

Safety Data Sheet

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

Trade name : Dürr-Automat XR/C⁺ Fixer concentrate
Revision date : 26.06.2023
Print date : 21.07.2023

Version (Revision) : 2.1.0 (1.0.0)

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

1.1 Product identifier

Dürr-Automat XR/C⁺ Fixer concentrate
Unique Formula Identifier : not applicable

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

Relevant identified uses

Special X-ray set for Dürr developers.

Products Category [PC]

PC 30 - Photo-chemicals

Uses advised against

None, if handled according to order.

Remark

The product is intended for professional use.

1.3 Details of the supplier of the safety data sheet

Supplier

orochemie GmbH + Co. KG

Street : Max-Planck-Straße 27

Postal code/City : 70806 Kornwestheim

Telephone : +49 7154 1308-0

Telefax : +49 7154 1308-40

Information contact : DÜRR DENTAL SE, Höpfigheimer Str. 17, 74321 Bietigheim-Bissingen, Germany

Tel: +49 7142 705-0, Fax: +49 7142 705-500, info@duerrdental.com

in Great Britain/Ireland:

DÜRR DENTAL [Products] UK Ltd., 14 Linnell Way - Telford Way Industrial Estate, Kettering Northants NN16 8PS,
United Kingdom, info@duerruk.com

1.4 Emergency telephone number

INT: +49 6132 84463 (24 h/7 d)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Although there is no labelling required for this product, we nevertheless advise observation of the safety recommendations.

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

None

2.2 Label elements

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

Precautionary statements

P280 Wear protective gloves and eye/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P501 Dispose of contents/container to hazardous or special waste collection point.

Special rules for supplemental label elements for certain mixtures

EUH210 Safety data sheet available on request.

2.3 Other hazards

The mixture does not contain any substances that have endocrine disrupting properties. The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description

Automat XR/C+ Fixer concentrate contains ammonium thiosulfate, organic acids and auxiliary agents in aqueous solution.

Hazardous ingredients

ACETIC ACID ; REACH No. : 01-2119475328-30 ; EC No. : 200-580-7; CAS No. : 64-19-7

Weight fraction : $\geq 1 - < 5 \%$

Classification 1272/2008 [CLP] : Flam. Liq. 3 ; H226 Met. Corr. 1 ; H290 Skin Corr. 1A ; H314 Eye Dam. 1 ; H318

Specific Conc. Limits : Skin Corr. 1A ; H314: C $\geq 90 \%$ • Eye Dam. 1 ; H318: C $\geq 25 \%$ • Skin Corr. 1B ;
H314: C $\geq 25 \%$ • Skin Corr. 1C ; H314: C $\geq 25 \%$ • Eye Irrit. 2 ; H319: C $\geq 10 \%$ •
Skin Irrit. 2 ; H315: C $\geq 10 \%$

Additional information

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Remove contaminated, saturated clothing immediately. When in doubt or if symptoms are observed, get medical advice.

Following inhalation

Provide fresh air. In case of respiratory tract irritation, consult a physician.

In case of skin contact

Wash with plenty of water. When in doubt or if symptoms are observed, get medical advice.

After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Following ingestion

If swallowed, immediately drink: Water Never give anything by mouth to an unconscious person or a person with cramps. Do NOT induce vomiting. Call a physician immediately.

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

Carbon dioxide (CO₂) Extinguishing powder Water spray jet Water mist The product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

Full water jet

5.2 Special hazards arising from the substance or mixture

None known.

Hazardous combustion products

None known.

5.3 Advice for firefighters

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Adapt protective equipment to surrounding fire.

Special protective equipment for firefighters

Adapt protective equipment to surrounding fire.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protection equipment. See protective measures under point 7 and 8.

For non-emergency personnel

Use personal protection equipment. See protective measures under point 7 and 8.

For emergency responders

Personal protection equipment

See protective measures under point 7 and 8.

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Collect in closed and suitable containers for disposal.

Other information

Treat the recovered material as prescribed in the section on waste disposal.

6.4 Reference to other sections

None

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep/Store only in original container. Please note safety instructions and directions for use on the drum. Handle and open container with care. Provide adequate ventilation. Do not breathe vapour/aerosol.

