

GB

Page 1 of 23
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
Revision date / version: 07.03.2017 / 0004
Replacing version dated / version: 29.07.2016 / 0003
Valid from: 07.03.2017
PDF print date: 14.04.2017
DUO-FIX HARDENER 200 ml
Art.: 243431

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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

1.1 Product identifier

DUO-FIX HARDENER 200 ml
Art.: 243431

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

Relevant identified uses of the substance or mixture:

Activator

Sector of use [SU]:

SU 0 - Other

SU 1 - Agriculture, forestry, fishery

SU19 - Building and construction work

SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Chemical product category [PC]:

PC 1 - Adhesives, sealants

Process category [PROC]:

PROC11 - Non industrial spraying

Article Categories [AC]:

AC99 - Not required.

Environmental Release Category [ERC]:

ERC99 - Not required.

Uses advised against:

No information available at present.

1.3 Details of the supplier of the safety data sheet

GB

Albert Berner Deutschland GmbH, Bernerstrasse 4, 74653 Künzelsau, Germany
Phone: +49 79 40 12 10, Fax: +49 79 40 12 13 00
info@berner.de, www.berner.de

Details of the supplier of the safety data sheet see section 16 of this safety data sheet.

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 07.03.2017 / 0004

Replacing version dated / version: 29.07.2016 / 0003

Valid from: 07.03.2017

PDF print date: 14.04.2017

DUO-FIX HARDENER 200 ml

Art.: 243431

Emergency information services / official advisory body:

Telephone number of the company in case of emergencies:

+49 (0) 700 / 24 112 112 (BRC)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard class Hazard category Hazard statement

Eye Irrit.	2	H319-Causes serious eye irritation.
STOT SE	3	H336-May cause drowsiness or dizziness.
Aerosol	1	H222-Extremely flammable aerosol.
Aerosol	1	H229-Pressurised container: May burst if heated.

2.2 Label elements

Labeling according to Regulation (EC) 1272/2008 (CLP)



Danger

H319-Causes serious eye irritation. H336-May cause drowsiness or dizziness. H222-Extremely flammable aerosol. H229-Pressurised container: May burst if heated.

P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211-Do not spray on an open flame or other ignition source. P251-Do not pierce or burn, even after use.
P261-Avoid breathing vapours or spray. P280-Wear eye protection.
P312-Call a POISON CENTRE / doctor if you feel unwell.
P410+P412-Protect from sunlight. Do not expose to temperatures exceeding 50 °C.

EUH066-Repeated exposure may cause skin dryness or cracking.

Without adequate ventilation, formation of explosive mixtures may be possible.
Acetone

2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

GB

Page 3 of 23
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 07.03.2017 / 0004
 Replacing version dated / version: 29.07.2016 / 0003
 Valid from: 07.03.2017
 PDF print date: 14.04.2017
 DUO-FIX HARDENER 200 ml
 Art.: 243431

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

SECTION 3: Composition/information on ingredients

Aerosol

3.1 Substance

n.a.

3.2 Mixture

Dimethyl ether	Substance for which an EU exposure limit value applies.
Registration number (REACH)	---
Index	603-019-00-8
EINECS, ELINCS, NLP	204-065-8
CAS	115-10-6
content %	50-70
Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Gas 1, H220

Acetone	Substance for which an EU exposure limit value applies.
Registration number (REACH)	---
Index	606-001-00-8
EINECS, ELINCS, NLP	200-662-2
CAS	67-64-1
content %	20-40
Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

N,N-dimethyl-p-toluidine	
Registration number (REACH)	---
Index	612-056-00-9
EINECS, ELINCS, NLP	202-805-4
CAS	99-97-8
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP)	Acute Tox. 3, H331 Acute Tox. 3, H311 Acute Tox. 3, H301 STOT RE 2, H373 Aquatic Chronic 3, H412

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
 The substances named in this section are given with their actual, appropriate classification!
 For substances that are listed in appendix VI, table 3.1/3.2 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

SECTION 4: First aid measures

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 07.03.2017 / 0004

Replacing version dated / version: 29.07.2016 / 0003

Valid from: 07.03.2017

PDF print date: 14.04.2017

DUO-FIX HARDENER 200 ml

Art.: 243431

4.1 Description of first aid measures

Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

If the person is unconscious, place in a stable side position and consult a doctor.

