

19.06.2013

Kit Components

Product code	Description
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100004	EMOFIN 2-STEP DEVELOPER
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Components:

100004 Stufe 1A	Emofin Stufe 1 Part A (18g Pulverl)
100004 Stufe 1B	Emofin Stufe 1 Part B
100004 Step 2	Emofin Stufe 2

Safety Data Sheet acc. to OSHA HCS

Printing date 06/19/2013

Reviewed on 06/19/2013

1: Identification

- . **1.1 Product identifier**
- . **Trade name: Emofin Step 1 Part A**
- . **Article number:** 100004 Stufe 1A, 44069
- . **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- . **Application of the substance / the preparation** Developer for photographic use
- . **1.3 Details of the supplier of the safety data sheet**
- . **Manufacturer/Supplier:**
TETENAL Europe GmbH
Schützenwall 31-35
D-22844 Norderstedt/Germany
Phone: ++49 (0) 40 521 45-0, Fax: ++49 (0) 40 521 45-296
www.tetenal.com; E-mail: info@tetenal.com
- . **Information department:** Department environment and safety. E-Mail: info@tetenal.com
- . **1.4 Emergency telephone number:**
Poison Information Centre Berlin: +49 (0) 30 - 30686 790 (English 24hours)

2: Hazard(s) identification

- . **2.1 Classification of the substance or mixture**
- . **Classification according to Regulation (EC) No 1272/2008**
 - H373 May cause damage to organs through prolonged or repeated exposure.
 - H318 Causes serious eye damage.
 - H400 Very toxic to aquatic life.
 - H410 Very toxic to aquatic life with long lasting effects.
 - H302 Harmful if swallowed.
 - H312 Harmful in contact with skin.
 - H315 Causes skin irritation.
 - H317 May cause an allergic skin reaction.
 - H335 May cause respiratory irritation.
- . **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
 - Harmful
Harmful in contact with skin and if swallowed. Harmful: danger of serious damage to health by prolonged exposure if swallowed.
 - Irritant
Irritating to eyes, respiratory system and skin. May cause sensitisation by skin contact.
 - Dangerous for the environment
Very 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 labeled due to the calculation procedure of international guidelines.
- . **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- . **2.2 Label elements**
- . **Labelling according to Regulation (EC) No 1272/2008**
 - Reduced labeling possible if <125 ml
 - The product is classified and labeled according to the CLP regulation.

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Safety Data Sheet

acc. to OSHA HCS

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Trade name: Emofin Step 1 Part A

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. Hazard pictograms



GHS05 GHS07 GHS08 GHS09

. Signal word Danger

. Hazard-determining components of labeling:

N,N-Diethyl-p-phenylenediamine sulfate CD-1 (N,N-diethylbenzene-1,4-diammonium sulphate)
 Bis(4-hydroxy-N-methylanilinium) sulphate (Metol)
 sodium metabisulphite (sodium disulphite)

. Hazard statements

H302+H312 Harmful if swallowed or in contact with skin.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H317 May cause an allergic skin reaction.
 H335 May cause respiratory irritation.
 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.

. 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.
 P264 Wash thoroughly after handling.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER or doctor/physician.
 P332+P313 If skin irritation occurs: Get medical advice/attention.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

. Classification system:

. NFPA ratings (scale 0 - 4)



Health = 2
 Fire = 0
 Reactivity = 0

. HMIS-ratings (scale 0 - 4)



Health = *2
 Fire = 0
 Reactivity = 0

. 2.3 Other hazards

. Results of PBT and vPvB assessment

- . PBT: Not applicable.
- . vPvB: Not applicable.

3: Composition/information on ingredients

. 3.2 Chemical characterization: Mixtures

- . Description: Mixture of the substances listed below with nonhazardous additions.

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Trade name: Emofin Step 1 Part A

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. Dangerous components:

CAS: 6283-63-2 RTECS: SS 9625000	N,N-Diethyl-p-phenylenediamine sulfate CD-1 (N,N-diethylbenzene-1,4-diammonium sulphate) ⚠ H301; H311; ⚠ H315; H319; H335	50-90%
CAS: 55-55-0 Index number: 650-031-00-4 RTECS: SL 8650000	Bis(4-hydroxy-N-methylanilinium) sulphate (Metol) ⚠ H373; ⚠ H400; H410; ⚠ H302; H317	25-50%
CAS: 7681-57-4 Index number: 016-063-00-2 Reg.nr.: 01-2119531326-45-xxxx	sodium metabisulphite (sodium disulphite) ⚠ H318; ⚠ H302	5-10%

4: First-aid measures

. 4.1 Description of first aid measures

. General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

. After inhalation:

Supply fresh air and to be sure call for a doctor.