Protective measures

Measures to prevent fire

Usual measures for fire prevention. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep/Store only in original container. Keep container tightly closed. Keep in a cool, well-ventilated place. Do not store in temperatures below 5 °C.

Hints on joint storage

Store the foodstuffs separately.

7.3 Specific end use(s)

Observe instructions for use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

ACETIC ACID ; CAS No. : 64-19-7

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

Limit value : 20 ppm / 50 mg/m³

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Limit value type (country of origin) : STEL (EC)
Limit value : 50 mg/m³ / 20 ppm
Limit value type (country of origin) : TWA (EC)
Limit value : 10 ppm / 25 mg/m³
Version : 20.06.2019
Limit value type (country of origin) : TWA (EC)
Limit value : 25 mg/m³ / 10 ppm
Limit value type (country of origin) : TLV/TWA (GB)
Limit value : 10 ppm / 25 mg/m³

DNEL-/PNEC-values

There are no data available on the preparation itself.

DNEL/DMEL

ACETIC ACID ; CAS No. : 64-19-7

Limit value type : DNEL Consumer (local)
Exposure route : Inhalation
Exposure frequency : Long-term
Limit value : 25 mg/m³
Limit value type : DNEL Consumer (local)
Exposure route : Inhalation
Exposure frequency : Short-term
Limit value : 25 mg/m³
Limit value type : DNEL worker (local)
Exposure route : Inhalation
Exposure frequency : Long-term
Limit value : 25 mg/m³
Limit value type : DNEL worker (local)
Exposure route : Inhalation
Exposure frequency : Short-term
Limit value : 25 mg/m³

PNEC

ACETIC ACID ; CAS No. : 64-19-7

Limit value type : PNEC (Aquatic, freshwater)
Limit value : 3,058 mg/l
Limit value type : PNEC (Aquatic, marine water)
Limit value : 0,3058 mg/l
Limit value type : PNEC (Industrial)
Exposure route : Soil
Limit value : 0,478 mg/kg
Limit value type : PNEC (Sediment, freshwater)
Limit value : 11,36 mg/kg
Limit value type : PNEC (Sediment, marine water)
Limit value : 1,136 mg/kg
Limit value type : PNEC (Sewage treatment plant)
Limit value : 85 mg/l

8.2 Exposure controls

Personal protection equipment

Eye/face protection

Eye glasses with side protection EN 166

Skin protection

Hand protection

Short-term exposure (Level 2: < 30 min): disposable gloves to EN374 category III, e.g. nitrile rubber, material thickness 0.1 mm.

Long-term exposure (Level 6: < 480 min): protective gloves to EN374 category III, e.g. nitrile rubber, material

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thickness 0.7 mm.
When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits.

Body protection

Body protection: not required.

Respiratory protection

Usually no personal respiratory protection necessary.

General information

Keep away from food, drink and animal feedingstuffs. Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing. Wash hands before breaks and after work. Separate storage of work clothes. When using do not eat, drink, smoke, sniff.

Other protection measures

Provide adequate ventilation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : Liquid

Colour : colourless

Odour : Acetic acid

Safety characteristics

Melting point/freezing point : (1013 hPa) not determined

Initial boiling point and boiling range : (1013 hPa) not determined

Decomposition temperature : (1013 hPa) not determined

Flash point : not applicable

Auto-ignition temperature : not applicable

Lower explosion limit : not applicable

Upper explosion limit : not applicable

Density : (20 °C) approx. 1,3 g/cm³

Water solubility : (20 °C) 100 Weight-%

pH : 4,5 - 5,5

log P O/W : not determined

Odour threshold : not determined

Maximum VOC content (EC) : 5 Weight-%

Oxidising liquids : Not applicable.

Explosive properties : Not applicable.

Corrosive to metals : Not corrosive to metals.

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

None, if handled according to order.

10.2 Chemical stability

Stable under recommended storage and handling conditions (see section 7). Exothermic reaction with alkalis.

10.3 Possibility of hazardous reactions

Exothermic reaction with alkalis.

10.4 Conditions to avoid

No information available.

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10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products

None known.

SECTION 11: Toxicological information

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

Acute toxicity

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

Acute oral toxicity

Parameter :	ATEmix
Exposure route :	Oral
Effective dose :	not relevant
Parameter :	LD50 (ACETIC ACID ; CAS No. : 64-19-7)
Exposure route :	Oral
Species :	Rat
Effective dose :	3310 mg/kg

Practical experience/human evidence

Avoid contact with skin and eyes.

