



Safety data sheet

1. Substance/preparation and company identification

Trade name:

BKF Carbonharz

Application of the substance/ the preparation:

Laminating resin for orthopaedic technology

BEIL

Kunststoffproduktions- und Handelsgesellschaft mbH

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2. Hazard 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.

Health Hazards

Skin irritation

Category 2

H315

Causes skin irritation.

Skin Sensitisation

Category 1

H317

May cause an allergic skin reaction.

Specific Target Organ Toxicity -
single exposure (Respiratory system)

Category 3

H335

May cause respiratory irritation.

2.2. Label elements

Contains:

methyl methacrylate

triethyleneglycol dimethacrylate

ethylene di(S-thioacetate)

n-butyl acrylate

GHS pictogram



Signal word

Danger

Hazard statement

H225 - Highly flammable liquid and vapour.

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H335 - May cause respiratory irritation.

Precautionary Statement (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.
 P262 - Do not get in eyes, on skin, or on clothing.
 P280 - Wear protective gloves/eye protection/ face protection.
 P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.

Precautionary Statement (Response)

2.3. Other hazards

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

3. Composition/information on ingredients

3.2. Mixtures

General information: preparation

Chemical Name	CAS-No. EINECS-No. REACH-No.	Concentration	M-Factor	Notes
methyl methacrylate	80-62-6 201-297-1 01-2119452498-28	50- 70 %	No data available.	#
triethyleneglycol dimethacrylate	109-16-0 203-652-6 01-2119969287-21	1 - 10.0 %	No data available.	
ethylene di (S-thioacetate)	123-81 -9 204-653-4 ---	0,1-0,25 %	No data available.	
n-butyl acrylate		0,1-0,25 %	No data available.	#
N,N-bis-(2-hydroxypropyl)-p-toluidine	254-075-1 - 38668-48-3	0,1-0,25 %	No data available.	

*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	Flam. Liq.: 2: H225; Skin Irrit.: 2: H315; Skin Sens.: 1: H317; STOT SE: 3: H335;	Note D
triethyleneglycol dimethacrylate	Skin Sens.: 1B: H317;	Note D
ethylene di(S-thioacetate)	Acute Tox.: 4: H302; Eye Irrit.: 2: H319; Skin Sens.: 1A: H317; Aquatic Chronic: 2: H411;	No data available
n-butyl acrylate	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;	Note D
N,N-bis-(2-hydroxypropyl)-p-toluidine	Acute Tox.: 2: H300; Eye Irrit.: 2: H319; Aquatic Chronic: 3: H412;	No data available

CLP: Regulation No. 1272/2008.

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

4. First-aid measures

General advice

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	Flush eyes thoroughly with a large amount of water and consult a physician.
Ingestion	Do not induce vomiting. Consult a physician immediately.
4.2. Most important symptoms and effects, both acute and delayed	
Skin Sensitisation, Skin irritation, Excessive or prolonged exposure can cause the following: Headache, confusion	
4.3. Indication of any immediate medical attention and special treatment needed	
Hazards:	No
Treatments:	No
5. Fire-fighting measures	
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 firefighting procedures:	Keep away from sources of ignition - No smoking. Take action to prevent static discharges. In the event of fire, cool the endangered containers with water. When heated above the flash point and/or during spraying (atomizing), ignitable mixtures may form in air. Use explosion-proof equipment.
Special protective equipment for fire-fighters:	Wear self-contained breathing apparatus.
6. Accidental release measures	
6.1. Personal precautions, protective equipment and emergency procedures:	Assure sufficient ventilation. Keep away sources of ignition. Use personal protective clothing. Use breathing apparatus if exposed to vapours/dust/mist/aerosol.
6.1.1 For non-emergency personnel:	No data available.
6.1.2 For emergency responders:	No data available.
6.2. Environmental precautions	Prevent product from getting into drains/surface water/groundwater.
6.3. Methods and material for containment and cleaning up	Larger quantities: Remove mechanically (by pumping). Use explosion-proof equipment! Smaller quantities and/or residues: Contain with absorbent material (e.g. sand, diatomaceous earth, acid absorbent, universal absorbent or sawdust). Dispose of in accordance with regulations.
6.4. Reference to other sections	For personal protection see section 8. For disposal considerations see section 13.
7. Handling and storage	
7.1. Precautions for safe handling	Do not breathe vapors. Avoid contact with skin and eyes. Keep away from sources of ignition - No smoking. Take action to prevent static discharges. In the event of fire, cool the endangered containers with water. When heated above the flash point and/or during spraying (atomizing), ignitable mixtures may form in air. Use explosion-proof equipment.



