

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



Trade name : EP-Härter 5777, Transparent gelblich (5777.-.0100)
Revision date : 17.02.2020
Print date : 17.02.2020

Version (Revision) : 6.0.0 (5.0.0)

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

1.1 Product identifier

EP-Härter 5777, Transparent gelblich (5777.-.0100)

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

Hardener for waterborn 2C-EP-paints.

Relevant identified uses

Product Categories [PC]

PC9 - Coatings and paints, fillers, putties, thinners

Remark

The product is intended for professional use.

1.3 Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor)

Brillux GmbH & Co. KG, Industrielack
www.brillux-industrielack.de

Street : Otto-Hahn-Straße 14

Postal code/city : D-59423 Unna

Telephone : +49 2303 8805-0

Telefax : +49 2303 8805-119

Information contact : E-mail address of the competent person for safety data sheets: sdb@brillux-industrielack.de

1.4 Emergency telephone number

Giftinformationszentrum-Nord (poisons centre), consultation in german and english
Telephone: +49 551 19 24 0

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Aquatic Chronic 3 ; H412 - Hazardous to the aquatic environment : Chronic 3 ; Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.

Special rules for supplemental label elements for certain mixtures

EUH208 Contains 3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE. May produce an allergic reaction.

2.3 Other hazards

None

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous ingredients

Aliphatic Polyamines

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)



Trade name : EP-Härter 5777, Transparent gelblich (5777.-.0100)
Revision date : 17.02.2020
Print date : 17.02.2020

Version (Revision) : 6.0.0 (5.0.0)

Weight fraction : $\geq 10 - < 15 \%$
Classification 1272/2008 [CLP] : Aquatic Chronic 2 ; H411
2-BUTOXYETHANOL ; REACH registration No. : 01-2119475108-36 ; EC No. : 203-905-0 ; CAS No. : 111-76-2
Weight fraction : $\geq 5 - < 10 \%$
Classification 1272/2008 [CLP] : Acute Tox. 4 ; H302 Acute Tox. 4 ; H312 Acute Tox. 4 ; H332 Skin Irrit. 2 ; H315 Eye Irrit. 2 ; H319
2-(PROPYLOXY)ETHANOL ; EC No. : 220-548-6 ; CAS No. : 2807-30-9
Weight fraction : $\geq 1 - < 5 \%$
Classification 1272/2008 [CLP] : Flam. Liq. 3 ; H226 Acute Tox. 4 ; H312 Eye Irrit. 2 ; H319
3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE ; REACH registration No. : 01-2119514687-32 ; EC No. : 220-666-8 ; CAS No. : 2855-13-2
Weight fraction : $\geq 0,5 - < 1 \%$
Classification 1272/2008 [CLP] : Skin Corr. 1B ; H314 Eye Dam. 1 ; H318 Acute Tox. 4 ; H302 Acute Tox. 4 ; H312 Skin Sens. 1 ; H317 Aquatic Chronic 3 ; H412
M-PHENYLENEBIS(METHYLAMINE) ; EC No. : 216-032-5 ; CAS No. : 1477-55-0
Weight fraction : $\geq 0,5 - < 1 \%$
Classification 1272/2008 [CLP] : Skin Corr. 1B ; H314 Eye Dam. 1 ; H318 Acute Tox. 4 ; H302 Acute Tox. 4 ; H312 Acute Tox. 4 ; H332

Additional information

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Change contaminated, saturated clothing. When in doubt or if symptoms are observed, get medical advice. If unconscious place in recovery position and seek medical advice.

Following inhalation

Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. In case of respiratory tract irritation, consult a physician.

In case of skin contact

Wash immediately with: Water and soap Do not wash with: Solvents/Thinner

After eye contact

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Protect uninjured eye.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Keep at rest. Do NOT induce vomiting. No direct artificial respiration to be given by first aider.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Extinguishing powder, alcohol resistant foam, carbon dioxide (CO₂), water spray.