Acute dermal toxicity

Parameter :	ATEmix
Exposure route :	Dermal
Effective dose :	not relevant
Parameter :	LD50 (ACETIC ACID ; CAS No. : 64-19-7)
Exposure route :	Dermal
Species :	Rabbit
Effective dose :	1060 mg/kg

Acute inhalation toxicity

Parameter :	ATEmix
Exposure route :	Inhalation (vapour)
Effective dose :	not relevant
Parameter :	LC50 (ACETIC ACID ; CAS No. : 64-19-7)
Exposure route :	Inhalation
Species :	Mouse
Effective dose :	5620 mg/l

Corrosion

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

Respiratory or skin sensitisation

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

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

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

Carcinogenicity

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

Germ cell mutagenicity

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

Reproductive toxicity

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

STOT-single exposure

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

STOT-repeated exposure

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

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Aspiration hazard

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

11.2 Information on other hazards

Endocrine disrupting properties

The mixture does not contain any substances that have endocrine disrupting properties.

Additional information

The classification was carried out according to the calculation method of Regulation No. (EC) 1272/2008 [CLP].

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

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

Acute (short-term) fish toxicity

Parameter :	LC50 (ACETIC ACID ; CAS No. : 64-19-7)
Species :	Leuciscus idus (golden orfe)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	400 - 500 mg/l
Exposure time :	48 h
Parameter :	LC50 (ACETIC ACID ; CAS No. : 64-19-7)
Species :	Lepomis macrochirus (Bluegill)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	75 mg/l
Exposure time :	96 h
Parameter :	LC50 (ACETIC ACID ; CAS No. : 64-19-7)
Species :	Pimephales promelas (fathead minnow)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	79 mg/l
Exposure time :	96 h

Acute (short-term) toxicity to crustacea

Parameter :	EC50 (ACETIC ACID ; CAS No. : 64-19-7)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Acute (short-term) daphnia toxicity
Effective dose :	95 mg/l
Exposure time :	24 h

Acute (short-term) toxicity to algae and cyanobacteria

Parameter :	EC0 (ACETIC ACID ; CAS No. : 64-19-7)
Evaluation parameter :	Acute (short-term) algae toxicity
Effective dose :	65 mg/l
Exposure time :	85 h

Toxicity to microorganisms

Parameter :	EC0 (ACETIC ACID ; CAS No. : 64-19-7)
Species :	Pseudomonas putida
Evaluation parameter :	Bacteria toxicity
Effective dose :	2850 mg/l
Exposure time :	16 h

12.2 Persistence and degradability

Biodegradation

No data available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

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Distribution

There are no data available on the preparation itself.

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 Endocrine disrupting properties

The mixture does not contain any substances that have endocrine disrupting properties.

12.7 Other adverse effects

No information available.

12.8 Additional ecotoxicological information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Directive 2008/98/EC (Waste Framework Directive)

After intended use

Disposal operations

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

Recovery operations

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

Waste codes/waste designations according to EWC/AVV

Concentrate/larger quantities: 09 01 04* fixer solutions.

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

14.7 Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU legislation

Authorisations and/or restrictions on use

Restrictions on use

Regulation (EC) No. 1907/2006 (REACH), Annex XVII (restrictions)

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Use restriction according to REACH annex XVII, no. : 40, 75

National regulations

Restrictions of occupation

None

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment has not been carried out.

SECTION 16: Other information

16.1 Indication of changes

02. Label elements · 15. Restrictions on use

16.2 Abbreviations and acronyms

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimates
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CMR = Carcinogen, Mutagen or Reproductive toxicant
CO₂ = Carbon dioxide
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EC = European Commission
EC50 = Half maximal effective concentration
EN = European Standard (Norm)
EU = European Union
EUH statement = CLP-specific Hazard statement
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
H statement = GHS Hazard statement
IATA = International Air Transport Association ICAO-TI = International Civil Aviation Organization-Technical Instructions
IMDG = International Maritime Dangerous Goods
LC50 = Median lethal concentration
LD50 = Median lethal dose
LogPow = Logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NOEC/NOEL = No observed effect concentration/level
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RMM = Risk Management Measure
RRN = REACH Registration Number
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
SVHC = Substances of Very High Concern
TLV/STEL = Threshold limit value/short-term exposure limit
TLV/TWA = Threshold limit value/time weighted average
UN = United Nations
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

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]

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The classification was carried out according to the calculation method of Regulation No. (EC) 1272/2008 [CLP].