Ensure there is good room ventilation. Keep container tightly closed.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from direct sunlight. Keep only in the original container at a temperature not exceeding 25 °C. Protect from the action of light. Fill the container by approximately 90 % only as oxygen (air) is required for stabilisation. With large storage containers make sure the oxygen (air) supply is sufficient to ensure stability.

7.3. Specific end use(s)

No data available

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	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	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)

8.2. Exposure controls

Appropriate Engineering Controls:

For monitoring procedures refer for instance to "Empfohlene Analysenverfahren für Arbeitsplatz-messungen", Schriftenreihe der Bundesanstalt für Arbeitsschutz and "NIOSH Manual of Analytical Methods", National Institute for Occupational Safety and Health

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. Clean skin thoroughly after work; apply skin cream.

Environmental Controls: No data available.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	liquid
Physical state	liquid
Form	liquid
Colour	colourless
Odour	ester-like
pH	No data available
Freezing Temperature	not available
Boiling Temperature	100.5°C (1,013 hPa) (methyl methacrylate)
Flash point	10°C (methyl methacrylate)
Evaporation Rate:	No data available
Flammability (solid, gas):	No data available
Upper explosion limit	12.5 %(V) (methyl methacrylate)
Lower explosion limit	2.1 %(V) (methyl methacrylate)
Vapour pressure	38.7 hPa (20 °C) (methyl methacrylate)
Vapor density (air=1):	> 1 (20 °C)
Density	ca. 1 g/cm ³ (20 °C)
Relative vapour density	No data available
Solubility in water	ca. 16 g/l (methyl methacrylate)
Solubility (other)	No data available
Partition coefficient (n-octanol/water)	No data available.
Self-Ignition Temperature	No data available.
Decomposition Temperature	No decomposition if used as directed.
Kinematic viscosity	No data available.
Dynamic viscosity	approx. 400 mPa.s
9.2. Other information	
Explosive properties	No data available.
Oxidizing properties	No data available.
Minimum ignition temperature	430 °C (methyl methacrylate)

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.

11.1. Information on toxicological effects

Acute toxicity (oral)

Product:	Acute toxicity estimate: > 5,000 mg/kg (Calculation method)
Components:	
Methyl methacrylate	LD 50 (Rat): > 5,000 mg/kg
triethyleneglycol dimethacrylate	LD 50 (Rat): > 5,000 mg/kg
ethylene di(S-thioacetate)	LD 50 (Rat, male): 303 mg/kg
n-butyl acrylate	LD 50 (Rat): 3,150 mg/kg
N,N-bis-(2-hydroxypropyl)-p-toluidine	LD 50 (Rat, male/female): 25 mg/kg LD 50 (Rat, male/female): 172 mg/kg LD 50 (Rat, male/female): 100 mg/kg

Dermal

Product:	Acute toxicity estimate > 5,000 mg/kg (Calculation method)
Components:	
Methyl methacrylate	LD 50 (Rabbit): > 5,000 mg/kg
triethyleneglycol dimethacrylate	LD 50 (Mouse, male): > 2,000 mg/kg
ethylene di(S-thioacetate)	LC0 (Rabbit): 200 mg/kg
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 LD 50 (Rat, male/female): > 2,000 mg/kg
N,N-bis-(2-hydroxypropyl)-p-toluidine	

Inhalation

Product:	No data available
Components:	
Methyl methacrylate	LC 50 (Rat, 4 h) 29.8 mg/l Vapour, dusts, mists and fumes
triethyleneglycol dimethacrylate	No labelling required
ethylene di(S-thioacetate)	LC 0 (Rat, 1 h) 2.25 mg/l Dusts, mists and fumes LC 0 (Rat, 4 h) 1.125 mg/l Dusts, mists and fumes
n-butyl acrylate	LC 50 (Rat, 4 h) 10.3 mg/l Vapour
N,N-bis-(2-hydroxypropyl)-p-toluidine	No labelling required

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
ethylene di(S-thioacetate)	No data available.
n-butyl acrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available.

