



Safety data sheet

1. Substance/preparation and company identification

Trade name:

BKF Siegelharz

Application of the substance/ the preparation:

Laminating resin for orthopaedic technology

BEIL

Kunststoffproduktions- und Handelsgesellschaft mbH

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2. Hazards Identification

2.1. Classification of the substance or mixture

The product has been classified according to the legislation in force.

Classification according to Regulation (EC) No 1272/2008 as amended

Physical Hazards

Flammable liquids	Category 2	H225	Highly flammable liquid and vapor.
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Health Hazards

Caustic burning / irritation of skin	Category 2	H315	Causes skin irritation.
Skin Sensitisation	Category 1	H317	May cause an allergic skin reaction.

Specific Target Organ Toxicity -single exposure	Category 3	H335	May cause respiratory irritation.
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2.2. Label elements

Contains

methyl methacrylate
triethyleneglycol dimethacrylate
ethylene di(S-thioacetate)
Danger

Signal word (s)

GHS pictogram



Hazard Statement(s)

H225 - Highly flammable liquid and vapour.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H335 - May cause respiratory irritation.

Precautionary Statements



- Prevention:**
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 - P233 - Keep container tightly closed.
 - P261 - Avoid breathing dust/ fume/ gas / mist/ vapours / spray.
 - P272 - Contaminated work clothing should not be allowed out of the workplace.
 - P280 - Wear protective gloves / eye protection/ face protection.
- Response:**
- P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.
 - P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 - P312 - Call a POISON CENTER or doctor/ physician if you feel unwell.
 - P370 + P378 - In case of fire, use recommended extinguishing media for extinction.

2.3. Other hazards
 Take precautionary measures against static discharges. Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

Results of PBT and vPvB assessment
 This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Endocrine disrupting properties-Toxicity
 The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Endocrine disrupting properties-ecotoxicity
 This substance/mixture contains components considered to have endocrine disrupting properties for environment, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

3. Composition/Information on Ingredients

3.2. Mixtures

General information: preparation

Chemical name	CAS-No. EC-No. REACH-No.	Concentration	M-Factor	Notes
methyl methacrylate	80-62-6 201-297-1 01-2119452498-28	>=50.0 - <70.0%	No data available	#
triethyleneglycol dimethacrylate	109-16 -0 203-652-6 01-2119969287-21	>=1.0 - <10.0%	No data available	
N,N-bis-(2-hydroxypropyl)-p-toluidine	38668-48-3 254-075-1 01-2119980937-17	>=0.25 - <1.0%	No data available	
ethylene di (S- thioacetate)	123-81 -9 204-653-4 01-2120775150-61	>=0.1 - <0.25%	No data available	
tris(nonylphenyl) phosphite	26523-78-4 247-759-6 01-2119520601-54	>=0.1 - <0.25%	No data available	



n-butyl acrylate	141-32 -2 205-480-7 01-2119453155-43	>=0.1 - <0.25%	No data available	#
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* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This substance has workplace exposure limit(s).

This substance is listed as SVHC

Classification

Chemical name	Classification	Notes
methyl methacrylate	Classification: Flam. Liq.: 2: H225; Skin Irrit.: 2: H315; Skin Sens.: 1B: H317; STOT SE: 3: H335; Supplemental label information: None known. Specific concentration limit: Specific target organ toxicity - single exposure Category 3, >= 10 %; Acute toxicity, oral: LD 50: > 5,000 mg/kg Acute toxicity, inhalation: LC 50: 29.8 mg/l Acute toxicity, dermal: LD 50: > 5,000 mg/kg	Note D
triethyleneglycol dimethacrylate	Classification: Skin Sens.: 1B: H317; Supplemental label information: None known. Specific concentration limit: None known. Acute toxicity, oral: LD 50: > 5,000 mg/kg Acute toxicity, inhalation: None known. Acute toxicity, dermal: LD 50: > 2,000 mg/kg	Note D
N,N-bis-(2-hydroxypropyl)-p-toluidine	Classification: Acute Tox.: 2: H300; Eye Irrit.: 2: H319; Aquatic Chronic: 3: H412; Supplemental label information: None known. Specific concentration limit: None known. Acute toxicity, oral: LD 50: 25 mg/kg Acute toxicity, inhalation: None known. Acute toxicity, dermal: LD 50: > 2,000 mg/kg	No data available
ethylene di (S- thioacetate)	Classification: Acute Tox.: 4: H302; Acute Tox.: 4: H332; Acute Tox.: 4: H332; Eye Irrit.: 2: H319; Skin Sens.: 1A: H317; STOT SE: 3: H335; Supplemental label information: None known. Specific concentration limit: None known. Acute toxicity, oral: LD 50: 303 mg/kg Acute toxicity, inhalation: LC 50: 1.5 mg/l Acute toxicity, dermal: LD 50: > 2,000 mg/kg	No data available
tris(nonylphenyl) phosphite	Classification: Skin Sens.: 1: H317; Aquatic Acute: 1: H400; Aquatic Chronic: 1: H410; Supplemental label information: None known. Specific concentration limit: None known. Acute toxicity, oral: LD 50: > 16,200 mg/kg Acute toxicity, inhalation: None known. Acute toxicity, dermal: LD 50: > 2,000 mg/kg	No data available
n-butyl acrylate	Classification: Flam. Liq.: 3: H226; Acute Tox.: 4: H332; Skin Irrit.: 2: H315; Eye Irrit.: 2: H319; Skin Sens.: 1B: H317; STOT SE: 3: H335; Aquatic Chronic: 3: H412; Supplemental label information: None known. Specific concentration limit: None known. Acute toxicity, oral: LD 50: 3,150 mg/kg Acute toxicity, inhalation: LC 50: 10.3 mg/l Acute toxicity, dermal: LD 50: > 2,000 mg/kg	Note D

CLP: Regulation No. 1272/2008.