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

H226	Flammable liquid and vapour.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

16.6 Training advice

None

16.7 Additional information

Follow the instructions for use on the label.

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.

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

1.1 Product identifier

Dürr-Automat XR/C⁺ Developer concentrate
Unique Formula Identifier : 01CN-14VN-F40Y-3CQH

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

Relevant identified uses

Special X-ray set for Dürr developers.

Products Category [PC]

PC 30 - Photo-chemicals

Uses advised against

None, if handled according to order.

Remark

The product is intended for professional use.

1.3 Details of the supplier of the safety data sheet

Supplier

orochemie GmbH + Co. KG

Street : Max-Planck-Straße 27

Postal code/City : 70806 Kornwestheim

Telephone : +49 7154 1308-0

Telefax : +49 7154 1308-40

Information contact : DÜRR DENTAL SE, Höpfigheimer Str. 17, 74321 Bietigheim-Bissingen, Germany

Tel: +49 7142 705-0, Fax: +49 7142 705-500, info@duerrdental.com

in Great Britain/Ireland:

DÜRR DENTAL [Products] UK Ltd., 14 Linnell Way - Telford Way Industrial Estate, Kettering Northants NN16 8PS, United Kingdom, info@duerruk.com

1.4 Emergency telephone number

INT: +49 6132 84463 (24 h/7 d)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Acute Tox. 4 ; H302 - Acute toxicity (oral) : Category 4 ; Harmful if swallowed.

Skin Irrit. 2 ; H315 - Skin corrosion/irritation : Category 2 ; Causes skin irritation.

Eye Irrit. 2 ; H319 - Serious eye damage/eye irritation : Category 2 ; Causes serious eye irritation.

STOT SE 3 ; H335 - STOT-single exposure : Category 3 ; May cause respiratory irritation.

Classification procedure

The classification was carried out according to the calculation method of Regulation No. (EC) 1272/2008 [CLP].

2.2 Label elements

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

Hazard pictograms



Exclamation mark (GHS07)

Signal word

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Warning

Hazard components for labelling

POTASSIUM CARBONATE ; CAS No. : 584-08-7

Hazard statements

H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statements

P280 Wear protective gloves and eye/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container to hazardous or special waste collection point.

Special rules for supplemental label elements for certain mixtures

EUH208 Contains 4-(HYDROXYMETHYL)-4-METHYL-1-PHENYL-PYRAZOLIDIN-3-ON. May produce an allergic reaction.

2.3 Other hazards

The mixture does not contain any substances that have endocrine disrupting properties. The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description

Automat XR/C+ Developer concentrate contains potassium carbonate, potassium sulphite, complexing agents, stabilizers and auxiliary agents in aqueous solution.

Hazardous ingredients

POTASSIUM CARBONATE ; REACH No. : 01-2119532646-36 ; EC No. : 209-529-3 ; CAS No. : 584-08-7

Weight fraction : $\geq 20 - < 25$ %
Classification 1272/2008 [CLP] : Acute Tox. 4 ; H302 Skin Irrit. 2 ; H315 Eye Irrit. 2 ; H319 STOT SE 3 ; H335

2,2'-OXYBIS(ETHANOL) ; REACH No. : 01-2119457857-21 ; EC No. : 203-872-2 ; CAS No. : 111-46-6

Weight fraction : $\geq 1 - < 5$ %
Classification 1272/2008 [CLP] : Acute Tox. 4 ; H302

4-(HYDROXYMETHYL)-4-METHYL-1-PHENYL-PYRAZOLIDIN-3-ON ; REACH No. : - ; EC No. : 235-920-3 ; CAS No. : 13047-13-7

Weight fraction : $\geq 0,1 - < 0,5$ %
Classification 1272/2008 [CLP] : Acute Tox. 4 ; H302 Skin Sens. 1B ; H317

Additional information

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Remove contaminated, saturated clothing immediately. When in doubt or if symptoms are observed, get medical advice.

