

22.06.2009

### Kit Components

Product code	Description
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<b>104002</b>	<b>Superfix EC für 2 x 20L</b>
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Components:

44527	Superfix EC / 25 Roentogen Superfix Part 1
44060	Roentgen- Fixer Part 2 for SUPERFIX EC / 25 / MRP / LR

## Safety Data Sheet according to 1907/2006/EC, Article 31

Printing date 22.06.2009

version no: 1

Revision: 16.06.2009

### 1 Identification of the substance/preparation and of the company/undertaking

· **Product details**

· **Trade name:** Superfix EC / 25 Roentogen Superfix Part 1

· **Information** now only 1-part Fixer

· **Article number:** 44527, zu104002 Part 1, 104156 200L, 2221/3, 2220/1 Part1

· **Application of the substance / the preparation** Fixing agent for X-ray films

· **Manufacturer/Supplier:**

TETENAL AG & CO. KG

Schützenwall 31-35

D-22844 Norderstedt

Tel.: +49 040 521 45-0

Fax: +49 040-52145-296

www.tetenal.com

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Leicester LE3 1TH / Great Britain

Tel. +44 0870 460 8996 Fax. +44 0870 460 8997, e.mail: uk@tetenal.com, www.tetenal.co.uk

· **Further information obtainable from:** Department environment and safety. E-mail: info@tetenal.com

· **Information in case of emergency:** Poison Information Centre Berlin (Germany): +49 (0) 30 19 24 0

### 2 Hazards identification

· **Hazard description:** Not applicable.

· **Information concerning particular hazards for human and environment:**

The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **GHS label elements** Void

### 3 Composition/information on ingredients

· **Chemical characterization**

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

· **Dangerous components:**

CAS: 7681-57-4 EINECS: 231-673-0	disodium disulphite	Xn,  Xi; R 22-31-41 Danger:  3.1.O/3;  3.3/1	1-5%
CAS: 64-19-7 EINECS: 200-580-7	acetic acid	C; R 10-35 Danger:  3.2/1A Warning:  2.6/3	<3%

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

### 4 First aid measures

· **General information:** Immediately remove any clothing soiled by the product.

· **After skin contact:** Immediately rinse with water.

· **After eye contact:** Rinse opened eye for several (15 min) under running water.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

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If symptoms persist consult doctor.

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### 5 Fire-fighting measures

- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Person-related safety precautions:** Ensure adequate ventilation
- **Measures for environmental protection:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Pick up mechanically.
- **Additional information:** No dangerous substances are released.

### 7 Handling and storage

- **Handling:**
- **Information for safe handling:** Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:**  
Store away from foodstuffs.  
Do not store together with acids.
- **Further information about storage conditions:**  
Protect from heat and direct sunlight.  
Store under lock and key and out of the reach of children.  
Recommended storage temperature: 5-25°C

### 8 Exposure controls/personal protection

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

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

7681-57-4 disodium disulphite (1-5%)
--------------------------------------

WEL Long-term value: 5 mg/m <sup>3</sup>
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- **Additional information:** The lists valid during the making were used as basis.

- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures are to be adhered to when handling chemicals.  
Avoid contact with the eyes and skin.
- **Respiratory protection:** Ensure adequate ventilation
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

**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

**Penetration time of glove material**

Glove material: Butyl rubber with breakthrough-time:  $\geq 480$  min, layer thickness:  $\geq 0,4$  mm

Gloves made of nitrile rubber with layer thickness  $>0,38$ mm and breakthrough-time  $>480$ min

Glove material: Neopren with breakthrough time:  $>240$  min, layer thickness:  $>0,65$  mm

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

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing

### 9 Physical and chemical properties

**General Information**

<b>Form:</b>	Fluid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Recognizable

**Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** Undetermined.

**Flash point:** Not applicable.

**Self-igniting:** Product is not selfigniting.

**Danger of explosion:** Product does not present an explosion hazard.

**Vapour pressure at 20°C:** 23 hPa

**Density at 20°C:** 1.296 g/cm<sup>3</sup>

**Solubility in / Miscibility with water:** Fully miscible.

**pH-value at 20°C:** 5.2

**Solvent content:**

**Organic solvents:** 2.2 %

**Water:** 47.5 %

### 10 Stability and reactivity

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**Dangerous reactions** Contact with acids releases irritant gases.