The full text for all H-statements is displayed in section 16.



Endocrine disrupting properties-Ecotoxicity

tris(nonylphenyl) phosphite	The substance is considered to have endocrine disrupting properties according to REACH Article 57(f) for the environment.
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4. First-aid measures
General

Medical treatment is necessary if symptoms occur which are obviously caused by skin or eye contact with the product or by inhalation of its vapours. Take off all contaminated clothing immediately.

4.1. Description of first aid measures

Inhalation

Move subject to fresh air and keep him calm.
 See a physician.

Skin contact

Wash off immediately with soap and water. If skin irritation occurs consult a physician.

Eye contact

Keeping the eyelids apart flush thoroughly with water immediately. If irritation persists, contact a physician.
 Do not induce vomiting. Consult a physician immediately.

Ingestion

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

Skin Sensitisation, Causes skin and eye irritation.
 Excessive or prolonged exposure can cause the following: Headache, Dizziness.

4.3. Indication of any immediate medical attention and special treatment needed

Hazards

No data available

Treatment

No

5. Fire-fighting measures
General Fire Hazards

Vapours are heavier than air and can form an explosive mixture with air. Flammable liquid. Vapours can travel to a source of ignition and flash back. Explosive mixtures may occur at temperatures at or above the flashpoint.
 Remove all sources of ignition. Also keep emptied containers away from sources of heat and ignition. Keep out unprotected persons. In case of fire, remove the endangered barrels and bring to a safe place, if this can be done safely. Containers exposed to heat (fire) may build up pressure. Cool by splashing with water. Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.1. Extinguishing media

Suitable extinguishing media

Foam, dry chemical, carbon dioxide

Unsuitable extinguishing media

High volume water jet

5.2. Special hazards arising from the substance or mixture

May be released in case of fire: carbon monoxide, carbon dioxide, organic products of decomposition.

5.3. Advice for firefighters

Special fire-fighting procedures

Keep away from sources of ignition - No smoking. Vapors are heavier than air. Flammable liquid. Vapors can travel to a source of ignition and flash back. Explosive mixtures may occur at temperatures at or above the flashpoint.
 Take action to prevent static discharges. Use explosion-



Wear self-contained breathing apparatus.

For disposal considerations see section 13.



storage containers make sure the oxygen(air) supply is sufficient to ensure stability. Keep only in the original container at a temperature not exceeding 25 °C.
No data available.

7.3. Specific end use(s)

8. Exposure Controls/Personal Protection

8.1. Control parameters

Occupational Exposure Limits

Chemical name	Type	Exposure Limit Values	Source
Methyl methacrylate	TWA	50 ppm 208 mg/m ³	UK. EH40 Workplace Exposure Limits (WELs) (12 2011)
	STEL 15 min	100 ppm 416 mg/m ³	UK. EH40 Workplace Exposure Limits (WELs) (12 2011)
	TWA	50 ppm	EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU (02 2017)
	STEL	100 ppm	EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU (02 2017)
n-butyl acrylate	TWA	1 ppm 5 mg/m ³	UK. EH40 Workplace Exposure Limits (WELs) (12 2011)
	STEL 15 min	5 ppm 26 mg/m ³	UK. EH40 Workplace Exposure Limits (WELs) (12 2011)
	TWA	2 ppm 11 mg/m ³	EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU (12 2009)
	STEL	10 ppm 53 mg/m ³	EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU (12 2009)

Exposure guidelines

Chemical name	Type	Source
Methyl methacrylate	Time Weighted Average (TWA): Indicative	EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended
	Short Term Exposure Limit (STEL): Indicative	EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended
n-butyl acrylate	Time Weighted Average (TWA): Indicative	EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended
	Short Term Exposure Limit (STEL): Indicative	EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended

Biological Limit Values

No biological exposure limits noted for the ingredient(s).

