

**Safety data sheet  
according to 1907/2006/EC, Article 31**

Printing date 08.05.2015

Version 5

Revision: 08.05.2015

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

- **1.1 Product identifier**
- **Trade name: Duomat Fixer part A**

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- **Article number:** 00042, 07042
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
To this day we do not have any information about the identified use at the moment. These data are available we will add these to the safety data sheet.
- **Application of the substance / the mixture**  
Photochemicals  
Fixing agent for X-ray films  
Reserved for industrial and professional use.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
ADEFO-CHEMIE GmbH  
Justus-von-Liebig-Str. 24-26  
D-63128 Dietzenbach  
Tel.: +49 6074 84239-0  
Fax: +49 6074 84239-63  
E-Mail: service@adefo-chemie.de  
www.adefo-chemie.de
- **Informing department:**  
Tel.: +49 6074 84239-0  
Fax: +49 6074 84239-63  
E-Mail: kr@calbe-chemie.de
- **1.4 Emergency telephone number:** Tel.: 0700-24112112 (CAL)

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
The product is not classified according to the CLP regulation.

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- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Void
- **Information concerning particular hazards for human and environment:**  
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**  
The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

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- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Additional information:**  
Safety data sheet available on request.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

**Description:** Mixture of the substances listed below with harmless additions.

#### Dangerous components:

|   |  |          |
|---|--|----------|
| CAS: 7681-57-4<br>EINECS: 231-673-0<br>Index number: 016-063-00-2<br>Reg.nr.: 01-2119531326-45-xxxx | disodium disulphite<br>Xn R22<br>Xi R41<br>R31<br>Eye Dam. 1, H318<br>Acute Tox. 4, H302 | 2.0-5.0% |
|---|--|----------|

**Additional information** For the wording of the listed risk phrases refer to section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General information

Personal protection for the First Aider.  
 Instantly remove any clothing soiled by the product.

**After inhalation** Supply fresh air.

##### After skin contact

Instantly wash with water and soap and rinse thoroughly.  
 The product is not skin irritating.

##### After eye contact

Rinse opened eye for several minutes under running water (> 15 min). Then consult doctor.

##### After swallowing

Rinse out mouth and then drink plenty of water.  
 In case of persistent symptoms consult doctor.

#### 4.2 Most important symptoms and effects, both acute and delayed

No known symptoms to date.

#### 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing agents

CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.  
 Use fire fighting measures that suit the environment.

**For safety reasons unsuitable extinguishing agents** Water with a full water jet.

#### 5.2 Special hazards arising from the substance or mixture

Can be released in case of fire  
 sulphur dioxide (SO<sub>2</sub>)  
 Nitrogen oxides (NO<sub>x</sub>)

#### 5.3 Advice for firefighters

##### Protective equipment:

Do not inhale explosion gases or combustion gases.  
 Put on breathing apparatus.

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- **Additional information** The product is not flammable

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:** Do not allow to enter drainage system, surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose of contaminated material as waste according to item 13.
- **6.4 Reference to other sections**  
See Section 8 for information on personal protection equipment.  
See Section 13 for information on disposal.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:**  
No special measures required.  
The product is not flammable
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:**  
Keep away from foodstuffs, beverages and food.
- **Further information about storage conditions:** Store in a cool place.
- **Recommended storage temperature:** 5-25 °C
- **Storage class**  
LGK 12  
(German Technical Rule for Hazardous Substance – TRGS 510)
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.

- **8.1 Control parameters**

- **Components with limit values that require monitoring at the workplace:**

|                                      |
|--------------------------------------|
| <b>7681-57-4 disodium disulphite</b> |
|--------------------------------------|

|     |                                      |
|-----|--------------------------------------|
| WEL | Long-term value: 5 mg/m <sup>3</sup> |
|-----|--------------------------------------|

- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**  
The usual precautionary measures should be adhered to general rules for handling chemicals.
- **Breathing equipment:** Not required.
- **Protection of hands:**  
Protective gloves.  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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- **Material of gloves**  
Synthetic gloves  
Avoid natural rubber gloves.
- **Penetration time of glove material**  
Value for permeation: Level ≤ 6 (480 min)  
The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.
- **As protection from splashes gloves made of the following materials are suitable:**  
Synthetic gloves  
Value for permeation: Level:  
≥ 3 (60 min)
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing.