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

. 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: Immediately call a 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.

5: Fire-fighting measures

. 5.1 Extinguishing media

. Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

. 5.2 Special hazards arising from the substance or mixture

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

. 5.3 Advice for firefighters

. Protective equipment: No special measures required.

6: Accidental release measures

. 6.1 Personal precautions, protective equipment and emergency procedures Ensure adequate ventilation

. 6.2 Environmental precautions:

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

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

. 6.3 Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to item 13.

Pick up mechanically.

Ensure adequate ventilation.

. 6.4 Reference to other sections

See Section 7 for information on safe handling.

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Trade name: Emofin Step 1 Part A

See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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7: Handling and storage

- . **7.1 Precautions for safe handling** Prevent formation of dust.
- . **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 receptacles:** No special requirements.
- . **Information about storage in one common storage facility:**
Store away from foodstuffs.
Do not store together with oxidizing and acidic materials.
- . **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Store under lock and key and out of the reach of children.
Recommended storage temperature: 5-25 °C
Protect from exposure to the light.
- . **7.3 Specific end use(s)** No further relevant information available.

8: Exposure controls/personal protection

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

8.1 Control parameters

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

7681-57-4 sodium metabisulphite (sodium disulphite) (5-10 %)

REL (USA) 5 mg/m³

TLV (USA) 5 mg/m³

- . **Additional information:** The lists that were valid during the creation were used as basis.

8.2 Exposure controls

- . **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.

- . **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
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.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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Trade name: Emofin Step 1 Part A

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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:	≥480min	≥0,38mm
Neopren:	≥240min	≥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:

Safety glasses



Tightly sealed goggles

. Body protection: Protective work clothing

9: Physical and chemical properties

. 9.1 Information on basic physical and chemical properties

. General Information

. Appearance:

Form:	Solid Powder
Color:	White
Odor:	Recognizable

. pH-value (inLsg g/l) at 20 °C (68 °F): 7.3

. Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

. Flash point: Not applicable.

. Auto igniting: Product is not selfigniting.

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

. Density: Not determined.

. Solubility in / Miscibility with

Water: Soluble.

. Solvent content:

Organic solvents: 0.0 %

Solids content: 100.0 %

. 9.2 Other information No further relevant information available.

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Trade name: Emofin Step 1 Part A

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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:** Irritant gases/vapors

11: Toxicological information

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

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

6283-63-2 N,N-Diethyl-p-phenylenediamine sulfate CD-1 (N,N-diethylbenzene-1,4-diammonium sulphate)		
-----------------------------------------------------------------------------------------------------------	--	--

Oral	LD50	450-497 mg/kg (rat)
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55-55-0 Bis(4-hydroxy-N-methylanilinium) sulphate (Metol)		
------------------------------------------------------------------	--	--

Oral	LD50	237 mg/kg (rat)
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. **Primary irritant effect:**

- . **on the skin:** Irritant to skin and mucous membranes.
- . **on the eye:** Irritating effect.
- . **Sensitization:** Sensitization possible through skin contact.
- . **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful
Irritant

. **Carcinogenic categories**

. **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

. **NTP (National Toxicology Program)**

None of the ingredients is listed.

12: Ecological information

. **12.1 Toxicity**

. **Aquatic toxicity:**

55-55-0 Bis(4-hydroxy-N-methylanilinium) sulphate (Metol)	
------------------------------------------------------------------	--

EC50	72h: 10 mg/l (alg)
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	19 mg/l (daphnia magna (Großer Wasserfloh))
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	48h: 0.02 mg/l (inv)
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- . **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:** Very toxic for fish

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Trade name: Emofin Step 1 Part A

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. Additional ecological information:

. General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very 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.

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.

. Uncleaned packagings:

. Recommendation: Disposal must be made according to official regulations.

. Recommended cleansing agent: Water, if necessary with cleansing agents.

