

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

Printing date 04.03.2015

Version 2

Revision: 20.01.2015


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

- **1.1 Product identifier**
- **Trade name: C-41 KIT CD-A**


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- **Article number:** 13025, 13026, 13027
- **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**  
Photographic activities  
Consumer use  
Photochemicals  
Photographic developer  
Colour film photographic processing solution
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Calbe Chemie GmbH  
Stadtfeld 31  
D-39240 Calbe  
Tel.: +49 (0)39291 425-0  
Fax: +49 (0)39291 425-25  
e-mail: info@calbe-chemie.de  
www.calbe-chemie.de
- **Informing department:**  
Tel.: +49 (0)39291 42515  
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**
- 
 GHS05 corrosion  
 Eye Dam. 1 H318 Causes serious eye damage.

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- 
 GHS07  
 Skin Irrit. 2 H315 Causes skin irritation.  
 STOT SE 3 H335 May cause respiratory irritation.

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- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
- 
 Xi; Irritant  
 R36/37/38: Irritating to eyes, respiratory system and skin.
- **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 GHS07

- **Signal word** Danger
- **Hazard-determining components of labelling:**  
1-hydroxy-1,1-diphosphon acid  
potassium carbonate
- **Hazard statements**  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.
- **Precautionary statements**  
P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.  
P280 Wear protective gloves / eye 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.  
P310 Immediately call a POISON CENTER/doctor.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
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: 584-08-7 EINECS: 209-529-3 Reg.nr.: 01-2119532646-36-xxxx	potassium carbonate Xi R36/37/38 Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	25-50%
CAS: 139-89-9 EINECS: 205-381-9 Reg.nr.: 01-2119972845-22-xxxx	Hydroxyethylethylenediaminetriacetic acid, trisodium salt, solution Xi R36/38 Skin Irrit. 2, H315; Eye Irrit. 2, H319	2.0-5.0%

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CAS: 2809-21-4 EINECS: 220-552-8 Reg.nr.: 01-2119510391-53-xxxx	1-hydroxy-1,1-diphosphon acid  C R34  Xn R22  Xi R41  Met. Corr. 1, H290; Skin Corr. 1B, H314	2.0-5.0%
CAS: 1310-58-3 EINECS: 215-181-3 Index number: 019-002-00-8 Reg.nr.: 01-2119487136-33-xxxx	potassium hydroxide  C R35  Xn R22  Met. Corr. 1, H290; Skin Corr. 1A, H314  Acute Tox. 4, H302	0.5-2.0%

• **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; consult doctor in case of symptoms.
- **After skin contact**  
Instantly rinse with water.  
If skin irritation continues, consult a doctor.
- **After eye contact**  
Rinse opened eye for several minutes under running water (at least 15 minutes).  
Remove contact lenses, if present and easy to do.  
Use eye protection.  
Call a doctor immediately.
- **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 further relevant information available.
- **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  
Carbon monoxide  
sulphur dioxide (SO<sub>2</sub>)

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- **5.3 Advice for firefighters**
- **Protective equipment:**  
Do not inhale explosion gases or combustion gases.  
Use a breathing protection if high concentrations are present.
- **Additional information** The product is not flammable

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Particular danger of slipping on leaked/spilled product.
- **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 away from heat and direct sunlight.
- **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.

### 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:**

**1310-58-3 potassium hydroxide**

WEL	Short-term value: 2 mg/m <sup>3</sup>
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- **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.

Keep away from foodstuffs, beverages and food.

Do not eat, drink or smoke while working.

Take off immediately all contaminated clothing.

Wash contaminated clothing before reuse.

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 (mm)	Breakthrough time (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:** Light weight protective 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 Clear

• **Odour:** Not characteristic

• **pH-value (100 g/l) at 20 °C:** 10.8

• **Change in condition**

**Melting point/Melting range:** Not determined

**Boiling point/Boiling range:** > 100 °C

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· <b>Flash point:</b>	Not applicable
· <b>Inflammability (solid, gaseous)</b>	Not applicable
· <b>Ignition temperature:</b>	Not applicable
· <b>Decomposition temperature:</b>	Not applicable
· <b>Self-inflammability:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive.
· <b>Critical values for explosion:</b>	
Lower:	Not applicable
Upper:	Not applicable
· <b>Oxidising properties</b>	Not applicable
· <b>Vapour pressure at 20 °C:</b>	23 hPa
· <b>Density at 20 °C</b>	1.34 g/cm <sup>3</sup>
· <b>Solubility in / Miscibility with Water:</b>	miscible
· <b>Viscosity:</b>	
dynamic:	Not determined
kinematic:	Not determined
· <b>Solvent content:</b>	
Organic solvents:	0.0 %
Water:	~ 60 %
· <b>9.2 Other information</b>	None

### 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
- **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:**

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

**584-08-7 potassium carbonate**

Oral	LD50	> 2000 mg/kg (rat)
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**2809-21-4 1-hydroxy-1,1-diphosphon acid**

Oral	LD50	2400 mg/kg (rat)
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Dermal	LD50	3500 mg/kg (rat)
<b>1310-58-3 potassium hydroxide</b>		
Oral	LD50	365 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitisation:** No sensitizing effect known.
- **Other information (about experimental toxicology):** Not determined
- **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:  
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
No known symptoms to date.