Skin contact

Wash thoroughly using copious water - remove contaminated clothing immediately. If skin irritation occurs (redness etc.), consult doctor.

Eye contact

Consult medical specialist.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion

Typically no exposure pathway.

Rinse the mouth thoroughly with water.

Do not induce vomiting. Consult doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.

Headaches

Dizziness

Effect on the central nervous system

Coordination disorders

Mental confusion

Unconsciousness

In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water jet spray / alcohol resistant foam / CO2 / dry extinguisher

Unsuitable extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

Oxides of carbon

Oxides of nitrogen

Toxic gases

Danger of bursting (explosion) when heated

Explosive vapour/air mixture

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

Full protection, if necessary.

Cool container at risk with water.

Page 5 of 23

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 07.03.2017 / 0004

Replacing version dated / version: 29.07.2016 / 0003

Valid from: 07.03.2017

PDF print date: 14.04.2017

DUO-FIX HARDENER 200 ml

Art.: 243431

Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Remove possible causes of ignition - do not smoke.

Ensure sufficient supply of air.

Avoid inhalation, and contact with eyes or skin.

6.2 Environmental precautions

Prevent surface and ground-water infiltration, as well as ground penetration.

Prevent penetration into drains, cellars, working pits or other places in which accumulation could be hazardous.

If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

If spray or gas escapes, ensure ample fresh air is available.

Active substance:

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

7.1.1 General recommendations

Ensure good ventilation.

Avoid inhalation of the vapours.

Keep away from sources of ignition - Do not smoke.

Do not use on hot surfaces.

Take precautions against electrostatic charges.

Avoid contact with eyes or skin.

Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.

Observe directions on label and instructions for use.

Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.

Store product closed and only in original packing.

Not to be stored in gangways or stair wells.

Do not store with oxidizing agents.

Observe special regulations for aerosols!

Observe special storage conditions.

Keep protected from direct sunlight and temperatures over 50°C.

Store in a well ventilated place.

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 07.03.2017 / 0004
 Replacing version dated / version: 29.07.2016 / 0003
 Valid from: 07.03.2017
 PDF print date: 14.04.2017
 DUO-FIX HARDENER 200 ml
 Art.: 243431

7.3 Specific end use(s)

No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Chemical Name	Dimethyl ether		Content %: 50-70
WEL-TWA: 400 ppm (766 mg/m ³) (WEL), 1000 ppm (1920 mg/m ³) (EU)	WEL-STEL: 500 ppm (958 mg/m ³) (WEL)	---	
Monitoring procedures: - Compur - KITA-123 S (549 129)			
BMGV: ---		Other information: ---	

Chemical Name	Acetone		Content %: 20-40
WEL-TWA: 500 ppm (1210 mg/m ³) (WEL, EU)	WEL-STEL: 1500 ppm (3620 mg/m ³) (WEL)	---	
Monitoring procedures: <ul style="list-style-type: none"> - Compur - KITA-102 SA (548 534) - Compur - KITA-102 SC (548 550) - Compur - KITA-102 SD (551 109) - Draeger - Acetone 40/a (5) (81 03 381) - Draeger - Acetone 100/b (CH 22 901) - MTA/MA-031/A96 (Determination of ketones (acetone, methyl ethyl ketone, methyl isobutyl ketone) in air - Charcoal tube method / Gas chromatography) - 1996 - EU project - BC/CEN/ENTR/000/2002-16 card 67-1 (2004) - MDHS 72 (Volatile organic compounds in air – Laboratory method using pumped solid sorbent tubes, thermal desorption and gas chromatography) - 1993 			
BMGV: ---		Other information: ---	

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
 ** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

Acetone						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - marine		PNEC	1,06	mg/l	Assessment factor 500