Unsuitable extinguishing media

Full water jet

5.2 Special hazards arising from the substance or mixture

Trade name : EP-Härter 5777, Transparent gelblich (5777.-.0100)
Revision date : 17.02.2020
Print date : 17.02.2020

Version (Revision) : 6.0.0 (5.0.0)

Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO₂) and pyrolysis products, toxic.

5.3 Advice for firefighters

Special protective equipment for firefighters

Use suitable breathing apparatus.

5.4 Additional information

Burning produces heavy smoke. Use water spray jet to protect personnel and to cool endangered containers. Do not allow run-off from fire-fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition. Provide adequate ventilation. See protective measures under point 7 and 8.

6.2 Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

6.3 Methods and material for containment and cleaning up

For cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Clean with detergents. Avoid solvent cleaners.

6.4 Reference to other sections

None

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures

Avoid: Inhalation of vapours or spray/mists Only use the material in places where open light, fire and other flammable sources can be kept away. If handled uncovered, arrangements with local exhaust ventilation should be used if possible. If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means. Never use pressure to empty container. Only allow access to authorised staff.

Measures to prevent fire

Keep away from sources of ignition - No smoking. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

Advices on general occupational hygiene

Wear personal protection equipment (refer to section 8). When using do not eat, drink, smoke, sniff. Always close containers tightly after the removal of product.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Floors should be impervious, resistant to liquids and easy to clean. Keep container tightly closed.

Hints on joint storage

Storage class (TRGS 510) : 10

Do not store together with

Strong acid, strong alkali, oxidising agent, food and feedingstuffs.

Further information on storage conditions

Keep only in the original container in a cool, well-ventilated place.

Protect against : Heat, frost and humidity.

7.3 Specific end use(s)

Hardener for waterborn 2C-EP-paints.

Industrial sector specific solutions

Trade name : EP-Härter 5777, Transparent gelblich (5777.-.0100)
Revision date : 17.02.2020
Print date : 17.02.2020

Version (Revision) : 6.0.0 (5.0.0)

Note DGUV-Rule 100-500, section 2.29 (processing coating materials). Note DGUV-Rule 109-013.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

2-BUTOXYETHANOL ; CAS No. : 111-76-2

Limit value type (country of origin) : TRGS 900 (D)

Limit value : 10 ppm / 49 mg/m³

Peak limitation : 2(II)

Remark : H,Y

Version : 29.03.2019

Limit value type (country of origin) : STEL (EC)

Limit value : 50 ppm / 246 mg/m³

Remark : H

Version : 31.01.2018

Limit value type (country of origin) : TWA (EC)

Limit value : 20 ppm / 98 mg/m³

Remark : H

Version : 31.01.2018

2-(PROPYLOXY)ETHANOL ; CAS No. : 2807-30-9

Limit value type (country of origin) : TRGS 900 (D)

Limit value : 10 ppm / 43 mg/m³

Peak limitation : 2(I)

Remark : H,Y

Version : 29.03.2019

Biological limit values

2-BUTOXYETHANOL ; CAS No. : 111-76-2

Limit value type (country of origin) : TRGS 903 (D)

Parameter : Butoxy acetic acid / Urine (U) / At long term exposure: after several previous shifts

Limit value : 100 mg/l

Version : 29.03.2019

Limit value type (country of origin) : TRGS 903 (D)

Parameter : Butoxy acetic acid / Urine (U) / End of exposure or end of shift ; At long term exposure: after several previous shifts

Limit value : 150 mg/g Kr

Version : 29.03.2019

DNEL/DMEL and PNEC values

DNEL/DMEL

Limit value type : DNEL/DMEL (Industrial) (2-BUTOXYETHANOL ; CAS No. : 111-76-2)

Exposure route : Dermal

Exposure frequency : Short-term (acute)

