

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.08.2013

version no: 2

Revision: 05.08.2013

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

- 1.1 Product identifier**
- Trade name:** EUKOBROM (DV-10) B&W PAPER DEVELOPER
- Article number:** 100138
- 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
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**
- | | | |
|-----------------|------|---------------------------------------|
| Muta. 2 | H341 | Suspected of causing genetic defects. |
| Carc. 2 | H351 | Suspected of causing cancer. |
| Eye Dam. 1 | H318 | Causes serious eye damage. |
| Aquatic Acute 1 | H400 | Very toxic to aquatic life. |
| Skin Irrit. 2 | H315 | Causes skin irritation. |
| Skin Sens. 1 | H317 | May cause an allergic skin reaction. |
-
- Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
- Xn; Harmful
R40-68: Limited evidence of a carcinogenic effect. Possible risk of irreversible effects.
.....
Xi; Sensitising
R43: May cause sensitisation by skin contact.
.....
N; Dangerous for the environment
R50: Very toxic to aquatic organisms.
- 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.

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Hazard pictograms


GHS05 GHS07 GHS08 GHS09

Signal word Danger

Hazard-determining components of labelling:

hydroquinone (1,4-dihydroxybenzene)

Hazard statements

- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H317 May cause an allergic skin reaction.
- H341 Suspected of causing genetic defects.
- H351 Suspected of causing cancer.
- H400 Very toxic to aquatic life.

Precautionary statements

- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P281 Use personal protective equipment as required.
- 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.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards
Results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.2 Chemical characterization: Mixtures
Description: Mixture of substances listed below and with nonhazardous additions.

Dangerous components:

CAS: 123-31-9 EINECS: 204-617-8 Index number: 604-005-00-4 Reg.nr.: 01-2119524016-51-xxxx	hydroquinone (1,4-dihydroxybenzene) ☒ 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; ☒ Acute Tox. 4, H302; Skin Sens. 1, H317	3-5%
CAS: 584-08-7 EINECS: 209-529-3 Reg.nr.: 01-2119532646-36-xxxx	potassium carbonate ☒ Xi R36/38 ☒ Skin Irrit. 2, H315; Eye Irrit. 2, H319	1- <3%
CAS: 1330-43-4 EINECS: 215-540-4 Index number: 005-011-00-4	disodium tetraborate, anhydrous ☒ T Repr. Cat. 2 R60-61 ☒ Repr. 1B, H360FD	1- <3%

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
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CAS: 1310-73-2 EINECS: 215-185-5 Index number: 011-002-00-6 Reg.nr.: 01-2119457892-27-xxxx	sodium hydroxide (caustic soda)  C R35  Met. Corr. 1, H290; Skin Corr. 1A, H314	1- <2%
CAS: 67-43-6 EINECS: 200-652-8 Reg.nr.: 01-2119497281-34	Diethylenetriamine pentaacetic acid (DTPA)/ N-carboxymethyliminobis(ethylenenitrilo)tetra(acetic acid)  Xn R20-63;  Xi R36  Repr. 2, H361;  Acute Tox. 4, H332; Eye Irrit. 2, H319	1- <2%
CAS: 92-43-3 EINECS: 202-155-1 Index number: 606-022-00-2	1-phenyl-3-pyrazolidone (Phenidone A)  Xn R22;  N R51/53  Aquatic Chronic 2, H411;  Acute Tox. 4, H302	0.1- <1%

. SVHC

1330-43-4 disodium tetraborate, anhydrous

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

SECTION 4: First aid measures

. 4.1 Description of first aid measures

- . **General information:** Immediately remove any clothing/shoes soiled by the product.
- . **After inhalation:** Supply fresh air and to be sure call for a doctor.
- . **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- . **After eye contact:** Rinse opened eye for several (15 min) 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.

SECTION 5: Firefighting measures

. 5.1 Extinguishing media
. Suitable extinguishing agents:

 CO₂, 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: Do not inhale explosion gases or combustion gases.

SECTION 6: Accidental release measures

. 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.

. 6.2 Environmental precautions:

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).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

. 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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SECTION 7: Handling and storage

. 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

. 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: 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: 15-25 °C

Protect from exposure to the light.

Store under lock and key and with access restricted to technical experts or their assistants only.

. 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:

123-31-9 hydroquinone (1,4-dihydroxybenzene) (3-5%)

WEL (Great Britain) Long-term value: 0.5 mg/m³

PEL (USA) Long-term value: 2 mg/m³

REL (USA) Short-term value: C 2* mg/m³
*15-min

TLV (USA) Long-term value: 1 mg/m³
(SEN) NIC-DSEN

1330-43-4 disodium tetraborate, anhydrous (1- <3%)

WEL (Great Britain) Long-term value: 1 mg/m³

REL (USA) Long-term value: 1 mg/m³
anhydrous

TLV (USA) Short-term value: 6* mg/m³
Long-term value: 2* mg/m³
*as inhalable fraction

1310-73-2 sodium hydroxide (caustic soda) (1- <2%)

WEL (Great Britain) Short-term value: 2 mg/m³

PEL (USA) Long-term value: 2 mg/m³

REL (USA) Short-term value: C 2 mg/m³

TLV (USA) Short-term value: C 2 mg/m³

. DNELs

123-31-9 hydroquinone (1,4-dihydroxybenzene)

Dermal	Long-term - systemic - effects, worker	128 mg/kg bw/day (Worker (Arbeiter))
	Long-term - systemic effects, general population	64 mg/kd bw/day (Worker (Arbeiter))

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Inhalative	Long-term - local - effects, worker	1 mg/m ³ (Worker (Arbeiter))
	Long-term - local effects, general population	0.5 mg/m ³ (Worker (Arbeiter))
	Long-term - systemic - effects, worker	7 mg/m ³ (Worker (Arbeiter))
	Long-term - systemic effects, general population	1.74 mg/m ³ (Worker (Arbeiter))

. PNECs

123-31-9 hydroquinone (1,4-dihydroxybenzene)

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:

- 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.