GB

Page 7 of 23
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 07.03.2017 / 0004
 Replacing version dated / version: 29.07.2016 / 0003
 Valid from: 07.03.2017
 PDF print date: 14.04.2017
 DUO-FIX HARDENER 200 ml
 Art.: 243431

	Environment - freshwater		PNEC	10,6	mg/l	Assessment factor 50
	Environment - sediment, freshwater		PNEC	30,4	mg/l	
	Environment - sediment, marine		PNEC	3,04	mg/l	
	Environment - soil		PNEC	29,5	mg/kg dw	
	Environment - sewage treatment plant		PNEC	19,5	mg/l	
	Environment - sporadic (intermittent) release		PNEC	21	mg/l	Assessment factor 100
	Environment - sewage treatment plant		PNEC	100	mg/l	
Consumer	Human - oral	Long term, systemic effects	DNEL	62	mg/kg bw/day	Overall assessment factor 2
Consumer	Human - dermal	Long term, systemic effects	DNEL	62	mg/kg bw/day	Overall assessment factor 20
Consumer	Human - inhalation	Long term, systemic effects	DNEL	200	mg/m ³	Overall assessment factor 5
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	186	mg/kg bw/day	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	2420	mg/m ³	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	1210	mg/m ³	

Dimethyl ether						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,155	mg/l	
	Environment - sediment, freshwater		PNEC	0,681	mg/kg	
	Environment - soil		PNEC	0,045	mg/kg	
	Environment - sewage treatment plant		PNEC	160	mg/l	

Page 8 of 23
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 07.03.2017 / 0004
 Replacing version dated / version: 29.07.2016 / 0003
 Valid from: 07.03.2017
 PDF print date: 14.04.2017
 DUO-FIX HARDENER 200 ml
 Art.: 243431

	Environment - marine		PNEC	0,016	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	1,549	mg/l	
	Environment - sediment, marine		PNEC	0,069	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	471	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	1894	mg/m3	

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Applies only if maximum permissible exposure values are listed here.

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

These are specified by e.g. EN 14042.

EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:

Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:

Protective gloves in butyl rubber (EN 374).

Minimum layer thickness in mm:

>= 0,5

Permeation time (penetration time) in minutes:

>= 240

Protective hand cream recommended.

The breakthrough times determined in accordance with EN 374 Part 3 were not obtained under practical conditions.

The recommended maximum wearing time is 50% of breakthrough time.

Skin protection - Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:

If OES or MEL is exceeded.

Gas mask filter AX (EN 14387), code colour brown.

At high concentrations:

Respiratory protection appliance (insulation device) (e.g. EN 137 or EN 138)

Page 9 of 23

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 07.03.2017 / 0004

Replacing version dated / version: 29.07.2016 / 0003

Valid from: 07.03.2017

PDF print date: 14.04.2017

DUO-FIX HARDENER 200 ml

Art.: 243431

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

Not applicable

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Aerosol. Active substance: liquid.
Colour:	Colourless
Odour:	Characteristic
Odour threshold:	Not determined
pH-value:	n.a.
Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	Not determined
Flash point:	Not determined
Evaporation rate:	Not determined
Flammability (solid, gas):	Not determined
Lower explosive limit:	Not determined
Upper explosive limit:	Not determined
Vapour pressure:	Not determined
Vapour density (air = 1):	Not determined
Density:	0,703 g/cm ³
Bulk density:	n.a.
Solubility(ies):	Not determined
Water solubility:	Not determined
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Viscosity:	Not determined
Explosive properties:	Not determined
Oxidising properties:	Not determined

9.2 Other information

Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined

GB

Page 10 of 23
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 07.03.2017 / 0004
 Replacing version dated / version: 29.07.2016 / 0003
 Valid from: 07.03.2017
 PDF print date: 14.04.2017
 DUO-FIX HARDENER 200 ml
 Art.: 243431

Surface tension: Not determined
 Solvents content: 99,8 %

SECTION 10: Stability and reactivity

10.1 Reactivity

The product has not been tested.

10.2 Chemical stability

Stable with proper storage and handling.

10.3 Possibility of hazardous reactions

No dangerous reactions are known.