Skin Corrosion/Irritation:

Product:	Contact with skin may cause irritations.
Components:	
Methyl methacrylate	(Rabbit): Irritating.
triethyleneglycol dimethacrylate	FDA 1959 Draize, occlusive (Rabbit, 24 h): Not irritating
ethylene di(S-thioacetate)	Not irritating
n-butyl acrylate	(Rabbit): Irritating. source: literature (Rabbit, 24 h): Slightly irritating. source: literature
N,N-bis-(2-hydroxypropyl)-p-toluidine	does not require labelling

Serious Eye Damage/Eye Irritation:

Product:	Contact with the eyes may cause irritation.
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Components:	
Methyl methacrylate	Not irritating
triethyleneglycol dimethacrylate	OECD Guide-line 405 (Rabbit): Not irritating
ethylene di(S-thioacetate)	(Rabbit): Irritating.
n-butyl acrylate	(Rabbit): Irritating.
N,N-bis-(2-hydroxypropyl)-p-toluidine	OECD Guide-line 405 (Rabbit): Irritant
Respiratory or Skin Sensitization:	
Product:	No data available.
Components:	
Methyl methacrylate	May cause sensitization by skin contact.
triethyleneglycol dimethacrylate	Local Lymph Node Assay (Mouse): Skin sensitizer Allergic reactions on humans were recorded.
ethylene di(S-thioacetate)	Strong skin sensitizer.
n-butyl acrylate	(Mouse)Skin sensitizer
N,N-bis-(2-hydroxypropyl)-p-toluidine	Not a skin sensitizer.
Germ Cell Mutagenicity	
In vitro	
Product:	No data available.
Components:	
Methyl methacrylate	No data available.
triethyleneglycol dimethacrylate	positive and negative. Not classified
ethylene di(S-thioacetate)	No data available.
n-butyl acrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	(OECD TG 471)negative
In vivo	
Product:	No data available.
Components:	
Methyl methacrylate	No data available.
triethyleneglycol dimethacrylate	not mutagenic
ethylene di(S-thioacetate)	no evidence of mutagenic effects
n-butyl acrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available.
Carcinogenicity	Ames test: negative
Product:	Contains no ingredient listed as a carcinogen (>0.1%).
Components:	
Methyl methacrylate	Not classified
triethyleneglycol dimethacrylate	Not classified
ethylene di(S-thioacetate)	Not classified
n-butyl acrylate	Not carcinogenic
N,N-bis-(2-hydroxypropyl)-p-toluidine	Not classified
Reproductive toxicity	
Product:	
Components:	Contains no ingredient listed as toxic to reproduction (>0.1%)
Methyl methacrylate	Not classified
triethyleneglycol dimethacrylate	Animal testing did not show any effects on fertility.
ethylene di(S-thioacetate)	Not classified
n-butyl acrylate	Animal testing did not show any effects on fertility.
N,N-bis-(2-hydroxypropyl)-p-toluidine	Not classified
Specific Target Organ Toxicity - Single Exposure	
Product:	No data available.
Components:	
Methyl methacrylate	Category 3 with respiratory tract irritation.
triethyleneglycol dimethacrylate	no evidence for hazardous properties
ethylene di(S-thioacetate)	Not classified
n-butyl acrylate	Respiratory Tract - Respiratory tract irritation.
N,N-bis-(2-hydroxypropyl)-p-toluidine	Not classified based on available information.



Specific Target Organ Toxicity - Repeated Exposure

Product:	No data available.
Components:	
Methyl methacrylate	Not classified
triethyleneglycol dimethacrylate	no evidence for hazardous properties
ethylene di(S-thioacetate)	Not classified
n-butyl acrylate	Not classified
N,N-bis-(2-hydroxypropyl)-p-toluidine	Not classified
Aspiration Hazard	
Product:	No aspiration toxicity classification
Components:	
Methyl methacrylate	Not classified
triethyleneglycol dimethacrylate	Not classified
ethylene di(S-thioacetate)	Not classified
n-butyl acrylate	Not classified as an aspiration hazard.
N,N-bis-(2-hydroxypropyl)-p-toluidine	Not classified
Other adverse effects:	Avoid contact with the skin and eyes and inhalation of the product vapours.

