

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.01.2011

version no: 1

Revision: 19.01.2011

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

· **Product identifier**

· **Trade name:** EUKOBROM LIQUID B/W PAPER DEVELOPER

· **Article number:** 100294 0,25L, 100296 1L, 44075

· **Relevant identified uses of the substance or mixture and uses advised against**

· **Application of the substance / the preparation**

Developer for photographic use

Black and white developer for photographic use

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

TETENAL AG & CO. KG

Schützenwall 31-35

D-22844 Norderstedt / Germany

Tel.: +49 040 521 45-0

Fax: +49 040-52145-296

www.tetenal.com

E-mail: info@tetenal.com

TETENAL LTD., Unit 1, Foxholes Road

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

· **Emergency telephone number:** Poison Information Centre Berlin (Germany): +49 (0) 30 - 30686 790

2 Hazards identification

· **Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 2 H351 Suspected of causing cancer.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.



GHS07

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; Irritant

R36: Irritating to eyes.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.01.2011

version no: 1

Revision: 19.01.2011

Trade name: EUKOBROM LIQUID B/W PAPER DEVELOPER

(Contd. of page 1)



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.

Label elements
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:


Xn Harmful

N Dangerous for the environment

Hazard-determining components of labelling:

Hydroquinone (1,4-dihydroxybenzene)

Risk phrases:

- 36 Irritating to eyes.
- 40 Limited evidence of a carcinogenic effect.
- 43 May cause sensitisation by skin contact.
- 50 Very toxic to aquatic organisms.
- 68 Possible risk of irreversible effects.

Safety phrases:

- 2 Keep out of the reach of children.
- 29 Do not empty into drains.
- 36/37 Wear suitable protective clothing and gloves.
- 46 If swallowed, seek medical advice immediately and show this container or label.

Other hazards
Results of PBT and vPvB assessment

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

3 Composition/information on ingredients

Chemical characterization: Mixtures

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

Dangerous components:

| | | |
|-------------------|--|--------|
| CAS: 123-31-9 | Hydroquinone (1,4-dihydroxybenzene) | 2.5-5% |
| EINECS: 204-617-8 | Xn R22-40-68; Xi R41; Xi R43; N R50 Muta. 2, H341; Carc. 2, H351; Eye Dam. 1, H318; Aquatic Acute 1, H400; Acute Tox. 4, H302; Skin Sens. 1, H317 | |

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31











Printing date 19.01.2011

version no: 1

Revision: 19.01.2011

Trade name: EUKOBROM LIQUID B/W PAPER DEVELOPER

(Contd. of page 2)

| | | |
|-------------------------------------|--|------|
| CAS: 584-08-7 EINECS: 209-529-3 | potassium carbonate  Xi R36/38  Skin Irrit. 2, H315; Eye Irrit. 2, H319 | 1-5% |
| CAS: 1330-43-4 EINECS: 215-540-4 | disodium tetraborate, anhydrous  T R60-61  Repr. 1B, H360FD | 1-5% |
| CAS: 67-43-6 EINECS: 200-652-8 | Diethylenetriamine pentaacetic acid (DTPA)/ N-carboxymethyliminobis(ethylenitrilo)tetra(acetic acid)  Xi R36  Eye Irrit. 2, H319 | 1-5% |
| CAS: 92-43-3 EINECS: 202-155-1 | 1-phenyl-3-pyrazolidone  Xn R22;  N R51/53  Aquatic Chronic 2, H411;  Acute Tox. 4, H302 | <1% |

- **SVHC**

| | |
|-----------|---------------------------------|
| 1330-43-4 | disodium tetraborate, anhydrous |
|-----------|---------------------------------|

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

4 First aid measures

- **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.
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 (15 min) under running water.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
If symptoms persist consult doctor.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **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.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.01.2011

version no: 1

Revision: 19.01.2011

Trade name: EUKOBROM LIQUID B/W PAPER DEVELOPER

See Section 13 for disposal information.

(Contd. of page 3)

7 Handling and storage

- **Handling:**
- **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.
- **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.