DNEL-Values

Remarks: DNEL-Values

Critical component	Type	Route of Exposure	Health Warning	Remarks
Methyl methacrylate	Workers	Inhalation	Local, long-term; 208 mg/m ³	Repeated dose toxicity



	General population	Inhalation	Local, long-term; 104 mg/m ³	Repeated dose toxicity
	Workers	Dermal	Local, long-term; 1,5 mg/cm ²	Skin sensitisation
	General population	Dermal	Local, long-term; 1,5 mg/cm ²	Skin sensitisation
	General population	Inhalation	Local, short-term; 208 mg/m ³	Repeated dose toxicity
	Workers	Eyes	Local effects	No hazards identified
	General population	Eyes	Local effects	No hazards identified
	General population	Oral	Systemic, long-term; 8,2 mg/kg	Repeated dose toxicity
	Workers	Inhalation	Local, short-term; 416 mg/m ³	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 13,67 mg/kg	Repeated dose toxicity
	General population	Dermal	Systemic, long-term; 8,2 mg/kg	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 348,4 mg/m ³	Repeated dose toxicity
	General population	Dermal	Local, short-term; 1.5 mg/cm ²	Skin sensitisation
	General population	Inhalation	Systemic, long-term; 74.3 mg/m ³	Repeated dose toxicity
	Workers	Dermal	Local, short-term; 1.5 mg/cm ²	Skin sensitisation

triethyleneglycol dimethacrylate	Workers	Dermal	Systemic, long-term; 13.9 mg/kg	Repeated dose toxicity
	General population	Inhalation	Systemic, long-term; 14.5 mg/m ³	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 8.33 mg/kg	Repeated dose toxicity
	General population	Dermal	Systemic, long-term; 8.33 mg/kg	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 48.5 mg/m ³	Repeated dose toxicity
	General population	Eyes	Local effects	No hazards identified
	Workers	Eyes	Local effects	No hazards identified

N,N-bis-(2-hydroxypropyl)-p-toluidine	Workers	Inhalation	Systemic, long-term; 2.47 mg/m ³	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 0.25 mg/kg	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 0.7 mg/kg	Repeated dose toxicity
	General population	Eyes	Local effects	No hazards identified
	Workers	Eyes	Local effects	Low hazard (no threshold derived).

ethylene di(S-thioacetate)	Workers	Dermal	Systemic, long-term; 0.14 mg/kg	Repeated dose toxicity
	Workers	Eyes	Local effects	Medium hazard (no threshold derived).



	General population	Dermal	Systemic, long-term; 0.05 mg/kg	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 0.05 mg/kg	Repeated dose toxicity
	General population	Eyes	Local effects	Low hazard (no threshold derived).
	Workers	Inhalation	Systemic, long-term; 0.49 mg/m ³	Repeated dose toxicity
	General population	Inhalation	Systemic, long-term; 0.074 mg/m ³	Repeated dose toxicity

tris(nonylphenyl) phosphite	General population	Inhalation	Systemic, long-term; 11,8 mg/m ³	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 23.6 mg/m ³	Repeated dose toxicity
	Workers	Eyes	Local effects	Low hazard (no threshold derived).
	Workers	Dermal	Systemic, long-term; 16.7 mg/kg	Repeated dose toxicity
	General population	Dermal	Systemic, long-term; 8.35 mg/kg	Repeated dose toxicity
	General population	Eyes	Local effects	Low hazard (no threshold derived).
	General population	Oral	Systemic, long-term; 1.67 mg/kg	Repeated dose toxicity

n-butyl acrylate	Workers	Inhalation	Local, long-term; 11 mg/m ³	irritation respiratory tract
	General population	Eyes	Local effects	No hazard identified
	Workers	Eyes	Local effects	Medium hazard (no threshold derived).

PNEC-Values

Remarks: PNEC-Values

Critical component	Environmental compartment	PNEC-Values	Remarks
Methyl methacrylate	marine water	0,094 mg/l	
	marine water sediment	0,102 mg/kg	
	Sewage treatment plant	10 mg/l	
	freshwater sediment	10,2 mg/kg	
	Soil	1,48 mg/kg	
	freshwater	0,94 mg/l	

triethyleneglycol dimethacrylate	freshwater	0,016 mg/l	
	Marine water	0.002 mg/l	
	Freshwater sediment	0.185 mg/kg	
	Marine water sediment	0.018 mg/kg	
	Soil	0.027 mg/kg	
	Sewage treatment plant	1.7 mg/l	

N,N-bis-(2-hydroxypropyl)-p-toluidine	Soil	0,023 mg/kg	
	Marine Water	0,002 mg/l	
	Sewage treatment plant	199,5 mg/l	
	Marine water sediment	0,016 mg/kg	
	Freshwater sediment	0,163 mg/kg	



	freshwater	0,017 mg/l	
ethylene di(S-thioacetate)	freshwater	4.8 µg/l	
tris(nonylphenyl) phosphite	Predator	37 mg/kg	Oral
	Marine water	50 µg/l	
	Marine water sediment	0,15 mg/kg	
	Freshwater sediment	0,15 mg/kg	
	Sewage treatment plant	1,8 mg/l	
	Freshwater sediment	50 µg/l	
	Marine water	0 mg/l	
	Sewage treatment plant	3,5 mg/l	
	Soil	1 mg/kg	
	Freshwater sediment	0,034 mg/kg	
	Freshwater	0,003 mg/l	
	Marine water sediment	0,003 mg/kg	

8.2. Exposure controls

Appropriate Engineering Controls No data available

Individual protection measures, such as personal protective equipment

Eye/face protection

tightly fitting goggles

Hand Protection

Material: butyl rubber gloves

Break-through time: 60 min

Glove thickness: 0.7 mm

Guideline: EN 374

Additional Information: Gloves should be replaced regularly, especially after extended contact with the product. For each workplace a suitable glove type has to be selected.