12. Ecological information

12.1. Toxicity

Acute toxicity

Fish

Product:	No data available.
Components	
Methyl methacrylate	LC 50 (Oncorhynchus mykiss (rainbow trout), 96 h): > 79 mg/l (OECD Test Guideline 203) NOEC (Danio rerio (zebra fish), 32 d): 9.4 mg/l (OECD Test Guideline 210) literature
triethyleneglycol dimethacrylate	LC 50 (Danio rerio (zebra fish), 96 h): 16.4 mg/l (OECD TG 203)
ethylene di(S-thioacetate)	LC 50 (Leuciscus idus (Golden orfe), 48 h): 4.85 mg/l (DIN 38412 Teil 15)
n-butyl acrylate	LC 50 (Oncorhynchus mykiss (rainbow trout), 96 h): > 5.2 mg/l (OECD TG 203)
N,N-bis-(2-hydroxypropyl)-p-toluidine	LC 50 (Danio rerio (zebra fish), 96 h): 17 mg/l

Aquatic Invertebrates

Product:	No data available.
Components	
Methyl methacrylate	EC 50 (Daphnia magna (Water flea), 48 h): 69 mg/l (OECD Test Guideline 202) NOEC (Daphnia magna (Water flea), 21 d): 37 mg/l (OECD Test Guideline 202)
triethyleneglycol dimethacrylate	No data available.
ethylene di(S-thioacetate)	No data available.
n-butyl acrylate	EC 50 (Daphnia magna (Water flea), 48 h): 8.2 mg/l (OECD TG 202)
N,N-bis-(2-hydroxypropyl)-p-toluidine	EC 50 (Daphnia magna (Water flea), 48 h): 28.8 mg/l (OECD TG 202)

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)
ethylene di(S-thioacetate)	No data available.



n-butyl acrylate	EC 50 (Selenastrum capricornutum (green algae), 96 h): 2.65 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)
Toxicity to microorganisms	
Product:	No data available.
Components	
Methyl methacrylate	No data available.
triethyleneglycol dimethacrylate	No data available.
ethylene di(S-thioacetate)	No data available.
n-butyl acrylate	EC0 (Activated sludge, 3 d): > 150 mg/l
N,N-bis-(2-hydroxypropyl)-p-toluidine	EC10 (30 min): > 1,995 mg/l (OECD Test Guideline 209)
Chronic Toxicity	
Fish	
Product:	No data available.
Components	
Methyl methacrylate	No data available.
triethyleneglycol dimethacrylate	No data available.
ethylene di(S-thioacetate)	No data available.
n-butyl acrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available.
Aquatic Invertebrates	
Product:	No data available
Components	
Methyl methacrylate	No data available.
triethyleneglycol dimethacrylate	NOEC (Daphnia magna (Water flea), 21 d): 32 mg/l (OECD Test Guideline 211)
ethylene di(S-thioacetate)	No data available.
n-butyl acrylate	NOEC (Daphnia magna (Water flea), 21 d): 0.136 mg/l (OECD Test Guideline 211)
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available.
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)
ethylene di(S-thioacetate)	No data available.
n-butyl acrylate	No data available.
N,N-bis-(2-hydroxypropyl)-p-toluidine	No data available.

12.2. Persistence and degradability

Biodegradability

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

BOD/COD Ratio

Product

No data available.

Components

Methyl methacrylate

No data available.

triethyleneglycol dimethacrylate

No data available.

ethylene di(S-thioacetate)

No data available.

n-butyl acrylate

No data available.

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

No data available.

12.3. Bioaccumulative potential

Product:

Bioaccumulation

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



12.4. Mobility in soil	no specific test data available
12.5. Results of PBT and vPvB assessment PBT:	no vPvB: no
Methyl methacrylate	Non-classified vPvB substance Non- classified PBT substance
triethyleneglycol dimethacrylate	Non-classified vPvB substance Non- classified PBT substance
ethylene di(S-thioacetate)	Non-classified vPvB substance Non- classified PBT substance
n-butyl acrylate	Non-classified vPvB substance Non- classified PBT substance
N,N-bis-(2-hydroxypropyl)-p-toluidine	Non-classified vPvB substance Non- classified PBT substance
12.6. Other adverse effects	Prevent substance from entering soil, natural bodies of water and sewer systems.

13. Disposal considerations	
13.1. Waste treatment methods	
General information:	
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.
Contaminated 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/GGVSEB)	
14.1. UN number	
ADR	UN 1866
RID	UN 1866
IMDG	UN 1866
IATA	UN 1866
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. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

15. Regulatory information

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

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

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 legislation

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.

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 dose/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

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'.
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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	Calculation method
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.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects

Other informations:

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.



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