

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 20.02.2015



version no: 2

Revision: 20.02.2015

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

- . **1.1 Product identifier**
- . **Trade name:** Centrabrom S
- . **Article number:** 107143
- . **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** Black and white 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) 40-52145-296  
www.tetenal.com; E-Mail: info@tetenal.com
  
- TETENAL Ltd.,  
2 Meridian West, Meridian Business Park, Leicester LE19 1WX  
Phone: 0116 - 289 3644; E-Mail: uk@tetenal.com; www.tetenaluk.com
- . **Further information obtainable from:** Department environment and safety. E-Mail: info@tetenal.com
- . **1.4 Emergency telephone number:** Poison Information Centre Berlin (Germany): +49 (0) 30 - 30686 790

#### SECTION 2: Hazards identification

- . **2.1 Classification of the substance or mixture**
- . **Classification according to Regulation (EC) No 1272/2008**
-  GHS07
  
- Skin Sens. 1            H317 May cause an allergic skin reaction.
- .....
- Aquatic Chronic 3   H412 Harmful to aquatic life with long lasting effects.
- 
- . **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**  
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- . **Information concerning particular hazards for human and environment:**  
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- . **Classification system:**  
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
- 
- . **2.2 Label elements**
- . **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.
- . **Hazard pictograms**
-  GHS07
  
- . **Signal word** Warning
- . **Hazard-determining components of labelling:**  
Bis(4-hydroxy-N-methylanilinium) sulphate

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**. Hazard statements**

- H317 May cause an allergic skin reaction.
- H412 Harmful to aquatic life with long lasting effects.

**. Precautionary statements**

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- 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: 111-46-6 EINECS: 203-872-2 Index number: 603-140-00-6	diethylene glycol ☒ Xn R22 ☒ Acute Tox. 4, H302	10-<25%
CAS: 497-19-8 EINECS: 207-838-8 Index number: 011-005-00-2 Reg.nr.: 01-2119485498-19	Sodium carbonate ☒ Xi R36 ☒ Eye Irrit. 2, H319	5-10%
CAS: 55-55-0 EINECS: 200-237-1 Index number: 650-031-00-4	Bis(4-hydroxy-N-methylanilinium) sulphate ☒ Xn R22-48/22; ☒ Xi R43; ☒ N R50/53 ☒ STOT RE 2, H373; ☒ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ☒ Acute Tox. 4, H302; Skin Sens. 1, H317	1- 5%
CAS: 92-43-3 EINECS: 202-155-1 Index number: 606-022-00-2	1-Phenyl-3-pyrazolidone ☒ Xn R22; ☒ N R51/53 ☒ Aquatic Chronic 2, H411; ☒ Acute Tox. 4, H302	0.1 -<1%
CAS: 123-31-9 EINECS: 204-617-8 Index number: 604-005-00-4 Reg.nr.: 01-2119524016-51	hydroquinone ☒ Xn R22-40-68; ☒ Xi R41; ☒ Xi R43; ☒ N R50 Carc. Cat. 3, Muta. Cat. 3 ☒ Muta. 2, H341; Carc. 2, H351; ☒ Eye Dam. 1, H318; ☒ Aquatic Acute 1, H400 (M=10); ☒ Acute Tox. 4, H302; Skin Sens. 1, H317	0.1- <1%

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

### SECTION 4: First aid measures

**. 4.1 Description of first aid measures**

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

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

No further relevant information available.

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- . 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>)  
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
- . 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).  
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.

#### SECTION 7: Handling and storage

- . 7.1 Precautions for safe handling**  
Keep away from heat and direct sunlight.  
Ensure good ventilation/exhaustion at the workplace.
- . Information about fire - and explosion protection:** 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 oxidising and acidic materials.
- . Further information about storage conditions:**  
Recommended storage temperature: 15-25 °C  
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: 5-30 °C  
Protect from exposure to the light.
- . 7.3 Specific end use(s)** No further relevant information available.

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### 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:**

##### 111-46-6 diethylene glycol (10-<25%)

WEL (Great Britain)	Long-term value: 101 mg/m <sup>3</sup> , 23 ppm
WEEL (USA)	Long-term value: 10 mg/m <sup>3</sup>

#### . DNELs

##### 123-31-9 hydroquinone

Dermal	Long-term - systemic - effects, worker	128 mg/kg bw/day (Worker (Arbeiter))
	Long-term - systemic effects, general population	64 mg/kg bw/day (Worker (Arbeiter))
Inhalative	Long-term - local - effects, worker	1 mg/m <sup>3</sup> (Worker (Arbeiter))
	Long-term - local effects, general population	0.5 mg/m <sup>3</sup> (Worker (Arbeiter))
	Long-term - systemic - effects, worker	7 mg/m <sup>3</sup> (Worker (Arbeiter))
	Long-term - systemic effects, general population	1.74 mg/m <sup>3</sup> (Worker (Arbeiter))

#### . PNECs

##### 123-31-9 hydroquinone

Aquatic compartment - freshwater	0.000114 mg/L (Water)
Aquatic compartment - marine water	0.000114 mg/L (Water)
Aquatic compartment -sediment in freshwater	0.00098 mg/kg sed dw (Water)
Aquatic compartment -sediment in marine water	0.000097 mg/kg sed dw (Water)
Aquatic compartment -water, intermittent releases	0.00134 mg/L (Water)
Sewage treatment plant	0.71 mg/L (Sewage Treatment Plant)
Terrestrial compartment -soil	0.000129 mg/kg dw (Soil)

. **Additional information:** The lists valid during the making 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.