**SECTION 12: Ecological information**

- **12.1 Toxicity**
  - **Aquatic toxicity:**  
Not determined
- |                                      |                                    |
|--------------------------------------|------------------------------------|
| <b>584-08-7 potassium carbonate</b>  |                                    |
| EC50/48 h                            | 380-820 mg/l (Daphnia magna)       |
| LC50/96 h                            | 310-750 mg/l (Pimephales promelas) |
| <b>1310-58-3 potassium hydroxide</b> |                                    |
| LC50/96 h                            | 80 mg/l (Gambusia affinis)         |
- **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:** No further relevant information available.
  - **Behaviour in sewage processing plants:** Not determined
  - **Additional ecological information:**
  - **General notes:**  
At present there are no ecotoxicological assessments.  
This statement was deduced from the properties of the single components.  
Water hazard class 2 (German Regulation) (Self-assessment): Water-endangering.
  - **12.5 Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.
  - **12.6 Other adverse effects** No further relevant information available.

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### 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 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.

### SECTION 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:**

Not applicable.

· **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.

· **Transport/Additional information:**

Not dangerous according to the above specifications.

· **UN "Model Regulation":**

-

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### SECTION 15: Regulatory information

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

### 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**

- |           |  |
|-----------|--|
| H290      | May be corrosive to metals.                      |
| H302      | Harmful if swallowed.                            |
| H314      | Causes severe skin burns and eye damage.         |
| H315      | Causes skin irritation.                          |
| H319      | Causes serious eye irritation.                   |
| H335      | May cause respiratory irritation.                |
| .....     |  |
| R22       | Harmful if swallowed.                            |
| R34       | Causes burns.                                    |
| R35       | Causes severe burns.                             |
| R36/37/38 | Irritating to eyes, respiratory system and skin. |
| R36/38    | Irritating to eyes and skin.                     |
| R41       | Risk of serious damage to eyes.                  |

- **Department issuing data specification sheet:**

Laboratory  
Tel.: +49 (0)39291 425-15

- **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  
Met. Corr. 1: Corrosive to metals, Hazard Category 1  
Acute Tox. 4: Acute toxicity, Hazard Category 4  
Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A  
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B  
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2  
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1  
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2  
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

- **Sources**

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>

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applicable EEC directives:

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

· \* **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: C-41 KIT CD-B**


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- **Article number:** 13025, 13026, 13027
- **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**  
Photographic activities  
Photochemicals  
Photographic developer  
Colour film photographic processing solution
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Calbe Chemie GmbH  
Stadtfeld 31  
D-39240 Calbe  
Tel.: +49 (0)39291 425-0  
Fax: +49 (0)39291 425-25  
e-mail: info@calbe-chemie.de  
www.calbe-chemie.de
- **Informing department:**  
Tel.: +49 (0)39291 42515  
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**
- 
 GHS08 health hazard  
 Carc. 2      H351 Suspected of causing cancer.


---

- 
 GHS07  
 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: Limited evidence of a carcinogenic effect.

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- 
 Xi; Sensitising  
 R43: May cause sensitisation by skin contact.
- **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.

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• **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 Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

• **Hazard pictograms**



GHS07 GHS08

• **Signal word** Warning

• **Hazard-determining components of labelling:**

bis(hydroxylammonium) sulphate

• **Hazard statements**

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

• **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P280 Wear protective gloves.

P201 Obtain special instructions before use.

P308+P313 If exposed or concerned: Get medical advice/attention.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P405 Store locked up.

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:**

<p>CAS: 10039-54-0 EINECS: 233-118-8 Index number: 612-123-00-2 Reg.nr.: 01-2119485971-25-xxxx</p>	<p>bis(hydroxylammonium) sulphate   Xn R21/22-40-48/22   Xi R36/38   Xi R43   E R2   N R50            Carc. Cat. 3  <hr/>  Carc. 2, H351; STOT RE 2, H373   Met. Corr.1, H290   Aquatic Acute 1, H400   Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317</p>	<p>2.0-5.0%</p>
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- **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 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.
- **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **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.  
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.

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**Trade name: C-41 KIT CD-B**

See Section 13 for information on disposal.

