

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

### 1.1 Product identifier

Trade name: **C-41 Filmbleach MP**  
**Bleach Regenerator**

Article number: 102288

### 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 Bleach bath for photographic use

### 1.3 Details of the supplier of the safety data sheet

#### Manufacturer/Supplier:

TETENAL 1847 GmbH  
Schützenwall 31-35  
D-22844 Norderstedt /Germany  
Tel.: +49 (0) 40 521 45-0; Fax: +49 (0)40-52145-296  
www.tetenal.com; E-mail: info@tetenal.com

Further information obtainable from: Department product safety. E-Mail: sida@tetenal.com

### 1.4 Emergency telephone number:

Poison Information Centre Germany: +49 (0) 30 - 30686 700 (English and German 24 hours)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Met. Corr.1 H290 May be corrosive to metals.  
Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2 H319 Causes serious eye irritation.  
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No 1272/2008

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

#### Hazard pictograms



GHS05

Signal word Warning

#### Hazard statements

H290 May be corrosive to metals.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H412 Harmful to aquatic life with long lasting effects.

#### Precautionary statements

P234 Keep only in original packaging.  
P264 Wash thoroughly after handling.  
P273 Avoid release to the environment.  
P280 Wear protective gloves / eye protection / face protection.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P337+P313 If eye irritation persists: Get medical advice/attention.

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- P390 Absorb spillage to prevent material damage.  
 P406 Store in a corrosion resistant container / container with a resistant inner liner.  
 P501 Dispose of contents/container in accordance with local 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 Chemical characterisation: Mixtures

. **Description:** Mixture of substances listed below and with nonhazardous additions.

#### . Dangerous components:

|                            |   |        |
|----------------------------|---|--------|
| CAS: 12124-97-9            | ammonium bromide  | 10-25% |
| EINECS: 235-183-8          | ☠ Eye Irrit. 2, H319  |        |
| Reg.nr.: 01-2119931350-50  |   |        |
| CAS: 164462-16-2           | Reaction mass aus (2S)-Alanin, N,N-bis(carboxymethyl)-, Trisodiumsalt | 5-10%  |
| ELINCS: 423-270-5          | und (2R)-Alanin, N,N-bis(carboxymethyl)-, Trisodiumalt                |        |
|                            | ☠ Met. Corr.1, H290   |        |
| CAS: 10421-48-4            | Iron(III) nitrate   | 5-10%  |
| EINECS: 233-899-5          | ☠ Skin Irrit. 2, H315; Eye Irrit. 2, H319                             |        |
| CAS: 111687-36-6           | Ammonium iron PDTA  | 1-5%   |
| ELINCS: 400-660-3          | ☠ Aquatic Chronic 2, H411   |        |
| Index number: 607-472-00-2 |   |        |
| Reg.nr.: 01-0000015059-70  |   |        |
| CAS: 6484-52-2             | ammonium nitrate  | 1-5%   |
| EINECS: 229-347-8          | ☠ Ox. Sol. 1, H271  |        |
| CAS: 64-19-7               | acetic acid   | 1-5%   |
| EINECS: 200-580-7          | ☠ Flam. Liq. 3, H226; ☠ Skin Corr. 1A, H314                           |        |
| Index number: 607-002-00-6 |   |        |
| Reg.nr.: 01-2119475328-30  |   |        |

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

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- . **General information:** Immediately remove any clothing/shoes soiled by the product.
- . **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- . **After skin contact:** Immediately rinse with water.
- . **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a 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>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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

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

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Carbon monoxide (CO)

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

**. 5.3 Advice for firefighters**

**. Protective equipment:** No special measures required.

### SECTION 6: Accidental release measures

**. 6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Wear protective clothing.

**. 6.2 Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

Do not allow to enter sewers/ 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 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### SECTION 7: Handling and storage

**. 7.1 Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.

**. Information about fire - and explosion protection:** Protect from heat.

**. 7.2 Conditions for safe storage, including any incompatibilities**

**. Storage:**

**. Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.

**. Information about storage in one common storage facility:**

Store away from foodstuffs.