8 Exposure controls/personal protection

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

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

| |
|--|
| 123-31-9 Hydroquinone (1,4-dihydroxybenzene) (2.5-5%) |
|--|

| |
|--|
| WEL Long-term value: 0.5 mg/m ³ |
|--|

| |
|---|
| 1330-43-4 disodium tetraborate, anhydrous (1-5%) |
|---|

| |
|--|
| WEL Long-term value: 1 mg/m ³ |
|--|

- **Additional information:** The lists valid during the making were used as basis.
- **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:** Not necessary if room is well-ventilated.
- **Protection of hands:**



Protective 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**

Butyl rubber, BR
Nitrile rubber, NBR

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.01.2011

version no: 1

Revision: 19.01.2011

Trade name: EUKOBROM LIQUID B/W PAPER DEVELOPER

(Contd. of page 4)

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: Butyl rubber with breakthrough-time: ≥ 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

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **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: $> 100^\circ\text{C}$

- **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: >67 %

10 Stability and reactivity

- **Reactivity**

- **Chemical stability**

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

- **Possibility of hazardous reactions** Reacts with acids, alkalis and oxidizing agents.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.01.2011

version no: 1

Revision: 19.01.2011

Trade name: EUKOBROM LIQUID B/W PAPER DEVELOPER

(Contd. of page 5)

- **Hazardous decomposition products:**
- Nitrogen oxides (NO_x)
- Irritant gases/vapours

11 Toxicological information

- **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) |
|------|------|-----------------|

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **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:
Irritant
- **Sensitisation** May cause sensitisation by skin contact.

12 Ecological information

- **Toxicity**

- **Acquatic toxicity:**

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

| | | |
|------|------|---------------------------|
| EC50 | 48h: | 0.29 mg/l (daphnia magna) |
|------|------|---------------------------|

| | | |
|------|------|----------------------------------|
| LC50 | 96h: | 0.044 mg/l (Pimephales promelas) |
|------|------|----------------------------------|

- **Persistence and degradability** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (German Regulation) (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.
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.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

13 Disposal considerations

- **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 |
|----------|---|

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.01.2011

version no: 1

Revision: 19.01.2011

Trade name: EUKOBROM LIQUID B/W PAPER DEVELOPER

(Contd. of page 6)

- **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:** 9 (M6) Miscellaneous dangerous substances and articles.
- **Danger code (Kemler):** 90
- **UN-Number:** 3082
- **Packaging group:** III
- **Hazard label:** 9
- **Special marking:** Symbol (fish and tree)
- **UN proper shipping name:**
- **Tunnel restriction code E**

· Maritime transport IMDG:



- **IMDG Class:** 9
- **UN Number:** 3082
- **Label:** 9
- **Packaging group:** III
- **EMS Number:** F-A,S-F
- **Marine pollutant:** Yes
- **Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone)

· Air transport ICAO-TI and IATA-DGR:



- **ICAO/IATA Class:** 9
- **UN/ID Number:** 3082
- **Label:** 9
- **Special marking:** Symbol (fish and tree)
- **Packaging group:** III
- **Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone)

- **UN "Model Regulation":** -
- **Special precautions for user** Warning: Miscellaneous dangerous substances and articles.

GB

(Contd. on page 8)

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 19.01.2011

version no: 1

Revision: 19.01.2011

Trade name: EUKOBROM LIQUID B/W PAPER DEVELOPER

(Contd. of page 7)

15 Regulatory information

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



Xn Harmful
N Dangerous for the environment

- **Hazard-determining components of labelling:**
Hydroquinone (1,4-dihydroxybenzene)
- **Risk phrases:**
36 Irritating to eyes.
40 Limited evidence of a carcinogenic effect.
43 May cause sensitisation by skin contact.
50 Very toxic to aquatic organisms.
68 Possible risk of irreversible effects.
- **Safety phrases:**
2 Keep out of the reach of children.
29 Do not empty into drains.
36/37 Wear suitable protective clothing and gloves.
46 If swallowed, seek medical advice immediately and show this container or label.
- **Chemical safety assessment:** A Chemical Safety Assessment has 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.

- **Relevant phrases**
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- 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.
- H360FD May damage fertility. May damage the unborn child.
- H400 Very toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.
- R22 Harmful if swallowed.
- 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.

(Contd. on page 9)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 19.01.2011

version no: 1

Revision: 19.01.2011

Trade name: EUKOBROM LIQUID B/W PAPER DEVELOPER

R68 Possible risk of irreversible effects.

(Contd. of page 8)

· **Department issuing MSDS:** Department product safety· **Contact:** e-mail: sida@tetenal.com· **Abbreviations and acronyms:**

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

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.**

GB