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## SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Do not handle until all safety precautions have been read and understood.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**  
Store only in the original container.  
Keep container tightly sealed.
- **Information about storage in one common storage facility:**  
Keep away from foodstuffs, beverages and food.
- **Further information about storage conditions:**  
Protect from heat and direct sunlight.  
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:**
- **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 contaminated clothing before reuse.  
Wash hands during breaks and at the end of the work.  
Avoid contact with the eyes and skin.  
Do not eat, drink or smoke while working.
- **Breathing equipment:** Not necessary if room is well-ventilated.
- **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.
- **Material of gloves**

	Thickness	Breakthrough time
	(mm)	(min)
Nitril rubber	0,38	> 480

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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:** Light weight protective clothing

**SECTION 9: Physical and chemical properties**

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

• **General Information**

• **Appearance:**

**Form:** Fluid  
**Colour:** Colourless  
Clear

• **Odour:** Odourless

• **Odour threshold:** Not applicable

• **pH-value at 20 °C:** 3.5

• **Change in condition**

**Melting point/Melting range:** Not determined

**Boiling point/Boiling range:** > 100 °C

• **Flash point:** Not applicable

• **Inflammability (solid, gaseous)** Not applicable

• **Ignition temperature:** Not applicable

• **Decomposition temperature:** Not applicable

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

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

• **Critical values for explosion:**

**Lower:** Not applicable

**Upper:** Not applicable

• **Oxidising properties** Not applicable

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

• **Density at 20 °C** 1.023 g/cm<sup>3</sup>

• **Relative density** Not determined.

• **Vapour density** Not determined.

• **Evaporation rate** Not determined.

• **Solubility in / Miscibility with**

**Water:** miscible

• **Partition coefficient (n-octanol/water):** Not determined.

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· <b>Viscosity:</b>	
dynamic:	Not determined
kinematic:	Not determined

· <b>Solvent content:</b>	
Organic solvents:	0.0 %
Water:	~ 96 %

· <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** No dangerous reactions known
- **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:**

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

**10039-54-0 bis(hydroxylammonium) sulphate**

Oral	LD50	620 mg/kg (rat)
Dermal	LD50	1750 mg/kg (rab)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritant effect.
- **Sensitisation:** Sensitization possible by skin contact.
- **Other information (about experimental toxicology):** Not determined
- **Subacute to chronic toxicity:**  
Harmful: danger of serious damage to health by prolonged exposure if swallowed.
- **Additional toxicological information:**  
This statement was deduced from the properties of the single components.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Limited evidence of a carcinogenic effect.  
Carc. 2

GB

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**SECTION 12: Ecological information**

• **12.1 Toxicity**

• **Aquatic toxicity:**

**10039-54-0 bis(hydroxylammonium) sulphate**

EC50/48 h	1.62 mg/l (Daphnia magna)
LC50/96 h	7.2 mg/l (Pimephales promelas)

• **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.

• **Ecotoxic effects:** Not determined

• **Behaviour in sewage processing plants:** Not determined

• **Additional ecological information:**

• **General notes:**

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

Do not allow product to reach ground water, water bodies or sewage system.

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.

Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

• **European waste catalogue**

09 01 01*	water-based developer and activator 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.

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**SECTION 14: Transport information**

<ul style="list-style-type: none"> <li>· <b>14.1 UN-Number</b></li> <li>· <b>ADR, ADN, IMDG, IATA</b></li> </ul>	Void
<ul style="list-style-type: none"> <li>· <b>14.2 UN proper shipping name</b></li> <li>· <b>ADR, ADN, IMDG, IATA</b></li> </ul>	Void
<ul style="list-style-type: none"> <li>· <b>14.3 Transport hazard class(es)</b></li> <li>· <b>ADR, ADN, IMDG, IATA</b></li> <li>· <b>Class</b></li> </ul>	Void
<ul style="list-style-type: none"> <li>· <b>14.4 Packing group</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	Void
<ul style="list-style-type: none"> <li>· <b>14.5 Environmental hazards:</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>14.6 Special precautions for user</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>Transport/Additional information:</b></li> </ul>	Not dangerous according to the above specifications.
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	-

**SECTION 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.
- **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.

**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**
- H290 May be corrosive to metals.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H351 Suspected of causing cancer.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- R2 Risk of explosion by shock, friction, fire or other sources of ignition.
- R21/22 Harmful in contact with skin and if swallowed.

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R36/38 Irritating to eyes and skin.  
R40 Limited evidence of a carcinogenic effect.  
R43 May cause sensitisation by skin contact.  
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.  
R50 Very toxic to aquatic organisms.