10.4 Conditions to avoid

See also section 7.

Heating, open flame, ignition sources

Pressure increase will result in danger of bursting.

10.5 Incompatible materials

See also section 7.

Avoid contact with strong oxidizing agents.

Avoid contact with strong alkalis.

Avoid contact with strong acids.

10.6 Hazardous decomposition products

See also section 5.2

No decomposition when used as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Possibly more information on health effects, see Section 2.1 (classification).

DUO-FIX HARDENER 200 ml

Art.: 243431

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	ATE	>2000	mg/kg			calculated value
Acute toxicity, by dermal route:	ATE	>2000	mg/kg			calculated value
Acute toxicity, by inhalation:	ATE	>20	mg/l/4 h			calculated value, Vapours
Acute toxicity, by inhalation:	ATE	>5	mg/l/4 h			calculated value, Aerosol
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.

GB

Page 11 of 23
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 07.03.2017 / 0004
 Replacing version dated / version: 29.07.2016 / 0003
 Valid from: 07.03.2017
 PDF print date: 14.04.2017
 DUO-FIX HARDENER 200 ml
 Art.: 243431

Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.
Other information:						Classification according to calculation procedure.

Dimethyl ether						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by inhalation:	LC50	164	mg/l/4 h	Rat		
Acute toxicity, by inhalation:	LC50	308	mg/l/4 h	Rat		
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:					OECD 477 (Genetic Toxicology - Sex-Linked Recessive Lethal Test in Drosophila melanogaster)	Negative
Carcinogenicity:						Negative
Reproductive toxicity:						Negative
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEC	47106		Rat	OECD 452 (Chronic Toxicity Studies)	Negative(2 a)
Symptoms:						unconsciousness, headaches, mucous membrane irritation, dizziness, nausea and vomiting., frostbite

GB

Page 12 of 23
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 07.03.2017 / 0004
 Replacing version dated / version: 29.07.2016 / 0003
 Valid from: 07.03.2017
 PDF print date: 14.04.2017
 DUO-FIX HARDENER 200 ml
 Art.: 243431

Symptoms:						unconsciousness, headaches, mucous membrane irritation, dizziness, nausea and vomiting., frostbite, gastrointestinal disturbances, respiratory distress, circulatory collapse
-----------	--	--	--	--	--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Acetone						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	3000	mg/kg	Mouse		
Acute toxicity, by oral route:	LD50	5800	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>15800	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC50	~76	mg/l/4 h	Rat		
Skin corrosion/irritation:				Guinea pig		Slightly irritant, Repeated exposure may cause skin dryness or cracking.
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Not sensitizing
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative

GB

Page 13 of 23
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 07.03.2017 / 0004
 Replacing version dated / version: 29.07.2016 / 0003
 Valid from: 07.03.2017
 PDF print date: 14.04.2017
 DUO-FIX HARDENER 200 ml
 Art.: 243431

Germ cell mutagenicity:					OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Symptoms:						unconsciousness, vomiting, headaches, gastrointestinal disturbances, fatigue, mucous membrane irritation, dizziness, nausea

N,N-dimethyl-p-toluidine

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	996	mg/kg	Rat		Does not conform with EU classification
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat		Does not conform with EU classification
Acute toxicity, by inhalation:	LC50	1,4	mg/l/4 h	Rat		
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:						Possible
Respiratory or skin sensitisation:						Not sensitizing

GB

Page 15 of 23
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 07.03.2017 / 0004
 Replacing version dated / version: 29.07.2016 / 0003
 Valid from: 07.03.2017
 PDF print date: 14.04.2017
 DUO-FIX HARDENER 200 ml
 Art.: 243431

Other information:	AOX		0	%			Does not contain any organically bound halogens which can contribute to the AOX value in waste water.
Other information:	DOC						DOC-elimination degree (complexing organic substance) > = 80%/28d: n.a.