Skin and Body Protection

On handling of larger quantities: face mask, chemical-resistant boots and apron

Respiratory Protection

Breathing apparatus in case of high concentrations short term: filter appliance, filter A

Hygiene measures

Store work clothing separately. Take off all contaminated clothing immediately. Follow the usual good standards of occupational hygiene. After work-time and during work intervals the affected skin areas must be thoroughly cleaned.

Environmental Controls

No data available

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state

liquid

Form

liquid

Colour

colourless

Odour

ester-like

Odor Threshold

No data available

Freezing point

Not available

Boiling Temperature

ca.100 °C (1,013 hPa)

Flammability (solid, gas)

No data available.

Upper/lower limit on flammability or explosive limits

Explosive Limit - Upper (%)

12.5 %(V) (methyl methacrylate)

Explosive Limit - Lower (%)

2.1 %(V) at 10,5°C (methyl methacrylate)



Flash point	10 °C (methyl methacrylate)
Self-ignition temperature	430 °C (methyl methacrylate)
Decomposition Temperature	No decomposition if used as directed.
pH	Not applicable
Viscosity	
Viscosity, kinematic	No data available
Viscosity, dynamic	approx. 320 m Pas
Flow Time:	Not applicable
Solubility(ies)	
Water solubility	approx. 16 g/l (20 °C)
Other solubility	not available
Partition coefficient n- octanol/water	not available
Vapor pressure	approx. 40 hPa (20 °C)
Relative density	no data available
Density	approx. 1 g/cm ³ (20 °C)
Bulk density:	not available
Relative vapor density	> 1 (20 °C)
Particle characteristics	
Particle Size Distribution:	not available
Specific surface area:	not available
Surface charge/Zeta potential:	not available
Assessment:	not available
Shape:	not available
Crystallinity:	not available
Surface treatment:	not available
9.2. Other information	
Minimum ignition temperature:	not pyrophoric
Environmental impact information	Not impact sensitive.

10. Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

No decomposition if used as directed.

10.3. Possibility of hazardous reactions

Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

10.4. Conditions to avoid

Heat and ignition sources, aging, contamination, oxygen free atmosphere.

10.5. Incompatible materials

Peroxides, amines, sulfur compounds, heavy metal ions, alkalis, reducing agents and oxidizing agents.

10.6. Hazardous decomposition products

None when used as directed.

11. Toxicological information

Information on likely routes of exposure

Inhalation

Relevant route of exposure. Information on effects are given below.

Skin Contact

Relevant route of exposure. Information on effects are given below.

Eye contact

Relevant route of exposure. Information on effects are given below.

Ingestion

If handled correctly, not a relevant route of exposure. Information on effects are given below.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation

Headache. Dizziness.



Skin Contact

Causes skin irritation. May cause allergic skin reaction.

Eye contact

Causes serious eye irritation.

Ingestion

If handled correctly, not a relevant route of exposure.

Information on effects are given below.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (list all possible routes of exposure)

Oral

Product

Acute toxicity estimate: > 2,000 mg/kg
(Calculation method)

Components

Methyl methacrylate

LD 50 (Rat): > 5,000 mg/kg

triethyleneglycol dimethacrylate

LD 50 (Rat): > 5,000 mg/kg

N,N-bis-(2-hydroxypropyl)-p-toluidine

LD 50 (Rat): 25 mg/kg

ethylene di(S-thioacetate)

LD 50 (Rat, male): 303 mg/kg

tris(nonylphenyl) phosphite

LD 50 (Rat): > 16,200 mg/kg

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

n-butyl acrylate

LD 50 (Rat): 3,150 mg/kg

Dermal

Product

No data available.

Components

Methyl methacrylate

LD 50 (Rabbit): > 5,000 mg/kg

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

triethyleneglycol dimethacrylate

LD 50 (Mouse): > 2,000 mg/kg

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

N,N-bis-(2-hydroxypropyl)-p-toluidine

LD 50 (Rat): > 2,000 mg/kg

ethylene di(S-thioacetate)

LC0 (Rabbit): 2,000 mg/kg

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

tris(nonylphenyl) phosphite

LD 50 (Rabbit): > 2,000 mg/kg

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

n-butyl acrylate

LD 50 (Rabbit, male): > 2,000 mg/kg

LD 50 (Rabbit, male): 3,024 mg/kg

LD 50 (Rabbit, female): 5,660 mg/kg

Inhalation

Product

No data available.

Components

Methyl methacrylate

LC 50 (Rat) 29.8 mg/l

Vapour, Dusts, mists and fumes. No data available

triethyleneglycol dimethacrylate

Vapour, No data available. Dusts, mists and fumes, No data available.

N,N-bis-(2-hydroxypropyl)-p-toluidine

The substance or mixture has no acute inhalation toxicity, Dusts, mists and fumes. The substance or mixture has no acute inhalation toxicity, Vapour.

ethylene di(S-thioacetate)

LC 50 (Acute toxicity estimate): 1.5 mg/l

Dusts, mists and fumes LC 50 (Acute toxicity estimate):

11 mg/l Vapour

tris(nonylphenyl) phosphite

Vapour, No data available. Dusts, mists and fumes, No data available.



n-butyl acrylate

LC 50 (Rat): 10.3 mg/l

Vapour Dusts, mists and fumes, No data available.