• **Department issuing data specification sheet:**

Laboratory  
Tel.: +49 (0)39291 425-15

• **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  
Met. Corr. 1: Corrosive to metals, Hazard Category 1  
Acute Tox. 4: Acute toxicity, Hazard Category 4  
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2  
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2  
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1  
Carc. 2: Carcinogenicity, Hazard Category 2  
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2  
Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1

• **Sources**

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>  
applicable EEC directives:  
- 1999/45  
- 1907/2006  
- 1272/2008

• **\* 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: C-41 KIT CD-C**


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- **Article number:** 13025, 13026 13027
- **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**  
Photographic activities  
Consumer use  
Photochemicals  
Photographic developer  
Colour film photographic processing solution
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Calbe Chemie GmbH  
Stadtfeld 31  
D-39240 Calbe  
Tel.: +49 (0)39291 425-0  
Fax: +49 (0)39291 425-25  
e-mail: info@calbe-chemie.de  
www.calbe-chemie.de
- **Informing department:**  
Tel.: +49 (0)39291 42515  
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**
-  GHS08 health hazard  
 STOT RE 2      H373 May cause damage to organs through prolonged or repeated exposure.
-  GHS09 environment  
 Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.
-  GHS07  
 Acute Tox. 4      H302 Harmful if swallowed.  
 Skin Sens. 1      H317 May cause an allergic skin reaction.

---

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
-  Xn; Harmful  
 R22-48/22: Harmful if swallowed. Harmful: danger of serious damage to health by prolonged exposure if swallowed.

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Xi; Sensitising

R43: May cause sensitisation by skin contact.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

• **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 Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

• **Hazard pictograms**



GHS07 GHS08 GHS09

• **Signal word** Warning

• **Hazard-determining components of labelling:**

4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulphate

• **Hazard statements**

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

• **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P280 Wear protective gloves / eye protection.

P273 Avoid release to the environment.

P363 Wash contaminated clothing before reuse.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

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.

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• **Dangerous components:**

CAS: 25646-77-9 EINECS: 247-162-0 Index number: 612-133-00-7	4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulphate  T R25  Xn R48/22  Xi R43  N R50/53 <hr/>  Acute Tox. 3, H301  STOT RE 2, H373  Aquatic Acute 1, H400; Aquatic Chronic 1, H410  Skin Sens. 1, H317	5.0-10%
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• **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.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 24 hours after the accident.

• **After skin contact** Instantly wash with water and soap and rinse thoroughly.

• **After eye contact**

Rinse opened eye for several minutes under running water (at least 15 minutes).

Remove contact lenses, if present and easy to do.

Use eye protection.

Call a doctor immediately.

• **After swallowing**

Rinse out mouth and then drink plenty of water.

Instantly call for doctor.

• **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

• **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

Nitrogen oxides (NO<sub>x</sub>)

Carbon monoxide

sulphur dioxide (SO<sub>2</sub>)

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- **5.3 Advice for firefighters**
- **Protective equipment:**  
Do not inhale explosion gases or combustion gases.  
At formation of toxic gases:  
Put on breathing apparatus.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.
- **6.2 Environmental precautions:**  
Inform respective authorities in case product reaches water or sewage system.  
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** Wear protective clothing.
- **Information about protection against explosions and fires:** 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.  
Keep container tightly sealed.
- **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:**
- **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.

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Keep away from foodstuffs, beverages and food.  
Take off immediately all contaminated clothing.  
Wash contaminated clothing before reuse.  
Wash hands during breaks and at the end of the work.  
Avoid contact with the eyes and skin.  
Do not eat, drink or smoke while working.

• **Breathing equipment:** Filter E

• **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.

• **As protection from splashes gloves made of the following materials are suitable:**

Synthetic gloves

Value for permeation: Level:

≥ 3 (60 min)

• **Not suitable are gloves made of the following materials:** Natural rubber, NR

• **Eye protection:** Safety glasses

## SECTION 9: Physical and chemical properties

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

• **General Information**

• **Appearance:**

**Form:** Fluid  
**Colour:** Light yellow  
Clear

• **Odour:** Pungent  
like sulphur dioxide (SO<sub>2</sub>)

• **Odour threshold:** Not determined.

• **pH-value at 20 °C:** 2.9

• **Change in condition**

**Melting point/Melting range:** Not determined

**Boiling point/Boiling range:** > 100 °C

• **Flash point:** Not applicable

• **Inflammability (solid, gaseous)** Not applicable.

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· <b>Ignition temperature:</b>	
<b>Decomposition temperature:</b>	Not determined.
· <b>Self-inflammability:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive.
· <b>Critical values for explosion:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapour pressure at 20 °C:</b>	23 hPa
· <b>Density at 20 °C</b>	1.045 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	miscible
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>dynamic:</b>	Not determined
<b>kinematic:</b>	Not determined
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
· <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:**  
To avoid thermal decomposition do not overheat.  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Reacts with strong acids and alkali
- **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:**

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

**25646-77-9 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulphate**

Oral | LD50 | 45 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.