**SECTION 9: Physical and chemical properties**

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

|                |                  |
|----------------|------------------|
| <b>Form:</b>   | Fluid            |
| <b>Colour:</b> | Colourless       |
| <b>Odour:</b>  | Nearly odourless |

· **pH-value at 25 °C:** 5.3

· **Change in condition**

**Melting point/Melting range:** < 5 °C  
**Boiling point/Boiling range:** > 100 °C

· **Flash point:** Not applicable

· **Self-inflammability:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive.

· **Vapour pressure at 20 °C:** 23 hPa

· **Density at 20 °C** 1.29 g/cm<sup>3</sup>

· **Solubility in / Miscibility with**

**Water:** miscible

· **Viscosity:**

**dynamic:** Not determined  
**kinematic:** Not determined

· **Solvent content:**

**Organic solvents:** 0 %  
**Water:** ~ 50 %

· **9.2 Other information** No further relevant information available.

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**SECTION 10: Stability and reactivity**

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**  
Reacts with strong acids and alkali  
Reacts with acids releasing sulphur dioxide  
Reacts with alkalis releasing ammonia
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**  
Sulphur dioxide  
Ammonia

**SECTION 11: Toxicological information**

- **11.1 Information on toxicological effects**
- **Acute toxicity**

- **LD/LC50 values that are relevant for classification:**

**7681-57-4 disodium disulphite**

|      |      |                  |
|------|------|------------------|
| Oral | LD50 | 3200 mg/kg (rat) |
|------|------|------------------|

**64-19-7 acetic acid**

|      |      |                  |
|------|------|------------------|
| Oral | LD50 | 3310 mg/kg (rat) |
|------|------|------------------|

|        |      |                     |
|--------|------|---------------------|
| Dermal | LD50 | 1060 mg/kg (rabbit) |
|--------|------|---------------------|

**7783-18-8 ammonium thiosulphate**

|      |      |                  |
|------|------|------------------|
| Oral | LD50 | 1098 mg/kg (gpg) |
|      |      | 2890 mg/kg (rat) |

- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** Irritant effect.
- **Respiratory or skin sensitisation** No sensitizing effect known.
- **Subacute to chronic toxicity:** No known symptoms to date.
- **Additional toxicological information:**  
This statement was deduced from the properties of the single components.  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

**SECTION 12: Ecological information**

- **12.1 Toxicity**

- **Aquatic toxicity:**

**7681-57-4 disodium disulphite**

|           |                         |
|-----------|-------------------------|
| EC50/48 h | 89 mg/l (Daphnia magna) |
|-----------|-------------------------|

|           |                               |
|-----------|-------------------------------|
| LC50/96 h | 32 mg/l (Lepomis macrochirus) |
|-----------|-------------------------------|

**64-19-7 acetic acid**

|           |                               |
|-----------|-------------------------------|
| LC50/96 h | 75 mg/l (Lepomis macrochirus) |
|-----------|-------------------------------|

- **12.2 Persistence and degradability** Not determined

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- **12.3 Bioaccumulative potential** Not determined
- **Behaviour in environmental systems:** Not determined
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxic effects:** No further relevant information available.
- **Behaviour in sewage processing plants:** Not determined
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): Weakly water-endangering.  
The product does not contain organically bounded halogens (AOX-free).  
At present there are no ecotoxicological assessments.  
This statement was deduced from the properties of the single components.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Must be specially treated under adherence to official regulations.