Following inhalation

Provide fresh air. In case of respiratory tract irritation, consult a physician.

In case of skin contact

Wash with plenty of water. In case of skin irritation, consult a physician.

After eye contact

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Remove contact lenses, keep eyelids open. In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Following ingestion

If swallowed, immediately drink: Water Never give anything by mouth to an unconscious person or a person with cramps. Do NOT induce vomiting. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Causes skin irritation. Causes serious eye irritation. May cause sensitisation especially in sensitive humans.

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 Water spray jet Water mist The product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

Full water jet

5.2 Special hazards arising from the substance or mixture

None known.

5.3 Advice for firefighters

Adapt protective equipment to surrounding fire. Do not allow run-off from fire-fighting to enter drains or water courses.

Special protective equipment for firefighters

Adapt protective equipment to surrounding fire.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protection equipment. See protective measures under point 7 and 8.

For non-emergency personnel

Use personal protection equipment. See protective measures under point 7 and 8.

For emergency responders

Personal protection equipment

See protective measures under point 7 and 8.

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Collect in closed and suitable containers for disposal.

Other information

Treat the recovered material as prescribed in the section on waste disposal.

6.4 Reference to other sections

None

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep/Store only in original container. Please note safety instructions and directions for use on the drum. Handle and

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open container with care. Provide adequate ventilation. Do not breathe vapour/aerosol.

Protective measures

Measures to prevent fire

Usual measures for fire prevention. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep/Store only in original container. Keep container tightly closed. Keep in a cool, well-ventilated place. Do not store in temperatures below 5 °C.

Hints on joint storage

Store the foodstuffs separately.

7.3 Specific end use(s)

Observe instructions for use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

2,2'-OXYBISETHANOL ; CAS No. : 111-46-6

Limit value type (country of origin) : TLV/TWA (GB)

Limit value : 23 ppm / 101 mg/m³

DNEL-/PNEC-values

There are no data available on the preparation itself.

DNEL/DMEL

POTASSIUM CARBONATE ; CAS No. : 584-08-7

Limit value type : DNEL Consumer (local)

Exposure route : Inhalation

Exposure frequency : Long-term

Limit value : 10 mg/m³

Limit value type : DNEL Consumer (local)

Exposure route : Dermal

Exposure frequency : Long-term

Limit value : 8 mg/cm²

Limit value type : DNEL worker (local)

Exposure route : Inhalation

Exposure frequency : Long-term

Limit value : 10 mg/m³

Limit value type : DNEL worker (local)

Exposure route : Dermal

Exposure frequency : Long-term

Limit value : 16 mg/cm²

2,2'-OXYBISETHANOL ; CAS No. : 111-46-6

Limit value type : DNEL Consumer (local)

Exposure route : Inhalation

Exposure frequency : Long-term

Limit value : 12 mg/m³

Limit value type : DNEL Consumer (local)

Exposure route : Inhalation

Exposure frequency : Short-term

Limit value : 12 mg/m³

Limit value type : DNEL Consumer (systemic)

Exposure route : Dermal

Exposure frequency : Long-term

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Limit value : 53 mg/kg
Limit value type : DNEL Consumer (systemic)
Exposure route : Dermal
Exposure frequency : Long-term
Limit value : 21 mg/kg
Assessment factor : 24 h
Limit value type : DNEL Consumer (systemic)
Exposure route : Inhalation
Exposure frequency : Long-term
Limit value : 12 mg/m³
Limit value type : DNEL worker (local)
Exposure route : Inhalation
Exposure frequency : Long-term
Limit value : 60 mg/m³
Limit value type : DNEL worker (systemic)
Exposure route : Dermal
Exposure frequency : Long-term
Limit value : 106 mg/kg
Limit value type : DNEL worker (systemic)
Exposure route : Inhalation
Exposure frequency : Long-term
Limit value : 60 mg/m³
Limit value type : DNEL worker (systemic)
Exposure route : Dermal
Exposure frequency : Long-term
Limit value : 43 mg/kg
Assessment factor : 24 h
Limit value type : DNEL worker (systemic)
Exposure route : Inhalation
Exposure frequency : Long-term
Limit value : 44 mg/m³

