Print developer

Very wide grey range - Exceptional densities
Tones from warm to very warm

BERGGER Warmtone Print

1. Identification

Product identifier :	BERGGER Warmtone Print
Application :	Photographic paper developer
Supplier :	BERGGER SAS, Les plaines de Rejatas, 87260 Vicq-sur-Breuilh
Tél. :	09 66 89 50 26
Emergency (France) :	+33 (0)1 45 42 59 59

2. Hazards identification

Classification according to Regulation (EC) No 1272/2008

Acute Tox.4 H302 Harmful if swallowed.
Muta. 2 H341 Suspected of causing genetic defects.
Carc. 2 H351 Suspected of causing cancer.
Eye Dam. 1 H318 Causes serious eye damage.
Skin Sens. 1 H317 May cause an allergic skin reaction.
Aquatic acute 1 H400 Very toxic to aquatic life.

Hazard pictograms

Signal word

Danger

Hazard-determining components of labelling
Hydroquinone
Potassium Carbonate

Hazard statements

H301 Harmful if swallowed.
H318 Causes serious eye damage.
H312 Harmful in contact with skin.
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

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust
P264 Wash … thoroughly after handling.
P270 Do no eat, drink or smoke when using this product.
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.
P301+P310 **If swallowed** Immediately call a POISON CENTER/doctor.
P330 Rinse mouth.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/ international regulations.

3. Composition/information on ingredients

Mixtures

Mixture of the substances listed below with harmless additions.

Part 2 - Mixtures

Mixture of the substances listed below with harmless additions.

Dangerous components		
CAS: 123-31-9 EINECS: 204-617-8	**1,4-dihydroxybenzene (hydroquinone)** Muta. 2, H341; Carc. 2, H351 Eye Dam. 1, H318 Aquatic Acute 1, H400 Acute Tox. 4, H302; Skin Sens. 1, H317	0.5 - 2%
CAS: 584-08-7 EINECS: 209-529-3	**Potassium carbonate** Skin Irrit. 2 H315 Eye Irrit.2 H319 Specific toxicity. 2 (respiratory) H335	15 - 20%

4. First aid mesures

General information
Instantly remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 24 hours after the accident.

After inhalation Unlikely route of exposure as the product does not contain volatile substances. Move the exposed person to fresh air at once. Provide rest, warmth and fresh air. Get medical attention if any discomfort continues.

After skin contact Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Contact physician if irritation continues.

After eye contact Remove victim immediately from source of exposure. Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Contact physician if irritation persists.

After swallowing NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Remove victim immediately from source of exposure. Rinse mouth thoroughly. Drink a few glasses of water or milk. Provide rest, warmth and fresh air. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Get medical attention.

5. Firefighting measures

Suitable extinguishing agents
CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
For safety reasons unsuitable extinguishing agents Water with a full water jet.

Special hazards arising from the substance or mixture Can be released in case of fire
Carbon monoxide, Sulphur Dioxide (SO2)

Advice for firefighters
Protective equipment
Do not inhale explosion gases or combustion gases.
Wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear protective clothing.
Avoid causing dust.

Environmental precautions:
Inform respective authorities in case product reaches water or sewage system.
Do not allow to enter drainage system, surface or ground water.

Methods and material for containment and cleaning up:
Dispose of contaminated material as waste according to item 13.

Reference to other sections
See Section 8 for information on personal protection equipment.

7. Handling and storage

Precautions for safe handling
Open and handle container with care.
Prevent formation of dust.

Information about protection against explosions and fires: No special measures required.

Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and containers: No special requirements.

Information about storage in one common storage facility:
Keep away from foodstuffs, beverages and food.

Further information about storage conditions:
Store in closed original container in a dry place. Store under well-ventilated conditions at a temperature below 25°C.

Storage class Chemical storage

Specific end use(s) No further relevant information available.

8. Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:
123-31-9 1,4-dihydroxybenzene (hydroquinone)
WEL Long-term value: 0.5 mg/m³

Additional information:
The lists that were valid during the compilation were used as basis.

Exposure controls

General protective and hygienic measures
The usual precautionary measures should be adhered to general rules for handling chemicals.
Keep away from foodstuffs, beverages and food.
Take off immediately all contaminated clothing.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.
Do not eat, drink or smoke while working.

Personal protective equipment

Breathing equipment: Not required.

Protection of hands:
Protective gloves. The protective gloves to be used must comply with the specifications of the EC directive 89/686/EEC and the resultant standard EN 374.
This recommendation applies only to the product stated in the Safety Data Sheet and supplied by us as well as to the purpose specified by us.
Only use chemical-protective gloves with CE-labelling of category III.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Penetration time of glove material
The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:
Synthetic gloves

Value for permeation: Level:
>= 3 (60 min)

Not suitable are gloves made of the following materials:
Natural rubber, NR

Eye protection: Tightly sealed safety glasses or face shield.

Body protection: Protective work clothing.