- **European waste catalogue**

|           |                 |
|-----------|-----------------|
| 09 01 04* | fixer solutions |
|-----------|-----------------|

- **Uncleaned packagings:**
- **Recommendation:**  
Non contaminated packagings can be used for recycling.  
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.  
Packagings that cannot be cleaned are to be disposed of in the same manner as the product.  
EAK-No. 15 01 10
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

### SECTION 14: Transport information

- |   |                 |
|---|-----------------|
| · <b>14.1 UN-Number</b><br>· <b>ADR, ADN, IMDG, IATA</b>                                    | Void            |
| · <b>14.2 UN proper shipping name</b><br>· <b>ADR</b><br>· <b>ADN, IMDG, IATA</b>           | Void<br>Void    |
| · <b>14.3 Transport hazard class(es)</b><br>· <b>ADR, ADN, IMDG, IATA</b><br>· <b>Class</b> | Void            |
| · <b>14.4 Packing group</b><br>· <b>ADR, IMDG, IATA</b>                                     | Void            |
| · <b>14.5 Environmental hazards:</b>  | Not applicable. |

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- |   |  |
|---|--|
| · <b>14.6 Special precautions for user</b>  | Not applicable.                                      |
| · <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.                                      |
| · <b>Transport/Additional information:</b>  | Not dangerous according to the above specifications. |
| · <b>UN "Model Regulation":</b>   | -  |

**SECTION 15: Regulatory information**

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **National regulations**

| Class | Share in % |
|-------|------------|
| II    | 0.9        |

- **Water hazard class:** Water hazard class 1 (Self-assessment): weakly water-endangering.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Relevant phrases**

- H302 Harmful if swallowed.
- H318 Causes serious eye damage.
- R22 Harmful if swallowed.
- R31 Contact with acids liberates toxic gas.
- R41 Risk of serious damage to eyes.

- **Recommended restriction of use** No public product, only for commercial use

**Abbreviations and acronyms:**

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- ICAO: International Civil Aviation Organisation
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

**Sources**

- applicable EEC directives:

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- 1999/45
- 1907/2006
- 1272/2008

Internal physical tests, MSDS of the ingredients,  
Information system on hazardous substances of the German Social Accident Insurance  
(GESTIS-database on hazardous substances), <http://www.dguv.de/ifa/en/gestis/stoffdb/index.jsp>

- \* **Data compared to the previous version altered.**

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

- **1.1 Product identifier**
- **Trade name: Duromat Fixer part B**

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- **Article number:** 00042, 07042
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
To this day we do not have any information about the identified use at the moment. These data are available we will add these to the safety data sheet.
- **Application of the substance / the mixture**  
Photochemicals  
Fixing agent for X-ray films  
Reserved for industrial and professional use.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
ADEFO-CHEMIE GmbH  
Justus-von-Liebig-Str. 24-26  
D-63128 Dietzenbach  
Tel.: +49 6074 84239-0  
Fax: +49 6074 84239-63  
E-Mail: service@adefo-chemie.de  
www.adefo-chemie.de
- **Informing department:**  
Tel.: +49 6074 84239-0  
Fax: +49 6074 84239-63  
E-Mail: kr@calbe-chemie.de
- **1.4 Emergency telephone number:** Tel.: 0700-24112112 (CAL)


**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
  - **Classification according to Regulation (EC) No 1272/2008**  
Met. Corr.1 H290 May be corrosive to metals.  
Eye Dam. 1 H318 Causes serious eye damage.

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  - **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**  
Xi; Irritant  
R41: Risk of serious damage to eyes.
  - **Information concerning particular hazards for human and environment:**  
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
  - **Classification system:**  
The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

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  - **2.2 Label elements**
  - **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.
  - **Hazard pictograms**
- 

GHS05
- **Signal word** Danger
  - **Hazard-determining components of labelling:**  
aluminium sulphate

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- **Hazard statements**  
 H290 May be corrosive to metals.  
 H318 Causes serious eye damage.
- **Precautionary statements**  
 P280 Wear eye protection / 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.  
 P390 Absorb spillage to prevent material damage.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Mixture of the substances listed below with harmless additions.

- **Dangerous components:**

|   |   |          |
|---|---|----------|
| CAS: 10043-01-3<br>EINECS: 233-135-0<br>Reg.nr.: 01-2119531538-36-xxxx                              | aluminium sulphate<br> Xi R41<br> Eye Dam. 1, H318 | 15-20%   |
| CAS: 7664-93-9<br>EINECS: 231-639-5<br>Index number: 016-020-00-8<br>Reg.nr.: 01-2119458838-20-xxxx | sulphuric acid<br> C R35<br> Skin Corr. 1A, H314  | 2.0-5.0% |

- **Additional information** For the wording of the listed risk phrases refer to section 16.