Do not store together with acids.

Store away from metals.

**. Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

Recommended storage temperature: 5-30°C

**. 7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

**. Additional information about design of technical facilities:** No further data; see item 7.

**. 8.1 Control parameters**

**. Ingredients with limit values that require monitoring at the workplace:**

**111687-36-6 Ammonium iron PDTA (3-5%)**

REL (USA) Long-term value: 1 mg/m<sup>3</sup>  
as Fe

TLV (USA) Long-term value: 1 mg/m<sup>3</sup>  
as Fe

**64-19-7 acetic acid (1- <2%)**

IOELV (EU) Long-term value: 25 mg/m<sup>3</sup>, 10 ppm

PEL (USA) Long-term value: 25 mg/m<sup>3</sup>, 10 ppm

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REL (USA) Short-term value: 37 mg/m<sup>3</sup>, 15 ppm  
Long-term value: 25 mg/m<sup>3</sup>, 10 ppm

TLV (USA) Short-term value: 37 mg/m<sup>3</sup>, 15 ppm  
Long-term value: 25 mg/m<sup>3</sup>, 10 ppm

**. DNELs****10421-48-4 Iron(III) nitrate**

Oral Long-term - systemic effects 1.2 mg/kg bw/day (Consumer (Verbraucher))

Dermal Long-term - systemic - effects 17 mg/kg bw/day (Worker (Arbeiter))

Long-term - systemic effects 8.6 mg/kg bw/day (-)

Inhalative Long-term - systemic effects 3 mg/m<sup>3</sup> (Consumer (Verbraucher))

**64-19-7 acetic acid**

Inhalative Akute /short-term exposure - local effects 25 mg/m<sup>3</sup> (Worker (Arbeiter))

Long-term - local - effects 25 mg/m<sup>3</sup> (Worker (Arbeiter))

Akute-lokale Effekte 25 mg/m<sup>3</sup> (general population- Verbraucher)

Long-term - local effects 25 mg/m<sup>3</sup> (general population- Verbraucher)

**. PNECs****10421-48-4 Iron(III) nitrate**

Aquatic compartment - freshwater 0.024 mg/l (-)

Aquatic compartment - marine water 0.0024 mg/l (-)

Aquatic compartment -sediment in freshwater 0.2 mg/kg sed dw (-)

Aquatic compartment -sediment in marine water 0.02 mg/kg sed dw (-)

Terrestrial compartment -soil 0.026 mg/kg dw (-)

Sewage treatment plant (Abwasserreinigungsanlagen) 500 mg/l (-)

**64-19-7 acetic acid**

Aquatic compartment - freshwater 3.058 mg/l (-)

Aquatic compartment - marine water 0.358 mg/l (-)

Aquatic compartment -water,intermittent releases 30.58 mg/l (-)

Aquatic compartment -sediment in freshwater 11.36 mg/kg sed dw (-)

Aquatic compartment -sediment in marine water 1.136 mg/kg sed dw (-)

Terrestrial compartment -soil 0.478 mg/kg dw (Soil)

Sewage treatment plant (Abwasserreinigungsanlagen) 85 mg/l (-)

**. Additional information:** The lists valid during the making were used as basis.

**. 8.2 Exposure controls****. Personal protective equipment:****. General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

**. Respiratory protection:** Ensure adequate ventilation

**. Protection of hands:**

Protective gloves

Impervious gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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#### Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Butyl rubber, BR  
Nitrile rubber, NBR  
Neoprene gloves

#### Penetration time of glove material

| Glove material  | breakthroug-time | layer thickness |
|-----------------|------------------|-----------------|
| Butyl rubber:   | ≥480 min         | ≥0,4mm          |
| Nitrile rubber: | ≥480 min         | ≥0,38mm         |
| Neoprene:       | ≥240 min         | ≥0,65mm         |

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

#### Eye protection:



Tightly sealed goggles

Safety glasses

#### Body protection: Protective work clothing

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General Information

##### Appearance:

|                  |                 |
|------------------|-----------------|
| Form:            | Fluid           |
| Colour:          | Dark green      |
| Odour:           | Odourless       |
| Odour threshold: | Not determined. |

pH-value at 20 °C: ~3.8

##### Change in condition

|  |               |
|--|---------------|
| Melting point/freezing point:            | Undetermined. |
| Initial boiling point and boiling range: | > 100 °C      |

Flash point: Not applicable.