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- **on the eye:** No irritant effect.
- **Sensitisation:** Sensitization possible by skin contact.
- **Additional toxicological information:**  
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.  
This statement was deduced from the properties of the single components.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
No known symptoms to date.

## SECTION 12: Ecological information

### · 12.1 Toxicity

#### · Aquatic toxicity:

#### **25646-77-9 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulphate**

LC50/96 h	0.75 mg/l (Daphnia magna)
	0.5-1.0 mg/l (Pimephales promelas)

- **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:** No further relevant information available.
- **Remark:** Toxic for fish
- **Behaviour in sewage processing plants:** Not determined
- **Additional ecological information:**
- **General notes:**  
This statement was deduced from the properties of the single components.  
Water hazard class 3 (German Regulation) (Self-assessment): highly water-endangering.  
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.  
Also poisonous for fish and plankton in water bodies.  
At present there are no ecotoxicological assessments.  
Toxic for aquatic organisms
- **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.

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Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

• **European waste catalogue**

09 01 01\* water-based developer and activator 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**

• **14.1 UN-Number**

• **ADR, IMDG, IATA**

UN 3082

• **14.2 UN proper shipping name**

• **ADR, IATA**

ENVIRONMENTALLY HAZARDOUS  
SUBSTANCE, LIQUID, N.O.S. (4-(N-ethyl-N-2-  
hydroxyethyl)-2-methylphenylenediamine sulphate)  
ENVIRONMENTALLY HAZARDOUS  
SUBSTANCE, LIQUID, N.O.S. (4-(N-ethyl-N-2-  
hydroxyethyl)-2-methylphenylenediamine sulphate),  
MARINE POLLUTANT

• **IMDG**

• **14.3 Transport hazard class(es)**

• **ADR**



• **Class**

9 (M6) Miscellaneous dangerous substances and articles.

• **IMDG, IATA**



• **Class**

9 Miscellaneous dangerous substances and articles.

• **14.4 Packing group**

• **ADR, IMDG, IATA**

III

• **14.5 Environmental hazards:**

Product contains environmentally hazardous substances: 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulphate

• **Marine pollutant:**

Symbol (fish and tree)

• **Special marking (ADR):**

Symbol (fish and tree)

• **Special marking (IATA):**

Symbol (fish and tree)

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· <b>14.6 Special precautions for user</b>	Warning: Miscellaneous dangerous substances and articles.
· <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>	These substances when transported in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less for liquids or having a net mass of 5 kg or less for solids, are not subject to any other provisions of these Regulations provided the packagings meet the general. See the following notes.
· <b>ADR</b>	Goods are not subject to the provisions in accordance with the special provision 375 ADR.
· <b>IMDG</b>	Goods are not subject to the provisions in accordance with 2.10.2.7 IMDG-Code.
· <b>IATA</b>	Goods are not subject to the provisions in accordance with the special provision 197 IATA-DGR.
· <b>Remarks:</b>	PAX/CAO 964
· <b>UN "Model Regulation":</b>	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulphate), 9, III

### SECTION 15: Regulatory information

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

· **National regulations**

Class	Share in %
I	9.1

· **Water hazard class:** Water danger class 3 (Self-assessment): highly 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**

H301 Toxic if swallowed.

H317 May cause an allergic skin reaction.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

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

Printing date 04.03.2015

Version 2

Revision: 20.01.2015

**Trade name: C-41 KIT CD-C**

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R25 Toxic if swallowed.  
R43 May cause sensitisation by skin contact.  
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.  
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

• **Department issuing data specification sheet:**

Laboratory

Tel.: +49 (0)39291 425-15

• **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. 3: Acute toxicity, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

• **Sources**

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>

applicable EEC directives:

- 1999/45

- 1907/2006

- 1272/2008

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

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Version 2

Revision: 20.01.2015


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

- **1.1 Product identifier**
- **Trade name: C-41 KIT BX-A**

---

- **Article number:** 13025 13026, 13027
- **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**  
Photographic activities  
Photochemicals  
Colour film photographic processing solution  
bleach solution
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Calbe Chemie GmbH  
Stadtfeld 31  
D-39240 Calbe  
Tel.: +49 (0)39291 425-0  
Fax: +49 (0)39291 425-25  
e-mail: info@calbe-chemie.de  
www.calbe-chemie.de
- **Informing department:**  
Tel.: +49 (0)39291 42515  
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**
- 
 GHS05 corrosion  
  
 Met. Corr.1      H290 May be corrosive to metals.  
  
 Aquatic Chronic 3    H412 Harmful to aquatic life with long lasting effects.