Limit value : 89 mg/kg

Limit value type : DNEL/DMEL (Industrial) (2-BUTOXYETHANOL ; CAS No. : 111-76-2)

Exposure route : Inhalation

Exposure frequency : Short-term (acute)

Limit value : 663 mg/m³

Limit value type : DNEL/DMEL (Industrial) (2-BUTOXYETHANOL ; CAS No. : 111-76-2)

Exposure route : Dermal

Exposure frequency : Long-term (repeated)

Limit value : 75 mg/kg

Limit value type : DNEL/DMEL (Industrial) (2-BUTOXYETHANOL ; CAS No. : 111-76-2)

Exposure route : Inhalation

Exposure frequency : Long-term (repeated)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)



Trade name : EP-Härter 5777, Transparent gelblich (5777.-.0100)
Revision date : 17.02.2020
Print date : 17.02.2020

Version (Revision) : 6.0.0 (5.0.0)

Limit value : 98 mg/m³
PNEC
Limit value type : PNEC (Industrial) (2-BUTOXYETHANOL ; CAS No. : 111-76-2)
Exposure route : Water (Including sewage plant)
Limit value : 8,8 mg/l
Limit value type : PNEC (Industrial) (2-BUTOXYETHANOL ; CAS No. : 111-76-2)
Exposure route : Soil
Limit value : 2,8 mg/kg

8.2 Exposure controls

Personal protection equipment

Eye/face protection

Suitable eye protection

goggles (EN 166)

Remark

Note DGUV-Rule 112-192.

Skin protection

Hand protection

Use safety gloves according to EN 374. Suitable glove materials: fluoro-rubber, butyl-rubber or nitrile-rubber. Please pay attention to the glove penetration times of the substances named below in chapter 2, according to the glove manufactures.

Remark : After washing hands replace lost skin fat by fat containing skin creams. Note DGUV-Rule 112-195. Note TRGS 401.

Body protection

Required properties : Antistatic, non-melting.

Recommended material : Natural fibres (e.g. cotton), heat-resistant synthetic fibres.

Remark : Note DGUV-Rule 112-189. Note TRGS 401.

Respiratory protection

Respiratory protection necessary at: Insufficient ventilation, insufficient exhaust or spray application.

Suitable respiratory protection apparatus

Combination filter mask A2-P2 for short-term work.

European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

Remark

Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190). Note TRGS 402.

Occupational exposure controls

Technical measures to prevent exposure

Technical measures and the application of suitable work processes have priority over personal protection equipment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid

Colour : According to product identification.

Odour

like: Amines

Safety relevant basis data

Melting point/melting range :

not applicable

Initial boiling point and boiling range :

(1013 hPa)

>

100 °C

Decomposition temperature :

No data available

Flash point :

>

100 °C

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)



Trade name : EP-Härter 5777, Transparent gelblich (5777.-.0100)
Revision date : 17.02.2020
Print date : 17.02.2020

Version (Revision) : 6.0.0 (5.0.0)

Ignition temperature :		No data available	
Lower explosion limit :	approx.	1,1	Vol-%
Upper explosion limit :		No data available	
Vapour pressure :	(50 °C)	approx.	123 hPa
Density :	(20 °C)	1 - 1,1	g/cm ³
Solvent separation test :	(20 °C)	not applicable	
Water solubility :	(20 °C)	consolute miscible	
pH :		8 - 10	
log P O/W :		No data available	
Flow time :	(20 °C)	> 90	s DIN-cup 4 mm
Viscosity :	(23 °C)	1300 - 1500	mPa.s
Cinematic viscosity :	(40 °C)	> 20,5	mm ² /s
Solid content :		30 - 40	Wt %
Odour threshold :		not relevant	
Relative vapour density :	(20 °C)	No data available	
Vapourisation rate :		No data available	
Maximum VOC content (EC) :		10	Wt %
Oxidising liquids :	Not oxidising.		

9.2 Other information

The physical specifications are approximate values and refer to the used safety relevant component(s).