Repeated dose toxicity

Product

No data available.

Components

Methyl methacrylate

NOAEL (Rat, Inhalation (Vapour)): 25 ppm

NOAEL (Rat, Oral): 2000 ppm

triethyleneglycol dimethacrylate

NOAEL (Rat, Oral): 1,000 mg/kg

N,N-bis-(2-hydroxypropyl)-p-toluidine

No data available.

ethylene di(S-thioacetate)

No data available.

tris(nonylphenyl) phosphite

No observed adverse effect level (Rat (male and female),
Oral, daily): 200 mg/kg

No data available.

n-butyl acrylate

Skin Corrosion/Irritation

Product

Contact with skin may cause irritations.

Components

Methyl methacrylate

(Rabbit): Irritating.

triethyleneglycol dimethacrylate

FDA 1959 Draize, occlusive (Rabbit): Not irritating

N,N-bis-(2-hydroxypropyl)-p-toluidine

ethylene di(S-thioacetate)

(Rabbit): Not irritating

tris(nonylphenyl) phosphite

OECD 404 (Rabbit): Not irritating , 4 h

n-butyl acrylate

(Rabbit): Irritating

Serious Eye Damage/Eye Irritation

Product

Contact with the eyes may cause irritation.

Components

Methyl methacrylate

Not irritating Draize Rabbit:

triethyleneglycol dimethacrylate

Not irritating OECD 405 Rabbit:

N,N-bis-(2-hydroxypropyl)-p-toluidine

Moderately irritating OECD 405 Rabbit:

ethylene di(S-thioacetate)

irritating. Rabbit:

tris(nonylphenyl) phosphite

Not irritating OECD 405 Rabbit:

n-butyl acrylate

irritating. Rabbit:

Respiratory or Skin Sensitization

Product

No data available.

Components

Methyl methacrylate

Local Lymph Node Assay (LLNA), OECD 429 (Mouse):
Skin sensitizer

triethyleneglycol dimethacrylate

Local Lymph Node Assay (LLNA), OECD 429 (Mouse):
Skin sensitizer

N,N-bis-(2-hydroxypropyl)-p-toluidine

Not a skin sensitizer.

ethylene di(S-thioacetate)

Maximization Test, OECD 406 (Guinea Pig):

Strong skin sensitizer.

tris(nonylphenyl) phosphite

Buehler Test, OECD 406 (Guinea Pig): Not a skin
sensitizer. Local Lymph Node Assay (LLNA), OECD 429
(Mouse): Not a skin sensitizer. May cause sensitization
by skin contact. EU-CLP as per Regulation (EU) No.
1272/2008, Annex VI

n-butyl acrylate (Mouse)

Local Lymph Node Assay (LLNA), OECD 429 (Mouse):
Skin sensitizer

Carcinogenicity

Product

Contains no ingredient listed as a carcinogen (>0.1%).

Components



Methyl methacrylate	Not classified
triethyleneglycol dimethacrylate	Not classified
N,N-bis-(2-hydroxypropyl)-p-toluidine	Not classified
ethylene di(S-thioacetate)	Not classified
tris(nonylphenyl) phosphite	No data available.
n-butyl acrylate	Not carcinogenic

Germ Cell Mutagenicity

In vitro

Product

No data available.

Components

Methyl methacrylate	No data available.
triethyleneglycol dimethacrylate	positive and negative. Not classified
N,N-bis-(2-hydroxypropyl)-p-toluidine	(OECD TG 471) negative
ethylene di(S-thioacetate)	No data available.
tris(nonylphenyl) phosphite	No data available.
n-butyl acrylate	No data available.

In vivo

Product

No data available.

Components

Methyl methacrylate	No data available.
triethyleneglycol dimethacrylate	not mutagenic / no evidence of mutagenic effects
N,N-bis-(2-hydroxypropyl)-p-toluidine	Ames test: negative
ethylene di(S-thioacetate)	No data available.
tris(nonylphenyl) phosphite	No data available.
n-butyl acrylate	No data available.

Reproductive toxicity

Product

Contains no ingredient listed as toxic to reproduction (>0.1%).

Components

Methyl methacrylate	Not classified
triethyleneglycol dimethacrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	Not classified
ethylene di(S-thioacetate)	Not classified
tris(nonylphenyl) phosphite	No data available.
n-butyl acrylate	No data available.

Specific Target Organ Toxicity - Single Exposure

Product

No data available.

Components

Methyl methacrylate	Inhalation - vapor: Respiratory system - Category 3 with respiratory tract irritation.
triethyleneglycol dimethacrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	Not classified
ethylene di(S-thioacetate)	Inhalation: Lungs - Category 3 with respiratory tract irritation.
tris(nonylphenyl) phosphite	No data available.
n-butyl acrylate	Inhalation - vapor: Respiratory system - Category 3 with respiratory tract irritation.

Specific Target Organ Toxicity - Repeated Exposure

Product

No data available.

Components

Methyl methacrylate	Not classified
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triethyleneglycol dimethacrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	Not classified
ethylene di(S-thioacetate)	No data available.
tris(nonylphenyl) phosphite	No data available.
n-butyl acrylate	No data available.