##### . 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

##### . 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

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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:** 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:** Light yellow

**. Odour:** Odourless**. pH-value at 20 °C:** 10.5**. Change in condition****Melting point/Melting range:** Undetermined.**Boiling point/Boiling range:** Undetermined.**. Flash point:** Not applicable.**. Ignition temperature:** 230 °C**. Self-igniting:** Product is not selfigniting.**. Danger of explosion:** Product does not present an explosion hazard.**. Explosion limits:**

**Lower:** 0.7 Vol %  
**Upper:** 22.0 Vol %

**. Vapour pressure at 20 °C:** 23 hPa**. Density at 20 °C:** 1.198 g/cm<sup>3</sup>**. Solubility in / Miscibility with water:**

Fully miscible.

**. Viscosity:**

**Dynamic:** Not determined.  
**Kinematic:** Not determined.

**. Solvent content:**

**Organic solvents:** 16.6 %  
**Water:** >63 %

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

## SECTION 10: Stability and reactivity

**. 10.1 Reactivity****. 10.2 Chemical stability****. Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

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- . **10.3 Possibility of hazardous reactions**  
Reacts with alkali, amines and strong acids.  
Reacts with acids releasing sulphur dioxide.
- . **10.4 Conditions to avoid** No further relevant information available.
- . **10.5 Incompatible materials:** No further relevant information available.
- . **10.6 Hazardous decomposition products:**  
Irritant gases/vapours  
Carbon monoxide and carbon dioxide

### SECTION 11: Toxicological information

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

- . **LD/LC50 values relevant for classification:**

#### 111-46-6 diethylene glycol

Oral	LD50	12565 mg/kg (rat)
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#### 497-19-8 Sodium carbonate

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

#### 92-43-3 1-Phenyl-3-pyrazolidone

Oral	LD50	475 mg/kg (rat)
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#### 123-31-9 hydroquinone

Oral	LD50	320 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)

- . **Primary irritant effect:**
- . **on the skin:** No irritant effect.
- . **on the eye:** No irritating effect.
- . **Sensitisation:** Sensitising effect by skin contact is possible by prolonged exposure.

### SECTION 12: Ecological information

- . **12.1 Toxicity**

- . **Aquatic toxicity:**

#### 111-46-6 diethylene glycol

EC50	24h: >1000 mg/l (daphnia magna (Großer Wasserfloh))
LC50	96h: >32000 mg/L (fish (acute toxicity study))

#### 497-19-8 Sodium carbonate

EC50	48 hr: 265 mg/l (daphnia magna (Großer Wasserfloh))
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#### 55-55-0 Bis(4-hydroxy-N-methylanilinium) sulphate

EC50	72h: 10 mg/l (alg)
	19 mg/l (daphnia magna (Großer Wasserfloh))
	48h: 0.02 mg/l (inv)

#### 92-43-3 1-Phenyl-3-pyrazolidone

EC50	96h: 10 mg/l (daphnia magna (Großer Wasserfloh))
LC50	96h: 1-10 mg/L (fish (acute toxicity study))

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### 123-31-9 hydroquinone

EC50 48h: 0.29 mg/l (daphnia magna (Großer Wasserfloh))

LC50 96h: 0.044 mg/L (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:**

Harmful to aquatic organisms

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Danger to drinking water if even small quantities leak into the ground.

. **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.

. **European waste catalogue**

09 01 01 | water-based developer and activator 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

. **14.1 UN-Number**

. **ADR, ADN, IMDG, IATA** Void

. **14.2 UN proper shipping name**

. **ADR, ADN, IMDG, IATA** Void

. **14.3 Transport hazard class(es)**

. **ADR, ADN, IMDG, IATA**

. **Class** Void

. **14.4 Packing group**

. **ADR, IMDG, IATA** Void

. **14.5 Environmental hazards:**

. **Marine pollutant:** No

. **14.6 Special precautions for user**

Not applicable.

. **14.7 Transport in bulk according to Annex II of**

**MARPOL73/78 and the IBC Code** Not applicable.

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. UN "Model Regulation": -

#### SECTION 15: Regulatory information

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

No further relevant information available.

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

#### 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

- H302 Harmful if swallowed.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H341 Suspected of causing genetic defects.
- H351 Suspected of causing cancer.
- 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.
- H411 Toxic to aquatic life with long lasting effects.
- R22 Harmful if swallowed.
- R36 Irritating to eyes.
- R40 Limited evidence of a carcinogenic effect.
- R41 Risk of serious damage to eyes.
- R43 May cause sensitisation by skin contact.
- R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
- R50 Very toxic to aquatic organisms.
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R68 Possible risk of irreversible effects.

. **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 Organisation  
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 DNEL: Derived No-Effect Level (REACH)  
 PNEC: Predicted No-Effect Concentration (REACH)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 Acute Tox. 4: Acute toxicity, Hazard Category 4  
 Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1  
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2  
 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1  
 Muta. 2: Germ cell mutagenicity, Hazard Category 2  
 Carc. 2: Carcinogenicity, Hazard Category 2

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STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2  
Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1  
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1  
Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2  
Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3  
\* **Data compared to the previous version altered.**

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