SECTION 10: Stability and reactivity

10.1 Reactivity

No information available.

10.2 Chemical stability

Stable under recommended storage and handling conditions (see section 7).

10.3 Possibility of hazardous reactions

No information available.

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials

Exothermic reaction with: Acid, concentrated. Oxidizing agent.

10.6 Hazardous decomposition products

Does not decompose when used for intended uses.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity

Parameter :	ATEmix calculated
Exposure route :	Oral
Effective dose :	7143 mg/kg
Parameter :	LD50 (2-BUTOXYETHANOL ; CAS No. : 111-76-2)
Exposure route :	Oral
Species :	Rat
Effective dose :	1480 mg/kg
Parameter :	LD50 (M-PHENYLENEBIS(METHYLAMINE) ; CAS No. : 1477-55-0)
Exposure route :	Oral
Species :	Rat
Effective dose :	930 mg/kg

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)



Trade name : EP-Härter 5777, Transparent gelblich (5777.-.0100)
Revision date : 17.02.2020
Print date : 17.02.2020

Version (Revision) : 6.0.0 (5.0.0)

Parameter : LD50 (3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE ; CAS No. : 2855-13-2)
Exposure route : Oral
Species : Rat
Effective dose : 250 mg/kg

Acute dermal toxicity

Parameter : ATEmix calculated
Exposure route : Dermal
Effective dose : 11892 mg/kg
Parameter : LC50 (2-BUTOXYETHANOL ; CAS No. : 111-76-2)
Exposure route : Dermal
Species : Rabbit
Effective dose : > 2000 mg/kg
Parameter : LD50 (M-PHENYLENEBIS(METHYLAMINE) ; CAS No. : 1477-55-0)
Exposure route : Dermal
Species : Rabbit
Effective dose : 2000 mg/kg
Parameter : LD50 (M-PHENYLENEBIS(METHYLAMINE) ; CAS No. : 1477-55-0)
Exposure route : Dermal
Species : Rat
Effective dose : 2000 mg/kg

Acute inhalation toxicity

Parameter : ATEmix calculated
Exposure route : Inhalation (vapour)
Effective dose : 157,1 mg/l
Parameter : LC50 (2-BUTOXYETHANOL ; CAS No. : 111-76-2)
Exposure route : Inhalation
Species : Rat
Effective dose : 800 ppm
Exposure time : 8 h
Parameter : LC50 (2-BUTOXYETHANOL ; CAS No. : 111-76-2)
Exposure route : Inhalation
Species : Mouse
Effective dose : 700 ppm
Parameter : LC50 (2-BUTOXYETHANOL ; CAS No. : 111-76-2)
Exposure route : Inhalation
Species : Rat
Effective dose : 3,9 mg/l
Exposure time : 8 h

Irritant and corrosive effects

Irritation to respiratory tract

May cause respiratory irritation.

Practical experience/human evidence

The inhalation of dust/mist or aerosols causes irritation of the respiratory tract.

11.3 Symptoms related to the physical, chemical and toxicological characteristics

In case of skin contact

Frequently or prolonged contact with skin may cause dermal irritation.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

Acute (short-term) fish toxicity

Parameter : LC50 (2-BUTOXYETHANOL ; CAS No. : 111-76-2)
Species : Oncorhynchus mykiss (Rainbow trout)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)



Trade name : EP-Härter 5777, Transparent gelblich (5777.-.0100)
Revision date : 17.02.2020
Print date : 17.02.2020

Version (Revision) : 6.0.0 (5.0.0)

Effective dose : 1474 mg/l
Exposure time : 96 h

Chronic (long-term) fish toxicity

Parameter : NOEC (2-BUTOXYETHANOL ; CAS No. : 111-76-2)
Species : Brachydanio rerio (zebra-fish)
Effective dose : > 100 mg/l
Exposure time : 21 Days