---

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**  
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **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.

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**Safety data sheet**  
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Trade name: C-41 KIT BX-A

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- **Hazard pictograms**



GHS05

- **Signal word** Warning

- **Hazard statements**

H290 May be corrosive to metals.  
H412 Harmful to aquatic life with long lasting effects.

- **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.  
P103 Read label before use.  
P273 Avoid release to the environment.  
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: 111687-36-6 ELINCS: 400-660-3 Index number: 607-472-00-2	ammonium iron(III)trimethylenediaminetetraacetate hemihydrate  N R51/53  Aquatic Chronic 2, H411	10-15%
CAS: 110-15-6 EINECS: 203-740-4 Reg.nr.: 01-2119896114-34-xxxx	succinic acid  Xi R36  Eye Irrit. 2, H319	5.0-10%
CAS: 6484-52-2 EINECS: 229-347-8 Reg.nr.: 01-2119490981-27-0000	ammonium nitrate  O R8-9  Ox. Sol. 1, H271	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**

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

- **After skin contact** If skin irritation continues, consult a doctor.

- **After eye contact**

Rinse opened eye for several minutes under running water (at least 15 minutes).

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**Trade name: C-41 KIT BX-A**

(Contd. of page 2)

Remove contact lenses, if present and easy to do.  
Use eye protection.  
Call a doctor immediately.

- **After swallowing** Rinse out mouth and then drink plenty of water.
- **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Information for doctor** None
- **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  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon monoxide  
Carbon dioxide
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Do not inhale explosion gases or combustion gases.  
At formation of toxic gases:  
Put on breathing apparatus.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.
- **6.2 Environmental precautions:**  
Inform respective authorities in case product reaches water or sewage system.  
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 7 for information on safe handling  
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.
- **Information about protection against explosions and fires:** The product is not flammable

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- **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:**  
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:**  
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.
  - **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.  
Take off immediately all contaminated clothing.  
Wash contaminated clothing before reuse.  
Wash hands during breaks and at the end of the work.  
Avoid contact with the eyes and skin.  
Do not eat, drink or smoke while working.
  - **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:

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≥ 3 (60 min)

- **Eye protection:** Safety glasses
- **Body protection:** Light weight protective 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>	Dark green
· <b>Odour:</b>	Not characteristic
· <b>Odour threshold:</b>	Not determined.

· **pH-value at 20 °C:** 3.8

· **Change in condition**

· <b>Melting point/Melting range:</b>	Not determined
· <b>Boiling point/Boiling range:</b>	> 100 °C

· **Flash point:** Not applicable

· **Inflammability (solid, gaseous)** Not applicable.

· **Ignition temperature:** 630 °C

· **Decomposition temperature:** Not determined.

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

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

· **Critical values for explosion:**

· <b>Lower:</b>	None
· <b>Upper:</b>	None

· **Oxidising properties** None

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

· <b>Density at 20 °C</b>	1.15 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.

· **Solubility in / Miscibility with**

· **Water:** miscible

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

· <b>dynamic:</b>	Not determined
· <b>kinematic:</b>	Not determined

· **Solvent content:**

· <b>Organic solvents:</b>	0.0 %
· <b>Water:</b>	~ 70 %

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Trade name: C-41 KIT BX-A

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- **9.2 Other information** 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** No dangerous reactions known
- **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:**
  - **LD/LC50 values that are relevant for classification:**
- |  |      |                    |
|--|------|--------------------|
| <b>111687-36-6 ammonium iron(III)trimethylenediaminetetraacetate hemihydrate</b> |      |                    |
| Oral   | LD50 | > 5000 mg/kg (rat) |
| <b>110-15-6 succinic acid</b>  |      |                    |
| Oral   | LD50 | 2260 mg/kg (rat)   |
| <b>6484-52-2 ammonium nitrate</b>  |      |                    |
| Oral   | LD50 | 4820 mg/kg (rat)   |

- **Specific symptoms in biological assay:** Not determined
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritant effect.
- **Sensitisation:** No sensitizing effect known.
- **Additional toxicological information:**  
This statement was deduced from the properties of the single components.