PNEC

2,2'-OXYBIS(ETHANOL) ; CAS No. : 111-46-6

Limit value type : PNEC (Aquatic, freshwater)
Limit value : 10 mg/l
Limit value type : PNEC (Aquatic, marine water)
Limit value : 1 mg/l
Limit value type : PNEC (Industrial)
Exposure route : Soil
Limit value : 1,53 mg/kg
Limit value type : PNEC (Sediment, freshwater)
Limit value : 20,9 mg/kg
Limit value type : PNEC (Sediment, marine water)
Limit value : 2,09 mg/kg
Limit value type : PNEC (Sewage treatment plant)
Limit value : 199,5 mg/l

8.2 Exposure controls

Personal protection equipment

Eye/face protection

Eye glasses with side protection EN 166

Skin protection

Hand protection

Short-term exposure (Level 2: < 30 min): disposable gloves to EN374 category III, e.g. nitrile rubber, material thickness 0.1 mm.

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Long-term exposure (Level 6: < 480 min): protective gloves to EN374 category III, e.g. nitrile rubber, material thickness 0.7 mm.

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits.

Body protection

Body protection: not required.

Respiratory protection

Usually no personal respiratory protection necessary.

General information

Keep away from food, drink and animal feedingstuffs. Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing. Wash hands before breaks and after work. Separate storage of work clothes. When using do not eat, drink, smoke, sniff.

Other protection measures

No particular measures required.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : Liquid

Colour : clear

Odour : characteristic

Safety characteristics

Melting point/freezing point : (1013 hPa) not determined

Initial boiling point and boiling range : (1013 hPa) not determined

Decomposition temperature : (1013 hPa) not determined

Flash point : not applicable

Auto-ignition temperature : not applicable

Lower explosion limit : not applicable

Upper explosion limit : not applicable

Vapour pressure : (50 °C) not determined

Density : (20 °C) approx. 1,31 g/cm³

Solvent separation test : (20 °C) < 3 %

Water solubility : (20 °C) 100 Weight-%

pH : 10,5 - 11,4

log P O/W : not determined

Flow time : (20 °C) < 20 s DIN-cup 4 mm

Odour threshold : not determined

Maximum VOC content (EC) : 4,7 Weight-%

Oxidising liquids : Not applicable.

Explosive properties : Not applicable.

Corrosive to metals : Not corrosive to metals.

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

None, if handled according to order.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

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No information available.

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials

No information available.

10.6 Hazardous decomposition products

No information available.

SECTION 11: Toxicological information

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

Acute toxicity

Harmful: possible risk of irreversible effects if swallowed.

Acute oral toxicity

Parameter :	ATEmix
Exposure route :	Oral
Effective dose :	1926 mg/kg
Parameter :	LD50 (POTASSIUM CARBONATE ; CAS No. : 584-08-7)
Exposure route :	Oral
Species :	Rat
Effective dose :	1870 mg/kg
Parameter :	LD50 (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Exposure route :	Oral
Species :	Practical experience/human evidence
Effective dose :	1120 mg/kg
Parameter :	LD50 (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Exposure route :	Oral
Species :	Rat
Effective dose :	12565 mg/kg
Parameter :	LD50 (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Exposure route :	Oral
Species :	Rabbit
Effective dose :	4400 mg/kg
Parameter :	LD50 (4-(HYDROXYMETHYL)-4-METHYL-1-PHENYL-PYRAZOLIDIN-3-ON ; CAS No. : 13047-13-7)
Exposure route :	Oral
Species :	Rat
Effective dose :	1300 mg/kg
Parameter :	LD50 (4-(HYDROXYMETHYL)-4-METHYL-1-PHENYL-PYRAZOLIDIN-3-ON ; CAS No. : 13047-13-7)
Exposure route :	Oral
Species :	Rat
Effective dose :	566 mg/kg
Parameter :	ATE (POTASSIUM CARBONATE ; CAS No. : 584-08-7)
Exposure route :	Oral
Effective dose :	approx. 1870 mg/kg
Parameter :	ATE (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Exposure route :	Oral
Effective dose :	500 mg/kg
Parameter :	ATE (4-(HYDROXYMETHYL)-4-METHYL-1-PHENYL-PYRAZOLIDIN-3-ON ; CAS No. : 13047-13-7)
Exposure route :	Oral
Effective dose :	500 mg/kg

Practical experience/human evidence

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May cause sensitisation especially in sensitive humans.