Acute (short-term) daphnia toxicity

Parameter : EC50 (2-BUTOXYETHANOL ; CAS No. : 111-76-2)
Species : Daphnia magna (Big water flea)
Effective dose : 1550 mg/l
Exposure time : 48 h

Chronic (long-term) daphnia toxicity

Parameter : NOEC (2-BUTOXYETHANOL ; CAS No. : 111-76-2)
Species : Daphnia magna (Big water flea)
Effective dose : 100 mg/l
Exposure time : 21 Days

Acute (short-term) algae toxicity

Parameter : EbC50 (2-BUTOXYETHANOL ; CAS No. : 111-76-2)
Species : Pseudokirchneriella subcapitata
Effective dose : 911 mg/l
Exposure time : 72 h
Parameter : EC50 (M-PHENYLENEBIS(METHYLAMINE) ; CAS No. : 1477-55-0)
Species : Daphnia
Effective dose : 10 - 100 mg/l
Exposure time : 48 h
Parameter : EC50 (M-PHENYLENEBIS(METHYLAMINE) ; CAS No. : 1477-55-0)
Species : Algae
Effective dose : 10 - 100 mg/l
Exposure time : 72 h

Bacteria toxicity

Parameter : EC0 (2-BUTOXYETHANOL ; CAS No. : 111-76-2)
Species : Pseudomonas putida
Effective dose : > 700 mg/l
Exposure time : 16 h

12.2 Persistence and degradability

Biodegradation

The solvent is biodegradable. In accordance with the required stability the product is poorly biodegradable.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6 Other adverse effects

No information available.

12.7 Additional ecotoxicological information

Additional information

Do not allow uncontrolled discharge of product into the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)



Trade name : EP-Härter 5777, Transparent gelblich (5777.-.0100)
Revision date : 17.02.2020
Print date : 17.02.2020

Version (Revision) : 6.0.0 (5.0.0)

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Dispose according to legislation.

Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product

EWC-Code: 08 01 11. Uncleaned packaging: EWC-Code: 15 01 10. Cleaned packaging: EWC-Code: 15 01 04.

Waste treatment options

Appropriate disposal / Package

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

13.2 Additional information

Note sections 7 and 8.

SECTION 14: Transport information

14.1 UN number

No dangerous good in sense of these transport regulations.

14.2 UN proper shipping name

No dangerous good in sense of these transport regulations.

14.3 Transport hazard class(es)

No dangerous good in sense of these transport regulations.

14.4 Packing group

No dangerous good in sense of these transport regulations.

14.5 Environmental hazards

No dangerous good in sense of these transport regulations.

14.6 Special precautions for user

None

SECTION 15: Regulatory information

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

EU legislation

Other regulations (EU)

Restrictions of occupation

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).
Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National regulations

Technische Anleitung Luft (TA-Luft)

Weight fraction (Number 5.2.5. I) : 5 - 10 %

Water hazard class (WGK)

Class : 2 (Significant hazardous to water) Classification according to AwSV

Other regulations, restrictions and prohibition regulations

Note TRGS 001. Note TRGS 400.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

16.1 Indication of changes

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)



Trade name : EP-Härter 5777, Transparent gelblich (5777.-.0100)
Revision date : 17.02.2020
Print date : 17.02.2020

Version (Revision) : 6.0.0 (5.0.0)

15. Restrictions on use · 15. Water hazard class (WGK)

16.2 Abbreviations and acronyms

TRGS: German Technical Rule for Hazardous Substances. BGR(I): Rule (Information) from the German employers liability insurance association. DGUV: German Statutory Accident Insurance. AwSV: Ordinance on plants for the handling of substances hazardous to water. VCI: German chemical industry association. EWC: European Waste Catalogue.

16.3 Key literature references and sources for data

None

16.4 Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Calculation method.

16.5 Relevant H- and EUH-phrases (Number and full text)

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

16.6 Training advice

None

16.7 Additional information

None

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.