### SECTION 12: Ecological information

- **12.1 Toxicity**
  - **Aquatic toxicity:**  
No further relevant information available.
- |  |   |                                  |
|--|---|----------------------------------|
| <b>111687-36-6 ammonium iron(III)trimethylenediaminetetraacetate hemihydrate</b> |   |                                  |
| EC50/48 h  | > | 1000 mg/l (Daphnia magna)        |
| LC50/96 h  | > | 1000 mg/l (Onchrohynchus mykiss) |
| <b>110-15-6 succinic acid</b>  |   |                                  |
| EC50/48 h  |   | 374 mg/l (Daphnia magna)         |
- **12.2 Persistence and degradability** Not determined

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**Trade name: C-41 KIT BX-A**

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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.
- **Ecotoxicological effects:**  
No further relevant information available.  
Not determined
- **Remark:** Harmful to fish
- **Behaviour in sewage processing plants:** Not determined
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Self-assessment): Water-endangering.  
At present there are no ecotoxicological assessments.  
This statement was deduced from the properties of the single components.  
Harmful to aquatic organisms
- **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 05* | bleach solutions and bleach 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>               |  |
| • <b>ADR, IMDG, IATA</b>              | UN 3265  |
| • <b>14.2 UN proper shipping name</b> |  |
| • <b>ADR, IMDG, IATA</b>              | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.<br>(ammonium iron(III)<br>trimethylenediaminetetraacetate hemihydrate) |

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Trade name: C-41 KIT BX-A

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- 14.3 Transport hazard class(es)

- ADR, IMDG, IATA



- Class 8 Corrosive substances.
- Label 8

- 14.4 Packing group

- ADR, IMDG, IATA III

- 14.5 Environmental hazards:

- Marine pollutant: No

- 14.6 Special precautions for user

- Warning: Corrosive substances.
- Kemler Number: 80
- EMS Number: F-A,S-B
- Segregation groups Acids

- 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
- Transport category 3
- Tunnel restriction code E
- Remarks: "Limited quantity" according to chapter 3.4 ADR

- IMDG

- Limited quantities (LQ) 5 l
- Remarks: "Limited quantity" according to chapter 3.4 IMDG

- IATA

- Remarks: Packing Instruction PAX 852, CAO 856

- UN "Model Regulation":

UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ammonium iron(III) trimethylenediaminetetraacetate hemihydrate), 8, III

## SECTION 15: Regulatory information

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

- National regulations

- Information about limitation of use: None

- 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.

GB

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**Trade name: C-41 KIT BX-A**

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**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**

H271 May cause fire or explosion; strong oxidiser.

H319 Causes serious eye irritation.

H411 Toxic to aquatic life with long lasting effects.

R36 Irritating to eyes.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R8 Contact with combustible material may cause fire.

R9 Explosive when mixed with combustible material.

**• Department issuing data specification sheet:**

Laboratory

Tel.: +49 (0)39291 425-15

**• 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

Ox. Sol. 1: Oxidising Solids, Hazard Category 1

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

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

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

- **1.1 Product identifier**
- **Trade name: C-41 KIT BX-B**

---

- **Article number:** 13025, 13026, 13027
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture**  
Photographic activities  
Consumer use  
Photochemicals  
Photographic fixer
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Calbe Chemie GmbH  
Stadtfeld 31  
D-39240 Calbe  
Tel.: +49 (0)39291 425-0  
Fax: +49 (0)39291 425-25  
e-mail: info@calbe-chemie.de  
www.calbe-chemie.de
- **Informing department:**  
Tel.: +49 (0)39291 42515  
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.

---

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Void
- **Information concerning particular hazards for human and environment:**  
No hazards to be particularly mentioned. Please note the information of this Material Safety Data Sheet.
- **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 Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

GB

(Contd. on page 2)

Trade name: C-41 KIT BX-B

(Contd. of page 1)

### SECTION 3: Composition/information on ingredients

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

### SECTION 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.  
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.
- **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Information for doctor** None
- **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** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents** None
- **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:** No special measures required.
- **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).
- **6.4 Reference to other sections**  
See Section 13 for information on disposal.

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No dangerous materials are released.

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**SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** 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:** Not required.
- **Further information about storage conditions:** Store in a cool place.
- **Recommended storage temperature:** 5-25 °C
- **Storage class** LGK 12
- **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:**
- **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 necessary if room is well-ventilated.
- **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
- **As protection from splashes gloves made of the following materials are suitable:**  
Synthetic gloves  
Value for permeation: Level:  
≥ 3 (60 min)
- **Not suitable are gloves made of the following materials:** Natural rubber, NR
- **Eye protection:** Safety glasses
- **Body protection:** Light weight protective clothing

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### SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

**Form:** Fluid  
**Colour:** Colourless  
Clear

· **Odour:** Ammonia-like

· **pH-value at 25 °C:** 7.3

· **Change in condition**

**Melting point/Melting range:** Not determined  
**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:**

**Oxidising properties** None

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

· **Density at 20 °C** 1.36 g/cm<sup>3</sup>

· **Solubility in / Miscibility with**

**Water:** miscible

· **Viscosity:**

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

· **Solvent content:**

**Water:** 40.5 %

**Solids content:** 59.1 %

· **9.2 Other information** 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 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

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**SECTION 11: Toxicological information**

• **11.1 Information on toxicological effects**

• **Acute toxicity:**

• **Primary irritant effect:**

• **on the skin:** No irritant effect.

