



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.07.2012

Version 8

Revision: 11.07.2012

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

- **1.1 Product identifier**
- **Trade name: Unimat Developer**
- **Article number:** 00224, 04224
- **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 preparation**
Photochemicals
Developer 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)

2 Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**

Muta. 2	H341	Suspected of causing genetic defects.
Carc. 2	H351	Suspected of causing cancer.
Aquatic Chronic 1	H410	Very toxic to aquatic life with long lasting effects.
Skin Sens. 1	H317	May cause an allergic skin reaction.
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
Xn; Harmful
R40-68: Limited evidence of a carcinogenic effect. Possible risk of irreversible effects.
Xi; Sensitising
R43: May cause sensitisation by skin contact.
N; Dangerous for the environment
R50: Very toxic to aquatic organisms.
- **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.
- **2.2 Label elements**
- **Labelling according to EU guidelines:**
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

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Code letter and hazard designation of product:


Xn Harmful
N Dangerous for the environment

Hazard-determining components of labelling:

1,4-dihydroxybenzene (hydroquinone)

Risk phrases:

40 Limited evidence of a carcinogenic effect.
43 May cause sensitisation by skin contact.
68 Possible risk of irreversible effects.
50 Very toxic to aquatic organisms.

Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37 Wear suitable protective clothing and gloves.
60 This material and its container must be disposed of as hazardous waste.
61 Avoid release to the environment. Refer to special instructions/safety data sheets.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

3.2 Mixtures

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

Dangerous components:

CAS: 584-08-7 EINECS: 209-529-3	potassium carbonate Xi R36/37/38 Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	5.0-10%
CAS: 123-31-9 EINECS: 204-617-8	1,4-dihydroxybenzene (hydroquinone) Xn R22-40-68 Xi R41 Xi R43 N R50 Carc. Cat. 3, Muta. Cat. 3 Muta. 2, H341; Carc. 2, H351 Eye Dam. 1, H318 Aquatic Acute 1, H400 Acute Tox. 4, H302; Skin Sens. 1, H317	2.0-5.0%
CAS: 13047-13-7 EINECS: 235-920-3	4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one Xn R22 Xi R43 N R51/53 Aquatic Chronic 2, H411 Acute Tox. 4, H302; Skin Sens. 1, H317	< 0.5%

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

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4 First aid measures

- **4.1 Description of first aid measures**
- **General information** 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.
- **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.

5 Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**
CO₂, 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_x)
Carbon monoxide (CO)
- **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

6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Light weight 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.

7 Handling and storage

- **7.1 Precautions for safe handling** No special precautions necessary if used correctly.

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- **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:**
Keep container tightly sealed.
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.

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:**

123-31-9 1,4-dihydroxybenzene (hydroquinone)WEL Long-term value: 0.5 mg/m³

- **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.
Take off immediately all contaminated clothing.
Wash hands during breaks and at the end of the work.
Do not eat, drink or smoke while working.
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 (mm)	Breakthrough time (min)
Nitril rubber	0,38	> 480
Neoprene	0,65	> 240
Butyl rubber	0,36	> 480

Avoid natural rubber gloves.

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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.

9 Physical and chemical properties

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

Form:	Fluid
Colour:	Light yellow
	Clear

• **Odour:** Not characteristic• **pH-value at 25°C:** 10.4• **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.• **Critical values for explosion:**

Oxidizing properties: None

• **Vapour pressure at 20°C:** 23 hPa• **Density at 20°C** 1.205 g/cm³• **Solubility in / Miscibility with**

Water: miscible

• **Viscosity:**

dynamic: Not determined

kinematic: Not determined

• **Solvent content:**

Organic solvents: 0 %

Water: 77.8 %

Solids content: 22.0 %

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

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

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- Reacts with acids releasing sulphur dioxide
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** None

11 Toxicological information

• 11.1 Information on toxicological effects

• Acute toxicity:

• LD/LC50 values that are relevant for classification:

123-31-9 1,4-dihydroxybenzene (hydroquinone)

Oral	LD50	320 mg/kg
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• Primary irritant effect:

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritant effect.