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information**  
 Personal protection for the First Aider.  
 Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air.
- **After skin contact**  
 Instantly wash with water and soap and rinse thoroughly.  
 If skin irritation continues, consult a doctor.
- **After eye contact**  
 Rinse opened eye for several minutes under running water (> 15 min). Then consult doctor.
- **After swallowing**  
 Rinse out mouth and then drink plenty of water.  
 Do not induce vomiting; instantly call for medical help.
- **4.2 Most important symptoms and effects, both acute and delayed**  
 No known symptoms to date.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
 No further relevant information available.

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### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**  
CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.  
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **5.2 Special hazards arising from the substance or mixture**  
Can be released in case of fire  
Sulphur oxides (SO<sub>x</sub>)
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Do not inhale explosion gases or combustion gases.  
At formation of toxic gases:  
Put on breathing apparatus.
- **Additional information** The product is not flammable

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.
- **6.2 Environmental precautions:** Do not allow to enter drainage system, surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose of contaminated material as waste according to item 13.
- **6.4 Reference to other sections**  
See Section 8 for information on personal protection equipment.  
See Section 13 for information on disposal.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Keep containers tightly sealed.  
Absorb spillage to prevent material damage.
- **Information about protection against explosions and fires:**  
No special measures required.  
The product is not flammable
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** Store only in the original container.
- **Information about storage in one common storage facility:**  
Do not store together with alkalis (caustic solutions).  
Keep away from foodstuffs, beverages and food.
- **Further information about storage conditions:** Store in a cool place.
- **Recommended storage temperature:** 5-25 °C
- **Storage class**  
LGK 12  
(German Technical Rule for Hazardous Substance – TRGS 510)
- **7.3 Specific end use(s)** No further relevant information available.

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**SECTION 8: Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see section 7.
- **8.1 Control parameters**
- **Components with limit values that require monitoring at the workplace:**
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**

The usual precautionary measures should be adhered to general rules for handling chemicals.  
Keep away from foodstuffs, beverages and food.  
Do not eat, drink or smoke while working.  
Take off immediately all contaminated clothing.  
Wash hands during breaks and at the end of the work.  
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**

Protective gloves.  
The protective gloves to be used must comply with the specifications of the EC directive 89/686/EEC and the resultant standard EN 374.  
This recommendation applies only to the product stated in the Safety Data Sheet and supplied by us as well as to the purpose specified by us.  
Only use chemical-protective gloves with CE-labelling of category III.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**

|               | Thickness<br>(mm) | Breakthrough time<br>(min) |
|---------------|-------------------|----------------------------|
| Nitril rubber | 0,38              | > 480                      |
| Neoprene      | 0,65              | > 240                      |
| Butyl rubber  | 0,36              | > 480                      |

Avoid natural rubber gloves.
- **As protection from splashes gloves made of the following materials are suitable:**

Synthetic gloves  
Value for permeation: Level:  
≥ 3 (60 min)
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing.

**SECTION 9: Physical and chemical properties**

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

|         |            |
|---------|------------|
| Form:   | Fluid      |
| Colour: | Colourless |
| Odour:  | Odourless  |
- **pH-value at 25 °C:** < 1
- **Change in condition**

Melting point/Melting range: < 5 °C

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|  |  |
|--|--|
| <b>Boiling point/Boiling range:</b>              | > 100 °C                                   |
| · <b>Flash point:</b>                            | Not applicable                             |
| · <b>Self-inflammability:</b>                    | Product is not selfigniting.               |
| · <b>Danger of explosion:</b>                    | Product is not explosive.                  |
| · <b>Vapour pressure at 20 °C:</b>               | 23 hPa                                     |
| · <b>Density at 25 °C</b>                        | 1.127 g/cm <sup>3</sup>                    |
| · <b>Solubility in / Miscibility with Water:</b> | miscible                                   |
| · <b>Viscosity:</b>                              |  |
| <b>dynamic:</b>                                  | Not determined                             |
| <b>kinematic:</b>                                | Not determined                             |
| · <b>9.2 Other information</b>                   | No further relevant information available. |