9. Physical and chemical properties

Information on basic physical and chemical properties	
Appearance	
Form	Fluid
Colour	Colourless / Clear
Odour	Not characteristic
pH Value at 25°C	10,8
Boiling point / Boiling Range	> 100°C
Ignition temperature	Not determinated
Self-inflammability	Product is not selfigniting.
Danger of explosion	Product is not explosive.
Vapour pressure at 20°C	23 hPa
Density at 20°C	1,28 g/cm³
Solubility in / Miscibility with	
Water	miscible
Solvent content	
ogranic solvents	0.0%
water	~ 70%
Other information	No further relevant information available.

10. Stability and reactivity

Reactivity

Chemical stability
Stable under the prescribed storage conditions. No particular stability concerns.

Possibility of hazardous reactions Reacts with strong acids

Conditions to avoid Avoid contact with acids.

Materials to avoid Avoid contact with other photographic solutions and/or cleaning compounds.

Hazardous decomposition products:
No dangerous decomposition products known

11. Toxicological information

Information on toxicological effects
This chemical formulation has not been tested for health effects. Exposure effects listed are based on existing health data for the individual components which comprise the mixture.

Acute toxicity **LD/LC50 values that are relevant for classification:**		
123-31-9 1,4-dihydroxybenzene (hydroquinone)		
Oral Dermal	LD50 LD50	320 mg/kg (rat) >900 mg/kg (rat)
584-08-7 potassium carbonate		
Oral	LD50	> 2000 mg/kg (rat)

Subacute to chronic toxicity:
Limited evidence of a carcinogenic effect.
Possible risk of irreversible effects.

Additional toxicological information:
Hydroquinone has been included in the German «TRGS 905» (Technical Rules for Dangerous Substances/Index of carcinogen and mutagen substances or substances dangerous to reproductive systems), and has been classified as «Category 3» of carcinogen and mutagen substances (3 = category of lowest dangerousness). The according EU committees have not yet evaluated this classification.

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
Muta. 2, Carc. 2 for Hydroquinone

12. Ecological informations

Toxicity

Dangerous for the environment

HYDROQUINONE
EC50/48 h 0.29 mg/l (Daphnia magna)
IC50/72 h 0.335 mg/l (Selenastrum capricornutum)
LC50/96 h 0.044 mg/l (Pimephales promelas)

POTASSIUM CARBONATE
EC50/48 h 380-820 mg/l (Daphnia magna)

Persistence and degradability Not determined

Bioaccumulative potential Not determined

Behaviour in environmental systems: Not determined

Mobility in soil No further relevant information available.

Ecotoxical effects: No further relevant information available.

Other adverse effects No further relevant information available.

13. Disposal considerations

Waste treatment methods
Recommendation
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Must be specially treated under adherence to official regulations.

European waste catalogue
09 01 01 - water-based developer and activator solutions

Uncleaned packagings
Recommendation:
Non contaminated packagings can be used for recycling.
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

Recommended cleaning agent: Water, if necessary with cleaning agent.

14. Transport information

UN-Number **ADR, IMDG, IATA**	UN3077
UN proper shipping name **ADR** **IMDG, IATA**	TOXIC SOLID ORGANIC, N.O.S. (1-Phenyl-3-pyrazolidone) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1,4-dihydroxybenzene (hydroquinone)) TOXIC SOLID ORGANIC, N.O.S. (1-Phenyl-3-pyrazolidone) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (hydroquinone)
Transport hazard class(es) **ADR, IMDG, IATA** **Class**	 9 Miscellaneous dangerous substances and articles.
Packing group **ADR, IMDG, IATA**	III
Environmental hazards **Marine pollutant** **Special Marking (ADR)** **Special Marking (IATA)**	 Symbol (fish and tree) Symbol (fish and tree) Symbol (fish and tree)
Special precautions for user **Kemler number**	Warning: Miscellaneous dangerous substances and articles. 90
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable
Transport/Additional information: **ADR** **IMDG** **IATA**	These substances when transported in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less for liquids or having a net mass of 5 kg or less for solids, are not subject to any other provisions of these Regulations provided the packagings meet the general. See the following notes. Goods are not subject to the provisions in accordance with the special provision 375 ADR. Goods are not subject to the provisions in accordance with 2.10.2.7 IMDG-Code. Goods are not subject to the provisions in accordance with the special provision 197 IATADGR.

15. Regulatory information

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

Information about limitation of use
Employment restrictions concerning pregnant and lactating women must be observed.

Class	Share in %
I	1.9

Water hazard class: Water danger class 2 (Self-assessment): water-endangering
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing data specification sheet:
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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)
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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

Sources
applicable EEC directives: 1907/2006, 1272/2008
Internal physical tests of Calbe Chemie Laboratory, MSDS of the ingredients,
Information system on hazardous substances of the German Social Accident Insurance (GESTIS-database on hazardous substances), http://www.dguv.de/ifa/en/gestis/stoffdb/index.jsp)