• **on the eye:** No irritant effect.

• **Sensitisation:** No sensitizing effect known.

• **Additional toxicological information:**

This statement was deduced from the properties of the single components.

The material is not subject to classification according to EC lists in the last 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.

**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

• **12.4 Mobility in soil** No further relevant information available.

• **Ecotoxicological effects:** Not determined

• **Behaviour in sewage processing plants:** Not determined

• **Additional ecological information:**

• **General notes:**

At present there are no ecotoxicological assessments.

Water hazard class 1 (German Regulation) (Self-assessment): Weakly water-endangering.

Do not allow product to reach ground water, water bodies or sewage system.

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.

**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
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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.

### 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.                                      |
| · <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**
- **National regulations**

Class	Share in %
II	0.4
- **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.

- **Department issuing data specification sheet:**  
Laboratory  
Tel.: +49 (0)39291 425-15

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• **Abbreviations and acronyms:**

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)

• **Sources**

applicable EEC directives:  
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: C-41 KIT SB**

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- **Article number:** 13025, 13026, 13027
- **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**  
Photographic activities  
Photochemicals  
photographic processing chemical  
Colour film photographic processing solution
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Calbe Chemie GmbH  
Stadtfeld 31  
D-39240 Calbe  
Tel.: +49 (0)39291 425-0  
Fax: +49 (0)39291 425-25  
e-mail: info@calbe-chemie.de  
www.calbe-chemie.de
- **Informing department:**  
Tel.: +49 (0)39291 42515  
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.  
No hazards to be particularly mentioned. Please note the information of this Material Safety Data Sheet.
- **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
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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- **5.3 Advice for firefighters**
- **Protective equipment:** Do not inhale explosion gases or combustion gases.
- **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:** No special measures required.
- **6.3 Methods and material for containment and cleaning up:** No special measures required.
- **6.4 Reference to other sections**  
See Section 8 for information on personal protection equipment.

### SECTION 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:**  
Keep container tightly sealed.  
Store in a cool place.
- **Recommended storage temperature:** 5-25 °C
- **Storage class** LGK 12
- **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:**
- **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.

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- **Protection of hands:** Not required.
- **Eye protection:** Not required.
- **Body protection:** Not required.

### SECTION 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: 6-7

##### · Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	100 °C

· Flash point: Not applicable

· Ignition temperature: Not determined

· Self-inflammability: Product is not selfigniting.

· Danger of explosion: Product is not explosive.

· Vapour pressure at 20 °C: 23 hPa

· Density at 20 °C ~ 1.00 g/cm<sup>3</sup>

##### · Solubility in / Miscibility with

Water: miscible

##### · Viscosity:

dynamic:	Not determined
kinematic:	Not determined

##### · Solvent content:

Organic solvents: 0.0 %

· 9.2 Other information 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 No dangerous reactions known

· 10.4 Conditions to avoid No further relevant information available.

· 10.5 Incompatible materials: No further relevant information available.

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- **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:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritant effect.

- **Additional toxicological information:**

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:** 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

- **Additional ecological information:**

- **General notes:**

At present there are no ecotoxicological assessments.

The product does not contain organically bounded halogens (AOX-free).

Water hazard class 1 (German Regulation) (Self-assessment): Weakly water-endangering.

- **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**

Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

- **European waste catalogue**

09 01 99	wastes not otherwise specified
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- **Uncleaned packagings:**

- **Recommendation:**

Non contaminated packagings can be used for recycling.

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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> • <b>ADR, ADN, IMDG, IATA</b>	Void
• <b>14.2 UN proper shipping name</b> • <b>ADR</b> • <b>ADN, IMDG, IATA</b>	Void Void
• <b>14.3 Transport hazard class(es)</b> • <b>ADR, ADN, IMDG, IATA</b> • <b>Class</b>	Void
• <b>14.4 Packing group</b> • <b>ADR, IMDG, IATA</b>	Void
• <b>14.5 Environmental hazards:</b>	Not applicable.
• <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**
- **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**
- H224 Extremely flammable liquid and vapour.
- H301 Toxic if swallowed.
- H311 Toxic in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H331 Toxic if inhaled.
- H400 Very toxic to aquatic life.

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H410 Very toxic to aquatic life with long lasting effects.  
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.  
R34 Causes burns.  
R43 May cause sensitisation by skin contact.  
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

• **Department issuing data specification sheet:**

Laboratory

Tel.: +49 (0)39291 425-15

• **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)

Flam. Liq. 1: Flammable liquids, Hazard Category 1

Acute Tox. 3: Acute toxicity, Hazard Category 3

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

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

• **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>