**Dangerous decomposition products:**

Irritant gases/vapours

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Sulphur dioxide

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### 11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.  
When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

### 12 Ecological information

- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow product to reach ground water, water course or sewage system.

### 13 Disposal considerations

- **Product:**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- **European waste catalogue**

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- **Uncleaned packaging:**
- **Recommendation:**  
Dispose of packaging according to regulations on the disposal of packagings.  
Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### 14 Transport information

- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** -

- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No

- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -

- **UN "Model Regulation":** -

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### 15 Regulatory information

· **Labelling according to EU guidelines:**

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (German GefStoffV).

· **Safety phrases:**

2 Keep out of the reach of children.

24/25 Avoid contact with skin and eyes.

· **Special labelling of certain preparations:**

Safety data sheet available for professional user on request.

### 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 R-phrases**

10 Flammable.

22 Harmful if swallowed.

31 Contact with acids liberates toxic gas.

35 Causes severe burns.

41 Risk of serious damage to eyes.

· **Department issuing MSDS: Department product safety**

· **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)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

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

## Safety Data Sheet according to 1907/2006/EC, Article 31

Printing date 22.06.2009

version no: 2

Revision: 22.06.2009

### 1 Identification of the substance/preparation and of the company/undertaking

· **Product details**

· **Trade name:** Roentgen- Fixer Part 2 for SUPERFIX EC / 25 / MRP / LR

· **Article number:**

44060, zu104701 Part2, zu103594Part2, zu104146Part2, zu103519Part2, zu102663 KF P2, zu104462Part2, zu104002 Part2, zu104164Part2, 2219/2 Part 2, zu102999Part2LR, 5024 - 2229/2

· **Application of the substance / the preparation** Fixing agent for X-ray films

· **Manufacturer/Supplier:**

TETENAL AG & CO. KG

Schützenwall 31-35

D-22844 Norderstedt

Tel.: +49 040 521 45-0

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· **Further information obtainable from:** Department environment and safety. E-mail: info@tetenal.com

· **Information in case of emergency:** Poison Information Centre Berlin (Germany): +49 (0) 30 19 24 0

### 2 Hazards identification

· **Hazard description:**



*Xi Irritant*

· **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.

R 38 Irritating to skin.

R 41 Risk of serious damage to eyes.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **GHS label elements**



**Danger**

3.2/1C - Causes severe skin burns and eye damage.

· **Prevention:**

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

· **Response:**

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

Specific treatment (see label).

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Wash contaminated clothing before reuse.

**Storage:**

Store locked up.






**Disposal:**

Dispose of contents/container in accordance with local/regional/national/international regulations.

### 3 Composition/information on ingredients

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

**Dangerous components:**

CAS: 10043-01-3 EINECS: 233-135-0	aluminium sulphate	 Xi; R 38-41 Danger:  3.2/1C	10-25%
CAS: 64-19-7 EINECS: 200-580-7	acetic acid	 C; R 10-35 Danger:  3.2/1A Warning:  2.6/3	10-25%

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

### 4 First aid measures

**General information:** Immediately remove any clothing soiled by the product.

**After inhalation:**

In case of unconsciousness place patient stably in side position for transportation.

Supply fresh air; consult doctor in case of complaints.

**After skin contact:** Immediately wash with water and soap and rinse thoroughly.

**After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

**After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.

### 5 Fire-fighting measures

**Suitable extinguishing agents:**

 CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards caused by the substance, its products of combustion or resulting gases:**

Under certain fire conditions, traces of other toxic gases cannot be excluded.