Dimethyl ether							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC0	96h	2695	mg/l	Pimephales promelas		
12.1. Toxicity to fish:	LC50	96h	>4000	mg/l	Poecilia reticulata		
12.1. Toxicity to fish:	LC50	96h	3082	mg/l	Salmo gairdneri		
12.1. Toxicity to daphnia:	EC50	48h	>4000	mg/l	Daphnia magna		
12.1. Toxicity to algae:	EC0	96h	154,9	mg/l	Chlorella vulgaris	QSAR	
12.2. Persistence and degradability:		28d	5	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Not readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		-0,07				Bioaccumulation is unlikely (LogPow < 1). 25°C (pH 7)
12.4. Mobility in soil:	H (Henry)		518,6	Pa*m3/mol			No adsorption in soil.
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC10		>1600	mg/l	Pseudomonas putida		

GB

Page 16 of 23
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 07.03.2017 / 0004
 Replacing version dated / version: 29.07.2016 / 0003
 Valid from: 07.03.2017
 PDF print date: 14.04.2017
 DUO-FIX HARDENER 200 ml
 Art.: 243431

Other information:							Does not contain any organically bound halogens which can contribute to the AOX value in waste water. DIN EN 1485
Water solubility:			45,60	mg/l			25°C

Acetone							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	5540	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to fish:	LC50	96h	7500	mg/l	Leuciscus idus		
12.1. Toxicity to daphnia:	EC50	48h	6100-12700	mg/l	Daphnia magna		
12.1. Toxicity to algae:	EC50	48h	4740	mg/l	Pseudokirchneriella subcapitata		
12.2. Persistence and degradability:		28d	91	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Readily biodegradable
12.3. Bioaccumulative potential:	BCF		0,19				
12.3. Bioaccumulative potential:	Log Pow		-0,24				
12.4. Mobility in soil:							No adsorption in soil.
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	BOD/COD	16h	1700	mg/l	Pseudomonas putida		
Other information:	BOD5		1900	mg/g			
Other information:	COD		2100	mg/g			
Other information:	AOX		0	%			

N,N-dimethyl-p-toluidine							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes

GB

Page 17 of 23
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 07.03.2017 / 0004
 Replacing version dated / version: 29.07.2016 / 0003
 Valid from: 07.03.2017
 PDF print date: 14.04.2017
 DUO-FIX HARDENER 200 ml
 Art.: 243431

12.1. Toxicity to fish:	LC50	96h	46	mg/l	Pimephales promelas	References
12.2. Persistence and degradability:			5	%		Hardly biodegradable
12.3. Bioaccumulative potential:	Log Pow		2,81			
Other information:	BOD		5	%		Hardly biodegradable, References
Water solubility:						Insoluble

SECTION 13: Disposal considerations

13.1 Waste treatment methods

For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

16 05 04 gases in pressure containers (including halons) containing hazardous substances

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

Take full aerosol cans to problem waste collection.

Take emptied aerosol cans to valuable material collection.

For contaminated packing material

Pay attention to local and national official regulations.

Recommendation:

Do not perforate, cut up or weld uncleaned container.

Residues may present a risk of explosion.

15 01 04 metallic packaging

SECTION 14: Transport information

General statements

14.1. UN number: 1950

Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:

UN 1950 AEROSOLS

14.3. Transport hazard class(es): 2.1

14.4. Packing group: -

Classification code: 5F

LQ: 1 L

14.5. Environmental hazards: Not applicable

Tunnel restriction code: D

Transport by sea (IMDG-code)



GB

Page 18 of 23

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 07.03.2017 / 0004

Replacing version dated / version: 29.07.2016 / 0003

Valid from: 07.03.2017

PDF print date: 14.04.2017

DUO-FIX HARDENER 200 ml

Art.: 243431

14.2. UN proper shipping name:

AEROSOLS

14.3. Transport hazard class(es): 2.1

14.4. Packing group: -

EmS: F-D, S-U

Marine Pollutant: n.a

14.5. Environmental hazards: Not applicable



Transport by air (IATA)

14.2. UN proper shipping name:

Aerosols, flammable

14.3. Transport hazard class(es): 2.1

14.4. Packing group: -

14.5. Environmental hazards: Not applicable



14.6. Special precautions for user

Persons employed in transporting dangerous goods must be trained.