14: Transport information

. 14.1 UN-Number

. DOT

Void

. ADR, IMDG, IATA

UN3077

. 14.2 UN proper shipping name

. DOT

Void

. ADR

3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (p-Methylaminophenol-sulfate, bis(4-hydroxy-N-methylanilinium) sulphate)

. IMDG

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (METOL/ p-Methylaminophenolsulfate / bis(4-hydroxy-N-methylanilinium) sulphate), MARINE POLLUTANT

. IATA

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (METOL/ p-Methylaminophenolsulfate / bis(4-hydroxy-N-methylanilinium) sulphate)

. 14.3 Transport hazard class(es)

. DOT

. Class

Void

. ADR



. Class

9 (M7) Miscellaneous dangerous substances and articles

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Trade name: Emofin Step 1 Part A

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. Label	9
. IMDG, IATA	
. Class	9 Miscellaneous dangerous substances and articles.
. Label	9
. 14.4 Packing group	
. DOT	Void
. ADR, IMDG, IATA	III
. 14.5 Environmental hazards:	
	Product contains environmentally hazardous substances: Bis(4-hydroxy-N-methylanilinium) sulphate (Metol)
. Marine pollutant:	
	Yes Symbol (fish and tree)
. Special marking (ADR):	
	Symbol (fish and tree)
. Special marking (IATA):	
	Symbol (fish and tree)
. 14.6 Special precautions for user	
. Danger code (Kemler):	Warning: Miscellaneous dangerous substances and articles 90
. EMS Number:	F-A,S-F
. 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	
	Not applicable.
. UN "Model Regulation":	
	UN3077; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.; 9; III

15: Regulatory information

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

. Section 355 (extremely hazardous substances):

None of the ingredient is listed.

. Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

. TSCA (Toxic Substances Control Act):

55-55-0 Bis(4-hydroxy-N-methylanilinium) sulphate (Metol)

7681-57-4 sodium metabisulphite (sodium disulphite)

. Proposition 65

. Chemicals known to cause cancer:

None of the ingredients is listed.

. Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

. Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

. Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

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Trade name: Emofin Step 1 Part A

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. Cancerogenity categories

. EPA (Environmental Protection Agency)

None of the ingredients is listed.

. TLV (Threshold Limit Value established by ACGIH)

7681-57-4 sodium metabisulphite (sodium disulphite)

A4

. NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

. OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

. 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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.

. Contact: e-mail: sida@tetenal.com

. Abbreviations and acronyms:

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

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

. * Data compared to the previous version altered.

USA

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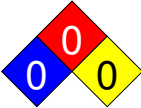
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1: Identification

- . **1.1 Product identifier**
- . **Trade name: Emofin Step 1 Part B**
- . **Article number:** 100004 Stufe 1B, 44070, 1171/5 Part 1B
- . **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- . **Application of the substance / the preparation** Developer for photographic use
- . **1.3 Details of the supplier of the safety data sheet**
- . **Manufacturer/Supplier:**
TETENAL Europe GmbH
Schützenwall 31-35
D-22844 Norderstedt/Germany
Phone: ++49 (0) 40 521 45-0, Fax: ++49 (0) 40 521 45-296
www.tetenal.com; E-mail: info@tetenal.com
- . **Information department:** Department environment and safety. E-Mail: info@tetenal.com
- . **1.4 Emergency telephone number:**
Poison Information Centre Berlin: +49 (0) 30 - 30686 790 (English 24hours)

2: Hazard(s) 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** Not applicable.
- . **Information concerning particular hazards for human and environment:**
The product has to be labeled due to the calculation procedure of international guidelines.
- . **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- . **2.2 Label elements**
- . **Labelling according to Regulation (EC) No 1272/2008** Void
- . **Hazard pictograms** Void
- . **Signal word** Void
- . **Hazard statements** Void
- . **Classification system:**
- . **NFPA ratings (scale 0 - 4)**

 - Health = 0
 - Fire = 0
 - Reactivity = 0
- . **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0
- . **2.3 Other hazards**
- . **Results of PBT and vPvB assessment**
- . **PBT:** Not applicable.
- . **vPvB:** Not applicable.