Flammability (solid, gas): Not applicable.

Decomposition temperature: Not determined.

Auto-ignition temperature: Product is not selfigniting.

Explosive properties: Product does not present an explosion hazard.

##### Explosion limits:

|        |                 |
|--------|-----------------|
| Lower: | Not determined. |
| Upper: | Not determined. |

Vapour pressure: Not determined.

Density at 20 °C: ~1.3 g/cm<sup>3</sup>

Relative density: Not determined.

Vapour density: Not determined.

Evaporation rate: Not determined.

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|  |  |
|--|--|
| . <b>Solubility in / Miscibility with water:</b> | Fully 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>                         | 1.7 %                                      |
| <b>Water:</b>                                    | 50-90 %                                    |
| <b>VOC (EC)</b>                                  | 1.74 %                                     |
| . <b>9.2 Other information</b>                   | No further relevant information available. |

### SECTION 10: Stability and reactivity

- . **10.1 Reactivity** No further relevant information available.
- . **10.2 Chemical stability**
- . **Thermal decomposition / conditions to be avoided:** Stable at environment temperature.
- . **10.3 Possibility of hazardous reactions** Corrosive action on metals.
- . **10.4 Conditions to avoid** No further relevant information available.
- . **10.5 Incompatible materials:**  
Do not on zinc and aluminum.  
Store away from metals.
- . **10.6 Hazardous decomposition products:**  
Irritant gases/vapours  
Carbon monoxide and carbon dioxide

### SECTION 11: Toxicological information

- . **11.1 Information on toxicological effects**
  - . **Acute toxicity** Based on available data, the classification criteria are not met.
  - . **LD/LC50 values relevant for classification:**
- 
- 12124-97-9 ammonium bromide**  
Oral LD50 2714 mg/kg (rat)  
>2000 mg/kg (rabbit)
- 164462-16-2 Reaction mass aus (2S)-Alanin, N,N-bis(carboxymethyl)-, Trisodiumsalt und (2R)-Alanin, N,N-bis(carboxymethyl)-, Trisodiumalt**  
Oral LD50 >4000 mg/kg (rat)  
Dermal LD50 >4000 mg/kg (rat)  
Inhalative LC50 >5 mg/l (rat)
- 10421-48-4 Iron(III) nitrate**  
Oral LD50 3250 mg/kg (rat)  
Dermal LD50 =>2000 mg/kg (rat)
- 111687-36-6 Ammonium iron PDTA**  
Oral LD50 >5000 mg/kg (rat)
- 64-19-7 acetic acid**  
Oral LD50 3310 mg/kg (rat)  
Dermal LD50 1130 mg/kg (rabbit)  
Inhalative LC50 1h: 5620 mg/l (mouse)

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- . **Primary irritant effect:**
- . **Skin corrosion/irritation**  
Causes skin irritation.
- . **Serious eye damage/irritation**  
Causes serious eye irritation.
- . **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- . **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- . **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- . **Carcinogenicity** Based on available data, the classification criteria are not met.
- . **Reproductive toxicity** Based on available data, the classification criteria are not met.
- . **STOT-single exposure** Based on available data, the classification criteria are not met.
- . **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- . **Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