• 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 Preparations as issued in the latest version:

Harmful

Irritant

Dangerous for the environment.

Hydroquinone has been included in the German "TRGS 905" (Technical Rules for Dangerous Substances/Index of carcinogen and mutagen substances or substances dangerous to reproductive systems), and has been classified as "Category 3" of carcinogen and mutagen substances (3 = category of lowest dangerousness). The according EU committees have not yet evaluated this classification.

- **Sensitisation** May cause sensitisation by skin contact.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Limited evidence of a carcinogenic effect.

Possible risk of irreversible effects.

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

• 12.4 Mobility in soil No further relevant information available.

• Ecotoxicological effects:

HYDROQUINONE

toxicity to fish (LC50): 0,044 mg/l/96 h (Pimephales promelas)

toxicity to daphnia (EC50): 0,29 mg/l/48 h (Daphnia magna)

toxicity to algae (IC50) 0,335 mg/l/72 h (Selenastrum capricornutum)

• Behaviour in sewage processing plants: Not determined

• Additional ecological information:

• General notes:

At present there are no ecotoxicological assessments.

Water hazard class 2 (German Regulation) (Self-assessment): Water-endangering.

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Do not allow product to reach ground water, water bodies or sewage system.
The product does not contain organically bounded halogens (AOX-free).

12.5 Results of PBT and vPvB assessment

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

• **12.6 Other adverse effects** No further relevant information available.

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 01*	water-based developer and activator solutions
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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.

14 Transport information

14.1 UN-Number

• **ADR, IMDG, IATA**

UN 3082

14.2 UN proper shipping name

• **ADR**

ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, LIQUID, N.O.S. (1,4-
dihydroxybenzene (hydroquinone))

• **IMDG, IATA**

ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, LIQUID, N.O.S. (hydroquinone)

14.3 Transport hazard class(es)

• **ADR, IMDG, IATA**



• **Class**

9 Miscellaneous dangerous substances and articles.

• **Label**

9

14.4 Packing group

• **ADR, IMDG, IATA**

III

14.5 Environmental hazards:

Product contains environmentally hazardous substances: 1,4-dihydroxybenzene (hydroquinone)

• **Marine pollutant:**

Yes

Symbol (fish and tree)

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• Special marking (ADR):	Symbol (fish and tree)
• Special marking (IATA):	Symbol (fish and tree)
• 14.6 Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
• EMS Number:	F-A,S-F
• 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
• Transport/Additional information:	
• ADR	
• Limited quantities (LQ)	5 l
• Tunnel restriction code	E
• Remarks:	"Limited quantity" according to chapter 3.4 ADR
• IMDG	
• Remarks:	"Limited quantity" according to chapter 3.4 IMDG
• IATA	
• Remarks:	Packing Instruction PAX / CAO 964
• UN "Model Regulation":	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,4-dihydroxybenzene (hydroquinone)), 9, III

15 Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Information about limitation of use:**
Employment restrictions concerning pregnant and lactating women must be observed.

Class	Share in %
I	2.9

- **Water hazard class:** Water hazard class 2 (Self-assessment): water-endangering.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.
 - H315 Causes skin irritation.
 - H317 May cause an allergic skin reaction.
 - H318 Causes serious eye damage.
 - H319 Causes serious eye irritation.
 - H335 May cause respiratory irritation.
 - H341 Suspected of causing genetic defects.
 - H351 Suspected of causing cancer.
 - H400 Very toxic to aquatic life.
 - H411 Toxic to aquatic life with long lasting effects.

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- R22 Harmful if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.
R40 Limited evidence of a carcinogenic effect.
R41 Risk of serious damage to eyes.
R43 May cause sensitisation by skin contact.
R50 Very toxic to aquatic organisms.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R68 Possible risk of irreversible effects.