Aspiration Hazard

Product	No aspiration toxicity classification
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Components

Methyl methacrylate	Not classified
triethyleneglycol dimethacrylate	Not classified
N,N-bis-(2-hydroxypropyl)-p-toluidine	Not classified
ethylene di(S-thioacetate)	Not classified
tris(nonylphenyl) phosphite	Not classified
n-butyl acrylate	Not classified

11.2 Information on other hazards

Endocrine disrupting properties

Product	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.;
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Components

Methyl methacrylate	No data available.
triethyleneglycol dimethacrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available.
ethylene di(S-thioacetate)	No data available.
tris(nonylphenyl) phosphite	No data available.
n-butyl acrylate	No data available.

Other hazards:

Product:	Avoid contact with the skin and eyes and inhalation of the product vapours.
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12. Ecological information

12.1. Toxicity

Acute hazards to the aquatic environment:

Fish

Product	No data available.
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Components

Methyl methacrylate	LC 50 (Oncorhynchus mykiss, 96 h): > 79 mg/l NOEC (Danio rerio, 32 d): 9.4 mg/l literature
triethyleneglycol dimethacrylate	LC 50 (Danio rerio, 96 h): 16.4 mg/l
N,N-bis-(2-hydroxypropyl)-p-toluidine	LC 50 (Danio rerio, 96 h): 17 mg/l
ethylene di(S-thioacetate)	LC 50 (Leuciscus idus (Golden orfe), 48 h): 4.85 mg/l
tris(nonylphenyl) phosphite	LC 50 (Oncorhynchus mykiss, 96 h): > 100 mg/l
n-butyl acrylate	LC 50 (Oncorhynchus mykiss, 96 h): > 5.2 mg/l

Aquatic Invertebrates

Product	No data available.
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Components

Methyl methacrylate	EC 50 (Daphnia magna, 48 h): 69 mg/l NOEC (Daphnia magna, 21 d): 37 mg/l
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triethyleneglycol dimethacrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	EC 50 (Daphnia magna, 48 h): 28.8 mg/l
ethylene di(S-thioacetate)	EC 50 (Daphnia magna, 48 h): 11 mg/l
tris(nonylphenyl) phosphite	EC 50 (Daphnia magna, 48 h): 0.3 mg/l
n-butyl acrylate	EC 50 (Daphnia magna, 48 h): 8.2 mg/l
	NOEC (Daphnia magna, 48 h): 2.4 mg/l

Toxicity to Aquatic Plants

Product

No data available.

Components

Methyl methacrylate	EC 50 (Selenastrum capricornutum (green algae), 72 h): > 100 mg/l (OECD Test Guideline 201)
triethyleneglycol dimethacrylate	EC 50 (Pseudokirchneriella subcapitata (green algae), 72 h): > 100 mg/l (OECD TG 201)
N,N-bis-(2-hydroxypropyl)-p-toluidine	EC 50 (Desmodesmus subspicatus (green algae), 72 h): 245 mg/l (OECD TG 201)
ethylene di(S-thioacetate)	EC 50 (Desmodesmus subspicatus (green algae), 72 h): > 100 mg/l (OECD 201)
tris(nonylphenyl) phosphite	No data available.
n-butyl acrylate	EC 50 (Selenastrum capricornutum (green algae), 96 h): 2.65 mg/l (OECD TG 201)

Toxicity to microorganisms

Product

No data available.

Components

Methyl methacrylate	No data available.
triethyleneglycol dimethacrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available.
ethylene di(S-thioacetate)	No data available.
tris(nonylphenyl) phosphite	No data available.
n-butyl acrylate	No data available.

Chronic hazards to the aquatic environment:

Fish

Product

No data available.

Components

Methyl methacrylate	No data available.
triethyleneglycol dimethacrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available.
ethylene di(S-thioacetate)	No data available.
tris(nonylphenyl) phosphite	No data available.
n-butyl acrylate	No data available.

Aquatic Invertebrates

Product

No data available.

Components

Methyl methacrylate	No data available.
triethyleneglycol dimethacrylate	NOEC (Daphnia magna, 21 d): 32 mg/l
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available.
ethylene di(S-thioacetate)	No data available.
tris(nonylphenyl) phosphite	NOEC (Daphnia magna, 21 d): > 0.1 mg/l
	No toxicity at the limit of solubility
n-butyl acrylate	NOEC (Daphnia magna, 21 d): 0.136 mg/l
	Lowest Observed Effect Concentration (Daphnia magna, 21 d): 0.457 mg/l

Toxicity to Aquatic Plants

Product

No data available.