USA

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Reviewed on 06/19/2013

Trade name: Emofin Step 1 Part B

(Contd. of page 1)

3: Composition/information on ingredients

3.2 Chemical characterization: Mixtures

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

. Dangerous components:

CAS: 497-19-8 Index number: 011-005-00-2 Reg.nr.: 01-2119485498-19-xxxx	Sodium carbonate	⚠ H319	1- <2%
-------------------------------------------------------------------------------	------------------	--------	--------

4: First-aid measures

. 4.1 Description of first aid measures

- . **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.
- . **After swallowing:**
Rinse out mouth and then drink plenty of water.
If symptoms persist consult 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.

5: Fire-fighting measures

. 5.1 Extinguishing media

. Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

. 5.2 Special hazards arising from the substance or mixture

No further relevant information available.

. 5.3 Advice for firefighters

. **Protective equipment:** Mouth respiratory protective device.

6: Accidental release measures

. 6.1 Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Ensure adequate ventilation

. 6.2 Environmental precautions:

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

. 6.3 Methods and material for containment and cleaning up:

Pick up mechanically.

. 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.

7: Handling and storage

. 7.1 Precautions for safe handling

Prevent formation of dust.

. 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 receptacles:** No special requirements.

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Trade name: Emofin Step 1 Part B

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- . **Information about storage in one common storage facility:**
Do not store together with acids.
Store away from foodstuffs.
- . **Further information about storage conditions:**
Store under lock and key and out of the reach of children.
Recommended storage temperature: 5-25 °C
Protect from exposure to the light.
- . **7.3 Specific end use(s)** No further relevant information available.

8: Exposure controls/personal protection

- . **Additional information about design of technical systems:** No further data; see item 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 creation were used as basis.
- . **8.2 Exposure controls**
- . **Personal protective equipment:**
- . **General protective and hygienic measures:**
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
- . **Breathing equipment:** Not required.
- . **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

- . **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	breakthrough-time	layer thickness
Butyl rubber:	≥ 480 min	≥0,4mm
nitrile:	≥480min	≥0,38mm
Neopren:	≥240min	≥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:** Safety glasses
- . **Body protection:** Protective work clothing

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Trade name: Emofin Step 1 Part B

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9: Physical and chemical properties

. 9.1 Information on basic physical and chemical properties

. General Information

. Appearance:

Form:	Solid
Color:	Whitish
Odor:	Odorless

. pH-value at 20 °C (68 °F): 9

. Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

. Flash point: Not applicable.

. Auto igniting: Product is not selfigniting.

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

. Density: Not determined.

. Solubility in / Miscibility with

Water: Fully miscible.

. Viscosity:

Dynamic: Not applicable.

Kinematic: Not applicable.

. Solvent content:

Organic solvents: 0.0 %

Solids content: 100.0 %

. 9.2 Other information: No further relevant information available.

10: Stability and reactivity

. 10.1 Reactivity

. 10.2 Chemical stability

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

. 10.3 Possibility of hazardous reactions

Reacts with acids, alkalis and oxidizing agents.

Reacts with acids releasing sulfur dioxide.

. 10.4 Conditions to avoid: No further relevant information available.

. 10.5 Incompatible materials: No further relevant information available.

. 10.6 Hazardous decomposition products: Irritant gases/vapors

11: Toxicological information

. 11.1 Information on toxicological effects

. Acute toxicity:

. Primary irritant effect:

. on the skin: No irritant effect.

. on the eye: No irritating effect.

. Sensitization: No sensitizing effects known.

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. Additional toxicological information:

. Carcinogenic categories

. IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

. NTP (National Toxicology Program)

None of the ingredients is listed.

12: Ecological information

. 12.1 Toxicity

. Aquatic toxicity: No further relevant information available.

. 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.

. Additional ecological information:

. General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

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

. 12.5 Results of PBT and vPvB assessment

. PBT: Not applicable.

. vPvB: Not applicable.

. 12.6 Other adverse effects No further relevant information available.

13: Disposal considerations

. 13.1 Waste treatment methods

. Recommendation:

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

. Uncleaned packagings:

. Recommendation: Disposal must be made according to official regulations.

14: Transport information

. 14.1 UN-Number

. DOT, ADR, ADN, IMDG, IATA Void

. 14.2 UN proper shipping name

. DOT, ADN, IMDG, IATA Void

. ADR Void

. 14.3 Transport hazard class(es)

. DOT, ADR, ADN, IMDG, IATA

. Class Void

. 14.4 Packing group

. DOT, ADR, IMDG, IATA Void

. 14.5 Environmental hazards:

. Marine pollutant: No

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- | | |
|--------------------------------------------------------------------------------|-----------------|
| . 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. |
| . UN "Model Regulation": | - |

15: Regulatory information

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

. Section 355 (extremely hazardous substances):

None of the ingredient is listed.

. Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

. TSCA (Toxic Substances Control Act):

7757-83-7	sodium sulphite
95-14-7	benzotriazole

. Proposition 65

. Chemicals known to cause cancer:

None of the ingredients is listed.

. Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

. Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

. Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

. Cancerogenity categories

. EPA (Environmental Protection Agency)

None of the ingredients is listed.

. TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

. NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

. OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

- . 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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.

. Department issuing MSDS: Department product safety

. Contact: e-mail: sida@tetenal.com

. 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)

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ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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

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1: Identification

- . **1.1 Product identifier**
- . **Trade name: Emofin Step 2**
- . **Article number:** 100004 Step 2, 44071, 1171/5 Part2
- . **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- . **Application of the substance / the preparation** Developer for photographic use
- . **1.3 Details of the supplier of the safety data sheet**
- . **Manufacturer/Supplier:**
TETENAL Europe GmbH
Schützenwall 31-35
D-22844 Norderstedt/Germany
Phone: ++49 (0) 40 521 45-0, Fax: ++49 (0) 40 521 45-296
www.tetenal.com; E-mail: info@tetenal.com
- . **Information department:** Department environment and safety. E-Mail: info@tetenal.com
- . **1.4 Emergency telephone number:**
Poison Information Centre Berlin: +49 (0) 30 - 30686 790 (English 24hours)

2: Hazard(s) identification

- . **2.1 Classification of the substance or mixture**
 - . **Classification according to Regulation (EC) No 1272/2008**
H319 Causes serious eye irritation.
 - . **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
Irritant
Irritating to eyes.
Contact with acids liberates toxic gas.
 - . **Information concerning particular hazards for human and environment:**
The product has to be labeled due to the calculation procedure of international guidelines.
 - . **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
 - . **2.2 Label elements**
 - . **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labeled according to the CLP regulation.
 - . **Hazard pictograms**
- 

GHS07
- . **Signal word** Warning
 - . **Hazard statements**
H319 Causes serious eye irritation.
 - . **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. |
| P264 | Wash thoroughly after handling. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P337+P313 | If eye irritation persists: Get medical advice/attention. |

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- . **Classification system:**
- . **NFPA ratings (scale 0 - 4)**



Health = 1
Fire = 0
Reactivity = 0

- . **HMIS-ratings (scale 0 - 4)**



Health = 1
Fire = 0
Reactivity = 0

- . **2.3 Other hazards**
- . **Results of PBT and vPvB assessment**
- . **PBT:** Not applicable.
- . **vPvB:** Not applicable.

3: Composition/information on ingredients

- . **3.2 Chemical characterization: Mixtures**
- . **Description:** Mixture of the substances listed below with nonhazardous additions.

. Dangerous components:

CAS: 497-19-8 Index number: 011-005-00-2 Reg.nr.: 01-2119485498-19-xxxx	Sodium carbonate ⚠ H319	25-50%
CAS: 7681-57-4 Index number: 016-063-00-2 Reg.nr.: 01-2119531326-45-xxxx	sodium metabisulphite (sodium disulphite) ⚠ H318; ⚠ H302	1- <2%

4: First-aid measures

- . **4.1 Description of first aid measures**
- . **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. If symptoms persist, consult a doctor.
- . **After swallowing:**
Rinse out mouth and then drink plenty of water.
If symptoms persist consult 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.

5: Fire-fighting measures

- . **5.1 Extinguishing media**
- . **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- . **5.2 Special hazards arising from the substance or mixture**
In certain fire conditions, traces of other toxic gases cannot be excluded.

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- . **5.3 Advice for firefighters**
- . **Protective equipment:** Mouth respiratory protective device.

6: Accidental release measures

- . **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Avoid formation of dust.
- . **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- . **6.3 Methods and material for containment and cleaning up:** Pick up mechanically.
- . **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.

