	Species	human keratinocytes, in vitro test
	Method	OECD Guideline 442D (ARE-Nrf2 Luciferase Test Method)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	not sensitising
	Test type	Buehler test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
2-Hydroxyethyl acrylate 818-61-1	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	not specified

Germ cell mutagenicity:

Isobornyl acrylate 5888-33-5	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Isobornyl acrylate 5888-33-5	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Isobornyl acrylate 5888-33-5	Result	negative
	Type of study / Route of administration	in vitro mammalian cell micronucleus test
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
N,N-Dimethylacrylamide 2680-03-7	Result	negative
	Type of study / Route of administration	
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
N,N-Dimethylacrylamide 2680-03-7	Result	negative
	Type of study / Route of administration	
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
N,N-Dimethylacrylamide 2680-03-7	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	A mutagenic potential can not be excluded.
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	A mutagenic potential can not be excluded.
	Type of study / Route of administration	
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Result	negative
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Camphene 79-92-5	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
2-Hydroxyethyl acrylate 818-61-1	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	not specified
2-Hydroxyethyl acrylate 818-61-1	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	mouse

	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Repeated dose toxicity:

Isobornyl acrylate 5888-33-5	Result	NOAEL=100 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	once daily
	Species	rat
	Method	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
N,N-Dimethylacrylamide 2680-03-7	Result	NOAEL=10 mg/kg
	Route of application	dermal
	Exposure time / Frequency of treatment	13 weeks6 hours/day, 7 days/week
	Species	rat
	Method	OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8	Result	NOAEL=42.8 mg/kg
	Route of application	oral: unspecified
	Exposure time / Frequency of treatment	45 d
	Species	rat
	Method	QSAR (Quantitative Structure Activity Relationship)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	NOAEL=1,000 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	28 d5 d / week
	Species	rat
	Method	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	NOAEL=0.225 mg/l
	Route of application	inhalation: aerosol
	Exposure time / Frequency of treatment	14 d6 h / d, 4/5 exposures/week
	Species	rat
	Method	equivalent or similar to OECD Guideline 412 (Repeated Dose Inhalation Toxicity: 28/14-Day)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Result	NOAEL=100 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	3 m5 d/w
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Camphene 79-92-5	Result	LOAEL=1,000 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	28 daysdaily
	Species	rat
	Method	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)

Section 12. Ecological information

General ecological information: Do not empty into drains / surface water / ground water.

Ecotoxicity: H410 Very toxic to aquatic life with long lasting effects.

Toxicity:

Isobornyl acrylate 5888-33-5	Value type	LC50
	Value	0.704 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Danio rerio
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Isobornyl acrylate 5888-33-5	Value type	EC50
	Value	1 mg/l

	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Isobornyl acrylate 5888-33-5	Value type	NOEC
	Value	0.405 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC50
	Value	1.98 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
N,N-Dimethylacrylamide 2680-03-7	Value type	LC50
	Value	> 120 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
N,N-Dimethylacrylamide 2680-03-7	Value type	EC50
	Value	> 120 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
N,N-Dimethylacrylamide 2680-03-7	Value type	EC50
	Value	> 400 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	50 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
N,N-Dimethylacrylamide 2680-03-7	Value type	EC50
	Value	> 1,000 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge, domestic
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8	Value type	LC50
	Value	29.67 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	QSAR
	Method	QSAR (Quantitative Structure Activity Relationship)
	Value type	NOEC
	Value	3.215 mg/l
	Acute Toxicity Study	Fish
	Exposure time	30 d
	Species	QSAR
	Method	QSAR (Quantitative Structure Activity Relationship)
Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8	Value type	EC50
	Value	18.387 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	QSAR
	Method	QSAR (Quantitative Structure Activity Relationship)
Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8	Value type	EC50
	Value	19.66 mg/l
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	other:
	Method	QSAR (Quantitative Structure Activity Relationship)

[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Value type	LC50
	Value	55 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Cyprinus carpio
	Method	EU Method C.1 (Acute Toxicity for Fish)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Value type	EC50
	Value	324 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Simocephalus vetulus
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Value type	EC50
	Value	350 mg/l
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	130 mg/l
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Value type	EC50
	Value	> 100 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge of a predominantly domestic sewage
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Value type	LC50
	Value	1.4 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Cyprinus carpio
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Value type	EC50
	Value	3.53 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Value type	EC50
	Value	> 2.01 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC10
	Value	1.56 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Value type	EC 50
	Value	> 1,000 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	30 min
	Species	
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Camphene 79-92-5	Value type	LC50
	Value	0.72 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Brachydanio rerio (new name: Danio rerio)
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Camphene 79-92-5	Value type	EC50
	Value	0.72 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna

	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Camphene 79-92-5	Value type	EC50
	Value	1.75 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	0.07 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Camphene 79-92-5	Value type	EC10
	Value	490 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
2-Hydroxyethyl acrylate 818-61-1	Value type	LC50
	Value	4.8 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Pimephales promelas
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-Hydroxyethyl acrylate 818-61-1	Value type	EC50
	Value	9.3 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-Hydroxyethyl acrylate 818-61-1	Value type	EC50
	Value	6 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	1 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Hydroxyethyl acrylate 818-61-1	Value type	EC10
	Value	> 100 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	72 h
	Species	activated sludge, domestic
	Method	other guideline:

Persistence and degradability:

Isobornyl acrylate 5888-33-5	Result	inherently biodegradable
	Route of application	aerobic
	Degradability	73.9 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	57 %
	Method	OECD Guideline 310 (Ready BiodegradabilityCO2 in Sealed Vessels (Headspace Test)
N,N-Dimethylacrylamide 2680-03-7	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	3 %

	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	37 %
	Method	EU Method C.4-A (Determination of the "Ready" BiodegradabilityDissolved Organic Carbon (DOC) Die-Away Test)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	0 - 10 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Camphene 79-92-5	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	78 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
	Result	inherently biodegradable
	Route of application	aerobic
	Degradability	78 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
2-Hydroxyethyl acrylate 818-61-1	Result	readily biodegradable
	Route of application	aerobic
	Degradability	> 79 - 80 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)

Bioaccumulative potential / Mobility in soil:

Isobornyl acrylate 5888-33-5	Bioconcentration factor (BCF)	37
	Exposure time	56 h
	Species	Danio rerio
	Temperature	24 °C
	Method	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
Isobornyl acrylate 5888-33-5	LogPow	4.52
	Temperature	
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
N,N-Dimethylacrylamide 2680-03-7	LogPow	< 0.3
	Temperature	23 °C
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8	LogPow	2.95
	Temperature	25 °C
	Method	QSAR (Quantitative Structure Activity Relationship)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane 2530-83-8	LogPow	0.5
	Temperature	20 °C
	Method	QSAR (Quantitative Structure Activity Relationship)
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8	LogPow	3.1
	Temperature	23 °C
	Method	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Camphene 79-92-5	LogPow	4.35
	Temperature	
	Method	not specified
2-Hydroxyethyl acrylate 818-61-1	LogPow	-0.17
	Temperature	25 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

Section 13. Disposal considerations

Product

Method of disposal:
Dispose of in accordance with local and national regulations.

Packaging

Disposal of uncleaned packages:
Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

Section 14. Transport information

Road transport ADR:

Class:	9
Packing 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,Isobornyl acrylate)

Railroad transport RID:

Class:	9
Packing 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,Isobornyl acrylate)

Inland water transport ADN:

Class:	9
Packing 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,Isobornyl acrylate)

Marine transport IMDG:

Class:	9
Packing 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,Isobornyl acrylate)

Air transport IATA:

Class:	9
Packing 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,Isobornyl acrylate)

Further information for transport:

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), A197 (IATA), 2.10.2.7 (IMDG), NZ 4.3(10) may be applied, which can result in a deviation from the transport classification for packed goods.

Section 15. Regulatory information

Regulatory Information:
Ministry of Industry Notice. The system to classify and communicate the hazard of hazardous material, BE. 2555

Global inventory status:

Regulatory list	Notification
TSCA	yes
DSL	yes
KECI (KR)	yes
ENCS (JP)	yes
ISHL (JP)	yes
IECSC	yes
TCSI	yes
EINECS	yes

Section 16. Other information

Disclaimer:
This Safety Data Sheet has been generated based on Ministry of Industry Notice. The system to classify and communicate the hazard of hazardous material, BE. 2555 only. No warranty or representation of any kind is given with respect to the substantive or export laws of any other jurisdiction or country. Please confirm that the information provided herein conforms to the substantive export or other law of any other jurisdiction prior to export. Please contact Henkel Product Safety and Regulatory Affairs for additional assistance.
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.
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