Acute dermal toxicity

Parameter :	ATEmix
Exposure route :	Dermal
Effective dose :	not relevant
Parameter :	LD50 (POTASSIUM CARBONATE ; CAS No. : 584-08-7)
Exposure route :	Dermal
Species :	Rabbit
Effective dose :	> 2000 mg/kg
Parameter :	LD50 (2,2'-OXYBISETHANOL ; CAS No. : 111-46-6)
Exposure route :	Dermal
Species :	Rabbit
Effective dose :	13300 mg/kg

Acute inhalation toxicity

Parameter :	ATEmix
Exposure route :	Inhalation (vapour)
Effective dose :	not relevant
Parameter :	LC50 (POTASSIUM CARBONATE ; CAS No. : 584-08-7)
Exposure route :	Inhalation
Species :	Rat
Effective dose :	> 4,96 mg/kg
Exposure time :	4 h
Parameter :	LC0 (2,2'-OXYBISETHANOL ; CAS No. : 111-46-6)
Exposure route :	Inhalation
Species :	Rat
Effective dose :	> 4,6 mg/l
Exposure time :	4 h

Corrosion

Causes serious eye irritation.

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met. May cause sensitization by skin contact.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

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

Carcinogenicity

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

Germ cell mutagenicity

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

Reproductive toxicity

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

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

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

Aspiration hazard

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

11.2 Information on other hazards

Endocrine disrupting properties

The mixture does not contain any substances that have endocrine disrupting properties.

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Additional information

The classification was carried out according to the calculation method of Regulation No. (EC) 1272/2008 [CLP].

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

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

Acute (short-term) fish toxicity

Parameter :	LC50 (POTASSIUM CARBONATE ; CAS No. : 584-08-7)
Species :	Oncorhynchus mykiss (Rainbow trout)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	68 mg/l
Exposure time :	96 h
Parameter :	LC50 (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Species :	Pimephales promelas (fathead minnow)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	75200 mg/l
Exposure time :	96 h
Parameter :	LC50 (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Species :	Carassius auratus (goldfish)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	> 5000 mg/l
Exposure time :	24 h
Parameter :	LC50 (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Species :	Gambusia affinis (Mosquito fish)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	> 100 mg/l
Exposure time :	96 h
Parameter :	LC50 (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Species :	Leuciscus idus (golden orfe)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	> 10000 mg/l
Exposure time :	96 h
Parameter :	LC50 (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Species :	Oncorhynchus mykiss (Rainbow trout)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	> 1000 mg/l
Exposure time :	96 h
Parameter :	LC50 (4-(HYDROXYMETHYL)-4-METHYL-1-PHENYL-PYRAZOLIDIN-3-ON ; CAS No. : 13047-13-7)
Species :	Pimephales promelas (fathead minnow)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	1 - 10 mg/l
Parameter :	LC50 (4-(HYDROXYMETHYL)-4-METHYL-1-PHENYL-PYRAZOLIDIN-3-ON ; CAS No. : 13047-13-7)
Species :	Leuciscus idus (golden orfe)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	35 mg/l
Exposure time :	48 h

Chronic (long-term) fish toxicity

Parameter :	NOEC (POTASSIUM CARBONATE ; CAS No. : 584-08-7)
Species :	Oncorhynchus mykiss (Rainbow trout)
Evaluation parameter :	Chronic (long-term) fish toxicity

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Effective dose : 33 mg/l
Exposure time : 96 h

Acute (short-term) toxicity to crustacea

Parameter : EC50 (POTASSIUM CARBONATE ; CAS No. : 584-08-7)
Species : Daphnia magna (Big water flea)
Evaluation parameter : Acute (short-term) daphnia toxicity
Effective dose : 200 mg/l
Exposure time : 48 h

Parameter : EC50 (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Species : Daphnia magna (Big water flea)
Evaluation parameter : Acute (short-term) daphnia toxicity
Effective dose : > 10000 mg/l
Exposure time : 24 h

Parameter : EC50 (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Species : Daphnia magna (Big water flea)
Effective dose : 48900 mg/l
Exposure time : 48 h