7: Handling and storage

- . **7.1 Precautions for safe handling** Prevent formation of dust.
- . **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 receptacles:** No special requirements.
- . **Information about storage in one common storage facility:**
Do not store together with acids.
Store away from foodstuffs.
- . **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Store under lock and key and out of the reach of children.
Recommended storage temperature: 5-25 °C
Protect from exposure to the light.
- . **7.3 Specific end use(s)** No further relevant information available.

8: Exposure controls/personal protection

- . **Additional information about design of technical systems:** No further data; see item 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 creation were used as basis.
- . **8.2 Exposure controls**
- . **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.
- . **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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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.

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

Neoprene gloves

. Penetration time of glove material

Glove material	breakthrough-time	layer thickness
Butyl rubber:	≥ 480 min	≥0,4mm
nitrile:	≥480min	≥0,38mm
Neopren:	≥240min	≥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:

Safety glasses



Tightly sealed goggles

. Body protection: Protective work clothing

9: Physical and chemical properties

. 9.1 Information on basic physical and chemical properties

. General Information

. Appearance:

Form:	Solid Powder
Color:	White
. Odor:	Recognizable

. pH-value at 20 °C (68 °F): 11

. Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

. Flash point: Not applicable.

. Auto igniting: Product is not selfigniting.

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

. Density: Not determined.

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Trade name: Emofin Step 2

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- . **Solubility in / Miscibility with Water:** Soluble.
- . **Viscosity:**
 - Dynamic:** Not applicable.
 - Kinematic:** Not applicable.
- . **Solvent content:**
 - Organic solvents:** 0.0 %
- . **9.2 Other information** No further relevant information available.

10: Stability and reactivity

- . **10.1 Reactivity**
- . **10.2 Chemical stability**
- . **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- . **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- . **10.4 Conditions to avoid** No further relevant information available.
- . **10.5 Incompatible materials:** Do not store together with acids.
- . **10.6 Hazardous decomposition products:** Irritant gases/vapors

11: Toxicological information

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

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

497-19-8 Sodium carbonate

Oral	LD50	4090 mg/kg (rat) >2000 mg/kg (rabit)
Inhalative	LC50	2h: 2.3 mg/l (rat)

- . **Primary irritant effect:**
 - on the skin:** No irritant effect.
 - on the eye:** Irritating effect.
- . **Sensitization:** No sensitizing effects known.
- . **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- . **Carcinogenic categories**

. **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

. **NTP (National Toxicology Program)**

None of the ingredients is listed.

USA

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Trade name: Emofin Step 2

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12: Ecological information

. 12.1 Toxicity

. Aquatic toxicity:

497-19-8 Sodium carbonate

EC50 48 hr: 265 mg/l (daphnia magna (Großer Wasserfloh))

. 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.

. Additional ecological information:

. General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

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

. 12.5 Results of PBT and vPvB assessment

. PBT: Not applicable.

. vPvB: Not applicable.

. 12.6 Other adverse effects No further relevant information available.

13: Disposal considerations

. 13.1 Waste treatment methods

. Recommendation:

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

. Uncleaned packagings:

. Recommendation: Disposal must be made according to official regulations.

. Recommended cleansing agent: Water, if necessary with cleansing agents.

14: Transport information

. 14.1 UN-Number

. DOT, ADR, ADN, IMDG, IATA Void

. 14.2 UN proper shipping name

. DOT, ADR, ADN, IMDG, IATA Void

. 14.3 Transport hazard class(es)

. DOT, ADR, ADN, IMDG, IATA

. Class Void

. 14.4 Packing group

. DOT, ADR, IMDG, IATA Void

. 14.5 Environmental hazards:

. Marine pollutant: No

. 14.6 Special precautions for user

Not applicable.

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

Not applicable.

. UN "Model Regulation":

-

USA

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Trade name: Emofin Step 2

(Contd. of page 6)

15: Regulatory information

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

. **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

. **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

. **TSCA (Toxic Substances Control Act):**

7757-83-7 sodium sulphite

497-19-8 Sodium carbonate

7732-18-5 water

95-14-7 benzotriazole

. **Proposition 65**

. **Chemicals known to cause cancer:**

None of the ingredients is listed.

. **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

. **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

. **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

. **Carcinogenicity categories**

. **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

. **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

. **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

. **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

- . **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.

- . **Contact:** e-mail: sida@tetenal.com

. **Abbreviations and acronyms:**

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

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

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Trade name: Emofin Step 2

NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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

USA