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

### 6 Accidental release measures

**Person-related safety precautions:** Ensure adequate ventilation

**Measures for environmental protection:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

**Measures for cleaning/collecting:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Pick up mechanically.

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### 7 Handling and storage

- **Handling:**
- **Information for safe handling:**
  - Ensure good ventilation/exhaustion at the workplace.
  - Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:**
  - Store away from foodstuffs.
  - Store away from oxidizing agents.
- **Further information about storage conditions:**
  - Store in cool, dry conditions in well sealed receptacles.
  - Protect from heat and direct sunlight.
  - Store under lock and key and out of the reach of children.
  - Recommended storage temperature: 5-25°C

### 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Ingredients 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 valid during the making were used as basis.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing
  - 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:**
  - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
  - Not necessary if room is well-ventilated.
- **Protection of hands:**



Protective gloves

#### Impervious gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/  
the chemical mixture.

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

#### 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

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Nitrile rubber, NBR

**· Penetration time of glove material**

 Gove material: Butyl rubber with breakthroug-time:  $\geq 480$  min, layer thickness:  $\geq 0,4$  mm

 Gloves made of nitril rubber with layer thickness  $>0,38$ mm and breakthrough-time  $>480$ min

 Glove material: Neopren with breakthrough time:  $>240$  min, layer thickness:  $>0,65$  mm

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

**· Body protection: Protective work clothing**

### 9 Physical and chemical properties

**· General Information**

<b>Form:</b>	Fluid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Pungent

**· Change in condition**
**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:**  $>100^{\circ}\text{C}$ 
**· Flash point:** Not applicable.

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

**· Danger of explosion:** Product does not present an explosion hazard.

**· Explosion limits:**

<b>Lower:</b>	4.0 Vol %
<b>Upper:</b>	17.0 Vol %

**· Vapour pressure at 20°C:** 23 hPa

**· Density at 20°C:** 1.155 g/cm<sup>3</sup>
**· Solubility in / Miscibility with water:** Fully miscible.

**· pH-value at 20°C:** 2

**· Solvent content:**

<b>Organic solvents:</b>	15.3 %
<b>Water:</b>	64.1 %

### 10 Stability and reactivity

**· Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**· Dangerous reactions** Reacts with acids, alkalis and oxidizing agents.

**· Dangerous decomposition products:** Irritant gases/vapours

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**Trade name: Roentgen- Fixer Part 2 for SUPERFIX EC / 25 / MRP / LR**

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### 11 Toxicological information

**· Acute toxicity:****· LD/LC50 values relevant for classification:****64-19-7 acetic acid**

Oral	LD50	3310 mg/kg (rat)
Dermal	LD50	1060 mg/kg (rabbit)

**· Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.

**· Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant

### 12 Ecological information

**· General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow product to reach ground water, water course or sewage system.

### 13 Disposal considerations

**· Product:****· Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**· European waste catalogue**

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**· Uncleaned packaging:**

- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### 14 Transport information

**· Land transport ADR/RID (cross-border)**

- **ADR/RID class:** 8 (C3) Corrosive substances.
- **Danger code (Kemler):** 80
- **UN-Number:** 2790
- **Packaging group:** III
- **Hazard label:** 8

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**Trade name: Roentgen- Fixer Part 2 for SUPERFIX EC / 25 / MRP / LR**

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**Description of goods:** 2790 ACETIC ACID SOLUTION**Maritime transport IMDG:**

- **IMDG Class:** 8
- **UN Number:** 2790
- **Label** 8
- **Packaging group:** III
- **EMS Number:** F-A,S-B
- **Marine pollutant:** No
- **Proper shipping name:** ACETIC ACID SOLUTION

**Air transport ICAO-TI and IATA-DGR:**

- **ICAO/IATA Class:** 8
- **UN/ID Number:** 2790
- **Label** 8
- **Packaging group:** III
- **Proper shipping name:** ACETIC ACID SOLUTION

**UN "Model Regulation":** UN2790; ACETIC ACID SOLUTION; 8; III

### 15 Regulatory information

**Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

**Code letter and hazard designation of product:**

Xi Irritant

**Hazard-determining components of labelling:**

acetic acid

**Risk phrases:**

- 38 Irritating to skin.
- 41 Risk of serious damage to eyes.

**Safety phrases:**

- 23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 37/39 Wear suitable gloves and eye/face protection.
- 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- 60 This material and its container must be disposed of as hazardous waste.

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### **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 R-phrases**

10 Flammable.

35 Causes severe burns.

38 Irritating to skin.

41 Risk of serious damage to eyes.

· **Department issuing MSDS: Department product safety**

· **Contact:** (Tetenal AG & CO.KG Norderstedt, Germany)

· **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)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

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