All persons involved in transporting must observe safety regulations.

Precautions must be taken to prevent damage.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Freighted as packaged goods rather than in bulk, therefore not applicable.

Minimum amount regulations have not been taken into account.

Danger code and packing code on request.

Comply with special provisions.

SECTION 15: Regulatory information

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

Observe restrictions:

Comply with trade association/occupational health regulations.

Directive 2010/75/EU (VOC): 100 %

REGULATION (EC) No 648/2004

n.a.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: 2,16

These details refer to the product as it is delivered.

Employee instruction/training in handling hazardous materials is required.

Employee training in handling dangerous goods is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 07.03.2017 / 0004
 Replacing version dated / version: 29.07.2016 / 0003
 Valid from: 07.03.2017
 PDF print date: 14.04.2017
 DUO-FIX HARDENER 200 ml
 Art.: 243431

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Eye Irrit. 2, H319	Classification according to calculation procedure.
STOT SE 3, H336	Classification according to calculation procedure.
Aerosol 1, H222	Classification based on test data.
Aerosol 1, H229	Classification based on test data.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

- H225 Highly flammable liquid and vapour.
- H301 Toxic if swallowed.
- H311 Toxic in contact with skin.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H336 May cause drowsiness or dizziness.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H220 Extremely flammable gas.
- H412 Harmful to aquatic life with long lasting effects.

- Eye Irrit. — Eye irritation
- STOT SE — Specific target organ toxicity - single exposure - narcotic effects
- Aerosol — Aerosols
- Flam. Gas — Flammable gases (including chemically unstable gases)
- Flam. Liq. — Flammable liquid
- Acute Tox. — Acute toxicity - inhalation
- Acute Tox. — Acute toxicity - dermal
- Acute Tox. — Acute toxicity - oral
- STOT RE — Specific target organ toxicity - repeated exposure
- Aquatic Chronic — Hazardous to the aquatic environment - chronic

Albert Berner Deutschland GmbH
 Bernerstrasse 4
 D - 74653 Künzelsau
 Tel +49 79 40 12 10
 Fax +49 79 40 12 13 00
 info@berner.de
 www.berner.de

Berner Gesellschaft m.b.H.
 Industriezeile 36
 A - 5280 Braunau / Inn
 Tel +43 77 22 800 508
 Fax +43 77 22 800 184
 berner@berner.co.at
 www.berner.co.at

Berner Belgien NV/SA
 Bernerstraat 1
 B - 3620 Lanaken
 Tel +31 45 533 93 133(8.00h-16.00h)
 Tel +31 6 290 27 464 (16.00h-8.00h)
 Fax +31 455 33 92 43
 info@berner.be
 www.berner.be

Page 20 of 23

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 07.03.2017 / 0004

Replacing version dated / version: 29.07.2016 / 0003

Valid from: 07.03.2017

PDF print date: 14.04.2017

DUO-FIX HARDENER 200 ml

Art.: 243431

Montagetechnik Berner AG
Kägenstraße 8
CH - 4153 Reinach / Bl. 1
Tel +41 61 71 59 222
Fax +41 61 71 59 333
berner-ag@berner-ag.ch
www.berner-ag.ch

Berner A/S
Stenholm 2
DK - 9400 Nørresundby
Tel +45 99 36 15 00
Fax +45 98 19 24 14
info@berner.dk
www.berner.dk

Berner Montaje y Fijación, S.L.
P.I. "La Rosa VI"
C/Albert Berner, 2
E - 18330 Chauchina-Granada-
España
Tel +34 90 21 03 504
Fax +34 90 21 13 190
berner-spain@berner.es
www.berner.es

Berner Kft.
Táblás u. 34
H - 1097 Budapest
Tel +36 (1) 347 1059
Fax +36 (1) 347 1045
info@berner.hu
www.berner.hu

Frimann-Berner AS
Holmaveien 25
N - 1339 Vøyenenga
Tel +47 66 76 55 80
Fax +47 66 76 55 81
info@berner.no
www.berner.no