. Respiratory protection: Ensure adequate ventilation

. Protection of hands:



Protective 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

- Butyl rubber, BR
- Nitrile rubber, NBR
- Neoprene 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.

. Penetration time of glove material

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

Glove material	breakthrough-time	layer thickness
Butyl rubber:	≥ 480 min	≥0,4mm
nitrile:	≥480min	≥0,38mm
Neopren:	≥240min	≥0,65mm

. Eye protection:



Tightly sealed goggles

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. **Body protection:** Protective work clothing

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SECTION 9: Physical and chemical properties

. 9.1 Information on basic physical and chemical properties

. General Information

. Appearance:

Form:	Fluid
Colour:	Colourless
Odour:	Recognizable

. pH-value at 20 °C: 11.3

. Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: > 100 °C

. 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: 1.289 g/cm³

. Solubility in / Miscibility with water: Fully miscible.

. Solvent content:

Organic solvents:	0.0 %
Water:	>80 %

. 9.2 Other information: No further relevant information available.

SECTION 10: Stability and reactivity

. 10.1 Reactivity

. 10.2 Chemical stability

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

. 10.3 Possibility of hazardous reactions: Reacts with acids, alkalis and oxidizing agents.

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

. 10.5 Incompatible materials: No further relevant information available.

. 10.6 Hazardous decomposition products:

Nitrogen oxides (NO_x)
Irritant gases/vapours

SECTION 11: Toxicological information

. 11.1 Information on toxicological effects

. Acute toxicity:

. LD/LC50 values relevant for classification:

123-31-9 hydroquinone (1,4-dihydroxybenzene)

Oral	LD50	320 mg/kg (rat)
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1310-73-2 sodium hydroxide (caustic soda)

Oral	LD50	>2000 mg/kg (rat)
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. 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:** Sensitization possible through skin contact.

. 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:

Harmful

. CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Muta. 2, Carc. 2

SECTION 12: Ecological information

. 12.1 Toxicity
. Aquatic toxicity:
123-31-9 hydroquinone (1,4-dihydroxybenzene)

EC50	48h:	0.29 mg/l (daphnia magna (Großer Wasserfloh))
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LC50	96h:	0.044 mg/L (Pimephales promelas)
------	------	----------------------------------

1310-73-2 sodium hydroxide (caustic soda)

EC50	24h:	76 mg/l (daphnia magna (Großer Wasserfloh))
------	------	---

LC50	48h:	99 mg/L (Lepomis macrochirus)
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	96h:	45.4 mg/L (Oncorhynchus mykiss)
--	------	---------------------------------

- . **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:

Do not allow product to reach ground water, water course or sewage system, even in small quantities. Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Danger to drinking water if even extremely 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
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. Uncleaned packaging:

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

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

SECTION 14: Transport information

. 14.1 UN-Number
. ADR, IMDG, IATA

UN3082

. 14.2 UN proper shipping name
. ADR

3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone)

. IMDG

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone), MARINE POLLUTANT

. IATA

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone)

. 14.3 Transport hazard class(es)

. ADR



. Class

9 (M6) Miscellaneous dangerous substances and articles.

. Label

9

. IMDG, IATA



. Class

9 Miscellaneous dangerous substances and articles.

. Label

9

. 14.4 Packing group
. ADR, IMDG, IATA

III

. 14.5 Environmental hazards:

Product contains environmentally hazardous substances: hydroquinone

. Marine pollutant:

Yes

. Special marking (ADR):

Symbol (fish and tree)

. Special marking (IATA):

Symbol (fish and tree)

Symbol (fish and tree)

. 14.6 Special precautions for user

Warning: Miscellaneous dangerous substances and articles.

. Danger code (Kemler):

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.

. Transport/Additional information:

. ADR

. Limited quantities (LQ)

5L

. Transport category

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. Tunnel restriction code	E
. UN "Model Regulation":	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone), 9, III

SECTION 15: Regulatory information

. **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**

- H290 May be corrosive to metals.
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H341 Suspected of causing genetic defects.
- H351 Suspected of causing cancer.
- H360FD May damage fertility. May damage the unborn child.
- H361 Suspected of damaging fertility or the unborn child.
- H400 Very toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.
- R20 Harmful by inhalation.
- R22 Harmful if swallowed.
- R35 Causes severe burns.
- R36 Irritating to eyes.
- R36/38 Irritating to eyes and skin.
- R40 Limited evidence of a carcinogenic effect.
- R41 Risk of serious damage to eyes.
- R43 May cause sensitisation by skin contact.
- R50 Very toxic to aquatic organisms.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R60 May impair fertility.
- R61 May cause harm to the unborn child.
- R63 Possible risk of harm to the unborn child.
- 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 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
 IATA: International Air Transport Association
 GHS: Globally Harmonized 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)

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DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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

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