• **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 Organization
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 Harmonized System of Classification and Labelling of Chemicals
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

• **Sources**

applicable EEC directives:

- 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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1 Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name: Unimat Fixer**
- **Article number:** 0224, 07224
- **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 preparation**
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)

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.
- **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.
- **2.2 Label elements**
- **Labelling according to EU guidelines:**
The product is not subject to classification according to the calculation methods of the "General Classification Guideline for Preparations of the EC" as issued in the last version.
- **Special labelling of certain preparations:**
Safety data sheet available for professional user on request.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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3 Composition/information on ingredients

3.2 Mixtures

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

Dangerous components:

CAS: 64-19-7 EINECS: 200-580-7	acetic acid  C R35 R10  Flam. Liq. 3, H226  Skin Corr. 1A, H314	2.0-5.0%
CAS: 10043-35-3 EINECS: 233-139-2	boric acid  T Repr. Cat. 2 R60-61  Repr. 1B, H360	< 0.5%
CAS: 62-56-6 EINECS: 200-543-5	thiourea  Xn R22-40-63 N R51/53 Carc. Cat. 3, Repr. Cat. 3  Carc. 2, H351; Repr. 2, H361d  Aquatic Chronic 2, H411  Acute Tox. 4, H302	< 0.5%

SVHC

10043-35-3 | boric acid

Additional information

Main component: water

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

4 First aid measures

4.1 Description of first aid measures

General information No special measures required.

After inhalation Supply fresh air.

After skin contact 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.

5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents

CO₂, 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.

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5.2 Special hazards arising from the substance or mixture

Can be released in case of fire

sulphur dioxide (SO₂)Nitrogen oxides (NO_x)**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

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.

7 Handling and storage

7.1 Precautions for safe handling

The lists that were valid during the compilation were used as basis.

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.

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:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the compilation were used as basis.

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- **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 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**
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

9 Physical and chemical properties

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

Form:	Fluid
Colour:	Colourless
Odour:	Not characteristic
- **pH-value at 20°C:** 4.9
- **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** 1.216 g/cm³
- **Solubility in / Miscibility with Water:** miscible

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- | | |
|--------------------------------|--|
| · Viscosity: | |
| dynamic: | Not determined |
| kinematic: | Not determined |
| · Solvent content: | |
| Organic solvents: | 3.3 % |
| Water: | ~ 61 % |
| · 9.2 Other information | No further relevant information available. |

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:** No dangerous decomposition products known

11 Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritant effect.
- **Sensitization:** 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 is not subject to classification according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
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.

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
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:** Not determined
- **Behaviour in sewage processing plants:** Not determined

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Additional ecological information:**General notes:**

At present there are no ecotoxicological assessments.

Water hazard class 1 (German Regulation) (Self-assessment): Weakly water-endangering.
According to the criteria of the EU-classification and labelling "dangerous for environment" (1999/45/EG) the substance/ the product has to be classified as non-hazardous for the environment.
The product does not contain organically bounded halogens (AOX-free).

12.5 Results of PBT and vPvB assessment

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

• **12.6 Other adverse effects** No further relevant information available.

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
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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.

14 Transport information

14.1 UN-Number

• **ADR, ADN, IMDG, IATA**

Void

14.2 UN proper shipping name

• **ADR**

Void

• **ADN, IMDG, IATA**

Void

14.3 Transport hazard class(es)

• **ADR, ADN, IMDG, IATA**

• **Class**

Void

14.4 Packing group

• **ADR, IMDG, IATA**

Void

14.5 Environmental hazards:

• **Marine pollutant:**

No

14.6 Special precautions for user

Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

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|--|--|
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · UN "Model Regulation": | UN-, - |

15 Regulatory information

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

- **National regulations**

Class	Share in %
I	0.1
II	3.3

- **Water hazard class:** Water hazard class 1 (Self-assessment): weakly water-endangering.

- **Other regulations, limitations and prohibitive regulations**

- **Substances of very high concern (SVHC) according to REACH, Article 57**

10043-35-3	boric acid
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- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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**

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H361d Suspected of damaging the unborn child.
H411 Toxic to aquatic life with long lasting effects.

R10 Flammable.
R22 Harmful if swallowed.
R35 Causes severe burns.
R40 Limited evidence of a carcinogenic effect.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R60 May impair fertility.
R61 May cause harm to the unborn child.
R63 Possible risk of harm to the unborn child.

- **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)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
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 Harmonized System of Classification and Labelling of Chemicals

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· Sources

applicable EEC directives:

- 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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