Berner Succ. Luxembourg
105, Rue des Bruyères
L - 1274 Howald
Tel +31 45 533 93 133 (8.00h-
16.00h)
Tel +31 6 290 27 464 (16.00h-
8.00h)
Fax +31 455 33 92 43
info@berner.lu
www.berner.lu

Berner spol. s r.o.
Jinonická 80
CZ - 158 00 Praha 5
Tel +420 225 390 666
Fax +420 225 390 660
berner@berner.cz
www.berner.cz

Berner, S.A.
Av. Amália Rodrigues, 3510
Manique de Baixo
P - 2785-738 São Domingos de Rana
Tel ++351 21 448 90 60
Fax ++351 21 448 90 69
marketing.pt@berner.pt
www.berner.pt

Berner Polska Sp. z o.o.
Ul. Puzkarska 7J
30-644 Kraków
Tel +48 12 297 62 40
Fax +48 12 297 62 02
office@berner.pl
www.berner.pl

Albert Berner UAB
Kalvarijø 29B, LT09313,
Vilnius, Lithuania
Tel +370-52104355
Fax +370-52350020
info@berner.lt

Berner SK
Berner s r.o.
Jesenského 1
SK - 962 12 Detva
Tel (+421) 45 5410 245
Fax (+421) 45 5410 255
berner@berner.sk
www.berner.sk

Albert Berner Montagetechnik AB
Elektravägen 53
S - 126 30 Hägersten
Tel +46 85 78 77 800
Fax +46 85 78 77 805
info@berner.se
www.berner.se

Berner Pultti Oy
Volltikatu 6
FI - 70700 Kuopio
Tel +358-207-590 220
Fax +358-207-590 221
kuopio@berner-pultti.com
www.berner-pultti.com

Mitras d.o.o
Brdnikova ulica 34e
SL-1000 Ljubljana
Tel +386-1-256-62-46
Fax +386-1-256-62-45
mitras@siol.com

BERNER d.o.o
CPM Savčica Šanci
Trgovačka 2
HR - 10000 Zagreb
Tel +38512 499 470
Fax +38512 499 480
e-mail: safetydata-hr@berner.co.at

Page 21 of 23

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 07.03.2017 / 0004

Replacing version dated / version: 29.07.2016 / 0003

Valid from: 07.03.2017

PDF print date: 14.04.2017

DUO-FIX HARDENER 200 ml

Art.: 243431

Berner Endüstriyel Ürünler
Sanayi ve Ticaret A.Ş.
Ferhatpaşa Mah. G 7 Sok. 31/2
TR - 34858 Kartal-Samandıra /
İSTANBUL
Tel +90 (0) 216-4713077
Fax +90 (0) 216-4719625
info@berner.com.tr

Berner S.p.A.
Via dell 'Elettronica 15
I - 37139 Verona
Tel +39 04 58 67 01 11
Fax +39 04 58 67 01 34
info@berner.it
www.berner.it

Albert Berner srl
Str. Vrancei Nr. 51 - 55
RO - 310315 Arad
Tel +40 257 212291
Fax +40 257 250460
office@berner-romania.ro
www.berner-romania.ro

Berner Produkten b.v.
Vogelzankweg 175
NL - 6374 AC Landgraaf
+31 45 53 39 133 (8.00h-16.00h)
+31 6 290 27 464 (16.00h-8.00h)
info@berner.nl
www.berner.nl

Berner s.a.r.l.
ZI Les Manteaux
F - 89331 Saint-Julien-du-Sault Cedex
Tel +33 38 69 94 400
Fax +33 38 69 94 444
contact@berner.fr
www.berner.fr

Albert Berner SIA
Liliju 20, Marupe, Mārupes novads,
LV-2167, Latvija
Tel +37167840007
Fax +371678440008
info@berner.lv

(c) COPYRIGHT 1987 - 2050 ALL
RIGHTS RESERVED

Any abbreviations and acronyms used in this document:

AC Article Categories

acc., acc. to according, according to

ACGIH American Conference of Governmental Industrial Hygienists

ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)

AOEL Acceptable Operator Exposure Level

AOX Adsorbable organic halogen compounds

approx. approximately

Art., Art. no. Article number

ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)

BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)

BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)

BCF Bioconcentration factor

BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)

BHT Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)

BMGV Biological monitoring guidance value (EH40, UK)

BOD Biochemical oxygen demand

BSEF Bromine Science and Environmental Forum

bw body weight

CAS Chemical Abstracts Service

CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids

CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques

CIPAC Collaborative International Pesticides Analytical Council

Page 22 of 23

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 07.03.2017 / 0004

Replacing version dated / version: 29.07.2016 / 0003

Valid from: 07.03.2017

PDF print date: 14.04.2017

DUO-FIX HARDENER 200 ml

Art.: 243431

CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)

CMR carcinogenic, mutagenic, reproductive toxic

COD Chemical oxygen demand

CTFA Cosmetic, Toiletry, and Fragrance Association

DMEL Derived Minimum Effect Level

DNEL Derived No Effect Level

DOC Dissolved organic carbon

DT50 Dwell Time - 50% reduction of start concentration

DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)

dw dry weight

e.g. for example (abbreviation of Latin 'exempli gratia'), for instance

EC European Community

ECHA European Chemicals Agency

EEA European Economic Area

EEC European Economic Community

EINECS European Inventory of Existing Commercial Chemical Substances

ELINCS European List of Notified Chemical Substances

EN European Norms

EPA United States Environmental Protection Agency (United States of America)

ERC Environmental Release Categories

ES Exposure scenario

etc. et cetera

EU European Union

EWC European Waste Catalogue

Fax. Fax number

gen. general

GHS Globally Harmonized System of Classification and Labelling of Chemicals

GWP Global warming potential

HET-CAM Hen's Egg Test - Chorionallantoic Membrane

HGWP Halocarbon Global Warming Potential

IARC International Agency for Research on Cancer

IATA International Air Transport Association

IBC Intermediate Bulk Container

IBC (Code) International Bulk Chemical (Code)

IC Inhibitory concentration

IMDG-code International Maritime Code for Dangerous Goods

incl. including, inclusive

IUCLID International Uniform Chemical Information Database

LC lethal concentration

LC50 lethal concentration 50 percent kill

LCLo lowest published lethal concentration

LD Lethal Dose of a chemical

LD50 Lethal Dose, 50% kill

LDLo Lethal Dose Low

LOAEL Lowest Observed Adverse Effect Level

LOEC Lowest Observed Effect Concentration

LOEL Lowest Observed Effect Level

LQ Limited Quantities

MARPOL International Convention for the Prevention of Marine Pollution from Ships

n.a. not applicable

n.av. not available

Page 23 of 23

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 07.03.2017 / 0004

Replacing version dated / version: 29.07.2016 / 0003

Valid from: 07.03.2017

PDF print date: 14.04.2017

DUO-FIX HARDENER 200 ml

Art.: 243431

n.c. not checked

n.d.a. no data available

NIOSH National Institute of Occupational Safety and Health (United States of America)

NOAEC No Observed Adverse Effective Concentration

NOAEL No Observed Adverse Effect Level

NOEC No Observed Effect Concentration

NOEL No Observed Effect Level

ODP Ozone Depletion Potential

OECD Organisation for Economic Co-operation and Development

org. organic

PAH polycyclic aromatic hydrocarbon

PBT persistent, bioaccumulative and toxic

PC Chemical product category

PE Polyethylene

PNEC Predicted No Effect Concentration

POCP Photochemical ozone creation potential

ppm parts per million

PROC Process category

PTFE Polytetrafluorethylene

REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)

REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.

RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)

SADT Self-Accelerating Decomposition Temperature

SAR Structure Activity Relationship

SU Sector of use

SVHC Substances of Very High Concern

Tel. Telephone

ThOD Theoretical oxygen demand

TOC Total organic carbon

TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)

UN RTDG United Nations Recommendations on the Transport of Dangerous Goods

VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))

VOC Volatile organic compounds

vPvB very persistent and very bioaccumulative

WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK).

WHO World Health Organization

wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are

not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge. No responsibility.