- . **12.1 Toxicity**
- . **Aquatic toxicity:**
- 12124-97-9 ammonium bromide**  
EC50 >1000 mg/l (Invertebrates)
- 164462-16-2 Reaction mass aus (2S)-Alanin, N,N-bis(carboxymethyl)-, Trisodiumsalt und (2R)-Alanin, N,N-bis(carboxymethyl)-, Trisodiumsalt**  
EC50 48h: >200 mg/l (daphnia similis (Water flea))  
LC50 96h >200 mg/l (fish)
- 111687-36-6 Ammonium iron PDTA**  
EC50 48h: >1000 mg/l (daphnia magna (Water flea))  
LC50 96h: >1000 mg/l (fish: Oncorhynchus mykiss)
- 64-19-7 acetic acid**  
LC50 24h: >100 mg/l (daphnia magna (Water flea))  
96h: >1000 mg/l (fish)  
96h: 75 mg/l (Lepomis macrochirus (Sonnenbarsch))  
24h: 106 mg/l (fish: Pimephales promelas)
- . **12.2 Persistence and degradability** No further relevant information available.
- . **12.3 Bioaccumulative potential** No further relevant information available.
- . **12.4 Mobility in soil** No further relevant information available.
- . **Ecotoxicological effects:**
- . **Remark:** Harmful to fish
- . **Additional ecological information:**
- . **General notes:**  
Do not allow product to reach ground water, water course or sewage system.  
Harmful to aquatic organisms  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
- . **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 together with household garbage. Do not allow product to reach sewage system.

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- . **European waste catalogue**  
09 01 05\* bleach solutions and bleach fixer solutions
- . **Uncleaned packaging:**
- . **Recommendation:** Disposal must be made according to official regulations.
- . **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### SECTION 14: Transport information

|  |  |
|--|--|
| . <b>14.1 UN-Number</b>  |  |
| . <b>ADR, IMDG, IATA</b>   | UN1760   |
| . <b>14.2 UN proper shipping name</b>  |  |
| . <b>ADR</b>   | 1760 CORROSIVE LIQUID, N.O.S. (Ferric nitrate)               |
| . <b>IMDG, IATA</b>  | CORROSIVE LIQUID, N.O.S. (Ferric nitrate)                    |
| . <b>14.3 Transport hazard class(es)</b>   |  |
| . <b>ADR</b>   |  |
| . <b>Class</b>   | 8 (C9) Corrosive substances.                                 |
| . <b>Label</b>   | 8  |
|  |  |
| . <b>IMDG, IATA</b>  |  |
| . <b>Class</b>   | 8 Corrosive substances.                                      |
| . <b>Label</b>   | 8  |
| . <b>14.4 Packing group</b>  |  |
| . <b>ADR, IMDG, IATA</b>   | III  |
| . <b>14.5 Environmental hazards:</b>   |  |
| . <b>Marine pollutant:</b>   | No   |
| . <b>14.6 Special precautions for user</b>                                       | Warning: Corrosive substances.                               |
| . <b>Hazard identification number (Kemler code):</b>                             | -  |
| . <b>EMS Number:</b>   | F-A,S-Q  |
| . <b>Segregation groups</b>  | Acids  |
| . <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b> | Not applicable.  |
| . <b>Transport/Additional information:</b>                                       |  |
|  |  |
| . <b>ADR</b>   |  |
| . <b>Limited quantities (LQ)</b>   | 5L   |
| . <b>Transport category</b>  | 3  |
| . <b>Tunnel restriction code</b>   | E  |
| . <b>UN "Model Regulation":</b>  | UN1760, CORROSIVE LIQUID, N.O.S. (Ferric nitrate),<br>8, III |

### SECTION 15: Regulatory information

- . **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- . **Labelling according to Regulation (EC) No 1272/2008 GHS label elements**
- . **REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction:** 3, 65
- . **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

- H226 Flammable liquid and vapour.
- H271 May cause fire or explosion; strong oxidiser.
- H290 May be corrosive to metals.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H411 Toxic to aquatic life with long lasting effects.

· **Contact:** E: sida@tetenal.com

· **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)
- VOC: Volatile Organic Compounds (USA, EU)
- DNEL: Derived No-Effect Level (REACH)
- PNEC: Predicted No-Effect Concentration (REACH)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 3: Flammable liquids – Category 3
- Ox. Sol. 1: Oxidizing solids – Category 1
- Met. Corr. 1: Corrosive to metals – Category 1
- Skin Corr. 1A: Skin corrosion/irritation – Category 1A
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
- Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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

Dangerous good (see point 14)