Parameter : EC50 (4-(HYDROXYMETHYL)-4-METHYL-1-PHENYL-PYRAZOLIDIN-3-ON ; CAS No. : 13047-13-7)
Species : Daphnia magna (Big water flea)
Evaluation parameter : Acute (short-term) daphnia toxicity
Effective dose : 7,1 mg/l
Exposure time : 24 h

Acute (short-term) toxicity to algae and cyanobacteria

Parameter : EC50 (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Species : Selenastrum capricornutum
Evaluation parameter : Inhibition of growth rate
Effective dose : > 100 mg/l

Chronic (long-term) toxicity to aquatic algae and cyanobacteria

Parameter : NOEC (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Species : Scenedesmus quadricauda
Evaluation parameter : Chronic (long-term) algae toxicity
Effective dose : 2700 mg/l
Exposure time : 192 h

Toxicity to microorganisms

Parameter : EC50 (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Evaluation parameter : Bacteria toxicity
Effective dose : > 1000 mg/l
Exposure time : 3 h

Parameter : EC10 (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Species : Pseudomonas putida
Evaluation parameter : Bacteria toxicity
Effective dose : 8000 mg/l
Exposure time : 16 h

Parameter : EC50 (4-(HYDROXYMETHYL)-4-METHYL-1-PHENYL-PYRAZOLIDIN-3-ON ; CAS No. : 13047-13-7)
Species : Pseudomonas putida
Evaluation parameter : Bacteria toxicity
Effective dose : 480 mg/l
Exposure time : 16 h

12.2 Persistence and degradability

Biodegradation

Parameter : DOC reduction (2,2` -OXYBISETHANOL ; CAS No. : 111-46-6)
Inoculum : Degree of elimination
Evaluation parameter : Biodegradation

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Degradation rate : > 70 %
Test duration : 672 h

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

Distribution

There are no data available on the preparation itself.

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 Endocrine disrupting properties

The mixture does not contain any substances that have endocrine disrupting properties.

12.7 Other adverse effects

No information available.

12.8 Additional ecotoxicological information

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Directive 2008/98/EC (Waste Framework Directive)

After intended use

Disposal operations

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

Recovery operations

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself. Waste codes 15 01 10*

Waste codes/waste designations according to EWC/AVV

Concentrate/larger quantities: 09 01 01* water based developer baths.

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

14.7 Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

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mixture

EU legislation

Authorisations and/or restrictions on use

Restrictions on use

Regulation (EC) No. 1907/2006 (REACH), Annex XVII (restrictions)

Use restriction according to REACH annex XVII, no. : 3, 75

National regulations

Restrictions of occupation

According to directive 94/33/EC, juveniles are only allowed to handle this product as long as all effects of dangerous substances are prevented.

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment has not been carried out.

SECTION 16: Other information

16.1 Indication of changes

02. Classification of the substance or mixture · 02. Label elements · 02. Labelling according to Regulation (EC) No. 1272/2008 [CLP] · 03. Hazardous ingredients · 11. Acute toxicity · 15. Restrictions on use

16.2 Abbreviations and acronyms

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimates
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CMR = Carcinogen, Mutagen or Reproductive toxicant
CO₂ = Carbon dioxide
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EC = European Commission
EC50 = Half maximal effective concentration
EN = European Standard (Norm)
EU = European Union
EUH statement = CLP-specific Hazard statement
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
H statement = GHS Hazard statement
IATA = International Air Transport Association ICAO-TI = International Civil Aviation Organization-Technical Instructions
IMDG = International Maritime Dangerous Goods
LC50 = Median lethal concentration
LD50 = Median lethal dose
LogPow = Logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NOEC/NOEL = No observed effect concentration/level
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RMM = Risk Management Measure
RRN = REACH Registration Number
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
SVHC = Substances of Very High Concern
TLV/STEL = Threshold limit value/short-term exposure limit
TLV/TWA = Threshold limit value/time weighted average
UN = United Nations

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VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

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]

The classification was carried out according to the calculation method of Regulation No. (EC) 1272/2008 [CLP].

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

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

16.6 Training advice

Do not handle until all safety precautions have been read and understood.

16.7 Additional information

Follow the instructions for use on the label.

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.