Components

Methyl methacrylate	NOEC (Selenastrum capricornutum (green algae), 72 h): > 100 mg/l (OECD Test Guideline 201)
triethyleneglycol dimethacrylate	NOEC (Pseudokirchneriella subcapitata (green algae), 72 h): 18.6 mg/l (OECD TG 201)
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available.
ethylene di(S-thioacetate)	NOEC (Desmodesmus subspicatus (green algae), 72 h): ≥ 100 mg/l (OECD 201)
tris(nonylphenyl) phosphite	NOEC (Raphidocelis subcapitata (freshwater green alga), 72 h): 100 mg/l (OECD TG 201)
n-butyl acrylate	NOEC (Selenastrum capricornutum (green algae), 96 h): < 1.8 mg/l (OECD 201)

Toxicity to microorganisms

Product

No data available

Components

Methyl methacrylate	No data available
triethyleneglycol dimethacrylate	No data available
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available
ethylene di(S-thioacetate)	No data available
tris(nonylphenyl) phosphite	No data available
n-butyl acrylate	No data available

12.2 Persistence and Degradability

Biodegradation

Product

(14 d, OECD 301 C): 94 %
 Readily biodegradable Related to substance: methyl methacrylate

Components

Methyl methacrylate	(14 d, OECD 301 C): 94 % The product is easily biodegradable.
triethyleneglycol dimethacrylate	(28 d): 85 % The product is easily biodegradable.
N,N-bis-(2-hydroxypropyl)-p-toluidine	(28 d, OECD 301 B): 39 % The product is not biodegradable.
ethylene di(S-thioacetate)	(28 d, OECD 301 D): 65.9 % The product is easily biodegradable
tris(nonylphenyl) phosphite	(28 d, OECD 301 D): < 4 %
n-butyl acrylate	(28 d, literature): 60 % The product is easily biodegradable. (28 d, ISO 14593): > 80 % The product is easily biodegradable.

BOD/COD Ratio

Product

No data available.

Components

Methyl methacrylate	No data available.
triethyleneglycol dimethacrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available.
ethylene di(S-thioacetate)	No data available.
tris(nonylphenyl) phosphite	No data available.
n-butyl acrylate	No data available.

12.3 Bioaccumulative potential

Bioconcentration Factor (BCF)

Product

no specific test data available no evidence for hazardous properties (structure-activity-relationships) (analogy)

Components

Methyl methacrylate	No data available.
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triethyleneglycol dimethacrylate	Accumulation in organisms is not expected due to the coefficient of distribution of n-octanol in water (log Pow).
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available.
ethylene di(S-thioacetate)	Bioconcentration Factor (BCF): 2.82
tris(nonylphenyl) phosphite	No data available.
n-butyl acrylate	Accumulation in organisms is not expected due to the coefficient of distribution of n-octanol in water (log Pow).

Partition Coefficient n-octanol / water (log Kow)

Product Log Kow: Not available.

Components

Methyl methacrylate	Log Kow: 1.38
triethyleneglycol dimethacrylate	Log Kow: 2.3 20 °C (OECD 117)
N,N-bis-(2-hydroxypropyl)-p-toluidine	Log Kow: 2.1 (OECD 107)
ethylene di(S-thioacetate)	Log Kow: 1.46 20 °C (OECD 117)
tris(nonylphenyl) phosphite	No data available.
n-butyl acrylate	Log Kow: 2.36
	Log Kow: 2.38 25 °C

12.4 Mobility in soil

Product no specific test data available.

Components

Methyl methacrylate	No data available.
triethyleneglycol dimethacrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available.
ethylene di(S-thioacetate)	No data available.
tris(nonylphenyl) phosphite	No data available.
n-butyl acrylate	The product evaporates slowly.

12.5 Results of PBT and vPvB

Product no specific test data available.

Components

Methyl methacrylate	Non-classified vPvB substance
	Non-classified PBT substance
triethyleneglycol dimethacrylate	Non-classified vPvB substance
	Non-classified PBT substance
N,N-bis-(2-hydroxypropyl)-p-toluidine	Non-classified vPvB substance
	Non-classified PBT substance
ethylene di(S-thioacetate)	Non-classified PBT substance
tris(nonylphenyl) phosphite	Non-classified vPvB substance
	Non-classified PBT substance
n-butyl acrylate	Non-classified vPvB substance
	Non-classified PBT substance

12.6. Endocrine disrupting properties:

Product This substance/mixture contains components considered to have endocrine disrupting properties for environment, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Components

Methyl methacrylate	No data available.
triethyleneglycol dimethacrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available.
ethylene di(S-thioacetate)	No data available.
tris(nonylphenyl) phosphite	The substance is considered to have endocrine disrupting properties according to REACH Article 57(f) for the environment.



n-butyl acrylate	No data available
12.7 Other adverse effects	
Other hazards	
Product:	Prevent substance from entering soil, natural bodies of water and sewer systems.

13. Disposal considerations

13.1. Waste treatment methods	
General information	No data available.
Disposal methods	Waste is hazardous. It must be disposed of in accordance with the regulations after consultation of the competent local authorities and the disposal company in a suitable and licensed facility.
Uncleaned packaging	Contaminated packaging should ideally be emptied; it can then be recycled after having been decontaminated. Packaging that cannot be cleaned should be disposed of professionally. Uncontaminated packaging may be taken for recycling.

