

# Safety Data Sheet

## according to GHS

**Trade name :** Automat XR/C+ Fixer concentrate  
**Revision date :** 09.08.2019  
**Print date :** 21.07.2020

**Version :** 1.0.0

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

#### 1.1 Product identifier

Automat XR/C+ Fixer concentrate

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

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 Australia:

DÜRR DENTAL SE, PO Box 2067, Woonona East New South Wales 2517, Australia, Louis Manera +61 (0)412 95 95 25

Importer/Distributor:

Ivoclar Vivadent Ltd, PO Box 303011, North Harbour, Auckland, 0751, Phone +64 9 914 9999 Fax+64 9 914 9990 DÜRR

DENTAL SE, Höpfigheimer Str. 17, 74321 Bietigheim-Bissingen, Germany

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

#### 1.4 Emergency telephone number

NZ: National Poison Centre (New Zealand) 0800 764 766 Poisons Hotline (24 hours/7days)

### 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 GHS

None

#### 2.2 Label elements

##### Labelling according to GHS

###### 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

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None

### 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

##### 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

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.

##### After 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 (CO<sub>2</sub>) 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

Adapt protective equipment to surrounding fire.

##### Special protective equipment for firefighters

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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 (e.g. 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)

None

### 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/m<sup>3</sup>

Version : 20.06.2019

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

Limit value : 50 mg/m<sup>3</sup> / 20 ppm

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

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Limit value : 10 ppm / 25 mg/m<sup>3</sup>  
Version : 20.06.2019  
Limit value type (country of origin) : TWA ( EC )  
Limit value : 25 mg/m<sup>3</sup> / 10 ppm  
Limit value type (country of origin) : TLV/STEL ( NZ )  
Limit value : 15 ppm / 37 mg/m<sup>3</sup>  
Limit value type (country of origin) : TLV/TWA ( NZ )  
Limit value : 10 ppm / 25 mg/m<sup>3</sup>

### 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/m<sup>3</sup>  
Limit value type : DNEL Consumer (local)  
Exposure route : Inhalation  
Exposure frequency : Short-term  
Limit value : 25 mg/m<sup>3</sup>  
Limit value type : DNEL worker (local)  
Exposure route : Inhalation  
Exposure frequency : Long-term  
Limit value : 25 mg/m<sup>3</sup>  
Limit value type : DNEL worker (local)  
Exposure route : Inhalation  
Exposure frequency : Short-term  
Limit value : 25 mg/m<sup>3</sup>

#### 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 DIN EN 166

Use tightly fitting safety glasses as per Australian Standard AS 1336 and AS/NZS 1337. Safety glasses with side shields

#### 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. AUS/NZ: Wear impervious rubber gloves (AS2161).

### 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 ) 1,29 - 1,308 g/cm<sup>3</sup>

**Water solubility :** ( 20 °C ) 100 Wt %

**pH :** 4,8 - 4,92

**log P O/W :** not determined

**Odour threshold :** not determined

**Maximum VOC content (EC) :** 5 Wt %

**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.

### 10.5 Incompatible materials

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None known.

### 10.6 Hazardous decomposition products

None known.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Acute oral toxicity

Parameter : ATEmix calculated  
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 calculated  
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 calculated  
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  
Parameter : LD50 ( ACETIC ACID ; CAS No. : 64-19-7 )  
Exposure route : Inhalation  
Species : Rat  
Effective dose : 4000 mg/l

#### CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

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

### 11.5 Additional information

The classification was carried out according to the calculation method of GHS.

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Aquatic toxicity

##### 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

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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 aquatic 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

### 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 Other adverse effects

No information available.

## 12.7 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. Contact a specialist disposal company or the local waste regulator for advice. This should be done in

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accordance with 'The Hazardous Waste Act'. Can be eliminated with domestic garbage on condition it complies with local regulations.

### **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 Transport in bulk according to Annex II of Marpol and the IBC Code**

not applicable

## **SECTION 15: Regulatory information**

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

#### **National regulations**

EPA NZ Classes of hazardous properties none

NZ HSNO Approval: HSR006698: Ammonium thiosulfate, HSNO Approval: HSR003472: Tartaric acid L+, HSNO

Approval: HSR003212: Sodium sulfite

#### **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**

None

### **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

CO<sub>2</sub> = 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



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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

Standard EN420:2003 General requirements for protective gloves: disposable gloves, e.g. nitrile rubber, material thickness 0.1 mm (Australian Standard 2161).  
Long-term exposure (Level 6: < 480 min): protective gloves, e.g. nitrile rubber, material thickness 0.7 mm (Australian Standard 2161).  
Personal eye protection - Eye and face protectors for occupational applications: safety glasses (Australian Standard AS 1336 and AS/NZS 1337.1:2010).

### 16.4 Classification for mixtures and used evaluation method according to GHS

The classification was carried out according to the calculation method of GHS.

### 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

Notice the directions for use on the label.

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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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