**SECTION 10: Stability and reactivity**

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Reacts with light alloys to form hydrogen
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known

**SECTION 11: Toxicological information**

- **11.1 Information on toxicological effects**
- **Acute toxicity**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Irritant effect.
- **Respiratory or skin sensitisation** No sensitizing effect known.
- **Subacute to chronic toxicity:** No known symptoms to date.
- **Additional toxicological information:**  
This statement was deduced from the properties of the single components.  
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Mixtures as issued in the latest version:  
Irritant

**SECTION 12: Ecological information**

- **12.1 Toxicity**
- **Aquatic toxicity:** Not determined
- **12.2 Persistence and degradability** Not determined
- **12.3 Bioaccumulative potential** Not determined
- **Behaviour in environmental systems:** Not determined

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- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxic effects:** Not determined
- **Behaviour in sewage processing plants:** Not determined
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): Weakly water-endangering.  
The product does not contain organically bounded halogens (AOX-free).  
At present there are no ecotoxicological assessments.  
This statement was deduced from the properties of the single components.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

**SECTION 13: Disposal considerations**


- **13.1 Waste treatment methods**
- **Recommendation**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Must be specially treated under adherence to official regulations.

· **European waste catalogue**

|           |                 |
|-----------|-----------------|
| 09 01 04* | fixer solutions |
|-----------|-----------------|

- **Uncleaned packagings:**
- **Recommendation:**  
Non contaminated packagings can be used for recycling.  
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

**SECTION 14: Transport information**

- |   |  |
|---|--|
| · <b>14.1 UN-Number</b><br>· <b>ADR, IMDG, IATA</b>   | UN 3264  |
| · <b>14.2 UN proper shipping name</b><br>· <b>ADR, IMDG, IATA</b>   | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULPHURIC ACID) |
| · <b>14.3 Transport hazard class(es)</b><br>· <b>ADR, IMDG, IATA</b>  |  |
| <br>· <b>Class</b><br>· <b>Label</b> | 8 Corrosive substances.<br>8                                 |
| · <b>14.4 Packing group</b><br>· <b>ADR, IMDG, IATA</b>   | III  |

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|   |   |
|---|---|
| · <b>14.5 Environmental hazards:</b>  |   |
| · <b>Marine pollutant:</b>  | No  |
| · <b>14.6 Special precautions for user</b> Warning: Corrosive substances.                             |   |
| · <b>Kemler Number:</b>   | 80  |
| · <b>EMS Number:</b>  | F-A,S-B   |
| · <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> Not applicable. |   |
| · <b>Transport/Additional information:</b>  |   |
| · <b>ADR</b>  |   |
| · <b>Limited quantities (LQ)</b>  | 5 l   |
| · <b>Transport category</b>   | 3   |
| · <b>Tunnel restriction code</b>  | E   |
| · <b>Remarks:</b>   | "Limited quantity" according to chapter 3.4 ADR                                 |
| · <b>IMDG</b>   |   |
| · <b>Remarks:</b>   | "Limited quantity" according to chapter 3.4 IMDG                                |
| · <b>IATA</b>   |   |
| · <b>Remarks:</b>   | Packing Instruction<br>PAX 852, CAO 856   |
| · <b>UN "Model Regulation":</b>   | UN3264, CORROSIVE LIQUID, ACIDIC,<br>INORGANIC, N.O.S. (SULPHURIC ACID), 8, III |

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **National regulations**
- **Water hazard class:** Water hazard class 1 (Self-assessment): weakly water-endangering.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.  
R35 Causes severe burns.  
R41 Risk of serious damage to eyes.
- **Recommended restriction of use** No public product, only for commercial use
- **Abbreviations and acronyms:**  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organisation  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association

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GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

Met. Corr. 1: Corrosive to metals, Hazard Category 1

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

· **Sources**

applicable EEC directives:

- 1907/2006

- 1272/2008

Internal physical tests, MSDS of the ingredients,

Information system on hazardous substances of the German Social Accident Insurance

(GESTIS-database on hazardous substances), <http://www.dguv.de/ifa/en/gestis/stoffdb/index.jsp>

· \* **Data compared to the previous version altered.**

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