14. Transport Information
Transport on land (ADR/RID/GGVS EB)

14.1. UN number	
ADR	UN1866
RID	UN1866
IMDG	UN1866
IATA	UN1866
14.2. UN proper shipping name	
ADR	RESIN SOLUTION
RID	RESIN SOLUTION
IMDG	RESIN SOLUTION
IATA	Resin solution
14.3. Transport hazard class(es)	
ADR	3
RID	3
IMDG	3
IATA	3
14.4. Packing group	
ADR	
Packing group	II
Classification Code	F1
Hazard Identification Number	33
Labels	3
Remarks	Special provision 640D, observe §35 GGVSEB
RID	
Packing group	II
Classification Code	F1
Hazard Identification Number	33
Labels	3
Remarks	Special provision 640D
IMDG	
Packing group	II
Labels	3
EmS Code	F-E,S-E
IATA (Cargo aircraft only)	
Packing instruction (cargo aircraft)	364
Packing instruction (LQ)	Y341



Packing group II
Labels 3
IATA (Passenger and cargo aircraft)
Packing instruction
(passenger aircraft) 353
Packing instruction (LQ) Y341
Packing group II
Labels 3

14.5. Environmental hazards

ADR
Environmentally hazardous No
RID
Environmentally hazardous No
IMDG
Marine pollutant No

14.6. Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

15. Regulatory information

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

EU Regulations

EU. REACH Annex XIV, Substances Subject to Authorization: none

EU. Directive 2010/75/EU on Industrial Emissions (IPPC), Annex II, L 334/17: none

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended: none

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended: none

EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC):

Chemical name	CAS-No.	Concentration	Additional Information
tris(nonylphenyl) phosphite	26523-78-4		Endocrine disrupting properties (Article 57(f) - environment)

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use:

Chemical name	CAS-No.	Concentration
Methyl methacrylate	80-62-6	

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I:

Classification	Lower-tier Requirements	Upper-tier Requirements
P5c. Flammable liquids	5,000 t	50,000 t
ATTENTION: Classification into hazard category P5c is a minimum classification. Only the operator may estimate if the product is covered by hazard category P5a or P5c. For P5a and P5b different qualifying quantities are valid.		

National Regulations



Please note Directive 94/33/EC (Protection of Young Workers at the Workplace Directive) and amendments. Please note Directive 92/85/EEC (Pregnant Workers Directive) and amendments.

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out.

Inventory Status:

Registration, Evaluation and
 Authorisation of Chemicals (REACH): preregistered, registered or exempted
 US TSCA Inventory: On or in compliance with the inventory
 Canada DSL Inventory List: Not on inventory.
 Australia AICS: Not on inventory.
 Japan (ENCS) List: Not on inventory.
 Korea Existing Chemicals Inv. (KECI): On or in compliance with the inventory
 Philippines PICCS: On or in compliance with the inventory
 China Inv. Existing Chemical
 Substances: On or in compliance with the inventory

International regulations

Montreal protocol Not applicable
Stockholm convention Not applicable
Rotterdam convention Not applicable
Kyoto protocol Not applicable

16. Other Information

Abbreviations and acronyms

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ADN – European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; AGW - Occupational exposure limit; ASTM - American Society for Testing and Materials; AwSV - Ordinance on facilities for handling substances that are hazardous to water; BSB - Biochemical oxygen demand; c.c. - closed cup; CAS - Chemical Abstract Services; CESIO - European Committee of Organic Surfactants and their Intermediates; CSB - Chemical oxygen demand; DMEL - Derived minimum effect level; DNEL - Derived no effect level; EbC50 - median concentration in terms of reduction of growth; EC -Effective concentration; EINECS - European Inventory of Existing Commercial Chemical Substances; EN - European norm; ErC50 - median concentration in terms of reduction of growth rate; GGVSEB - German ordinance for road, rail and inland waterway transportation of dangerous goods; GGVSee - German ordinance for sea transportation of dangerous goods; GLP - Good Laboratory Practice; GMO - Genetic Modified Organism; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; ISO - International Organization For Standardization; LD/LC -lethal dosis/concentration; LOAEL - Lowest observed adverse effect level; LOEL - Lowest observed effect level; M-Factor - multiplying factor; NOAEL - No observed adverse effect level; NOEC - no observed effect concentration; NOEL - no observed effect level; o.c. - open cup; OECD - Organisation for Economic Cooperation and Development; OEL - Occupational Exposure Limit; PBT - Persistent, bioaccumulative, toxic; PNEC - Predicted no effect concentration; REACH - REACH registration; RID - Convention concerning International Carriage by Rail; SVHC - Substances of Very High Concern; TA - Technical Instructions; TRGS - Technical Rules for Hazardous Substances; vPvB - very persistent, very bioaccumulative; WGK - Water Hazard Class

Notes:

Methyl methacrylate	Note D	Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier must state on the label the name of the substance followed by the words 'non-stabilised'.
n-butyl acrylate		

Key literature references and

sources for data: No data available.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to Regulation (EC) No 1272/2008 as amended.	Classification procedure
Flammable liquids, Category 2	On basis of test data
Skin irritation, Category 2	Calculation method



Skin sensitizer, Category 1	On basis of test data
Specific Target Organ Toxicity - Single Exposure, Category 3	Calculation method

Wording of the H-statements in section 2 and 3

- H225 Highly flammable liquid and vapour.
- H226 Flammable liquid and vapour.
- H300 Fatal if swallowed.
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled
- H335 May cause respiratory irritation.
- H400 Very toxic to aquatic life.
- H410 Very toxic for aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

Other information

The product is normally supplied in a stabilized form. If the permissible storage period and/or storage temperature is exceeded, the product may polymerize with heat evolution.

Disclaimer:

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