

Film developer

Very fine grain - Sharpness
Detailed highlights

BERGGER PMK

1. Identification

Product identifier : BERGGER PMK
Application : Photographic 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

Part A (Pryrogallol & Genol)

Classification according to Regulation (EC) No 1272/2008

Acute Tox. 3 H301 Toxic if swallowed.
Acute Tox. 4 H332 Harmful if inhaled.
Acute Tox. 4 H312 Harmful in contact with skin.
Skin Irritation. 2 H315 Causes skin irritation.
Target Tox. 3 H335 May cause respiratory irritation.
Eye dam. 2 H319 Causes serious eye irritation.
Muta. 2 H341 Suspected of causing genetic defects .
Target Tox 3. H373 May cause damage to organs through prolonged or repeated exposure (if swallowed).
Aquatic acute. 1 H400 Very toxic to aquatic life.
Aquatic Long-Term 1, H410 Very toxic to aquatic life with long lasting effects.

Hazard pictograms



Signal word

Danger

Hazard-determining components of labelling

Pyrogallol
Sodium bisulfite
Metol

Hazard statements

Acute Tox. 3 H301 Toxic if swallowed.
Acute Tox. 4 H332 Harmful if inhaled.
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Aquatic acute. 1 H400 Very toxic to aquatic life.
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Precautionary statements

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.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 **If on skin** wash with plenty of soap and water.
P304+P340 **If inhaled** remove victim to fresh air and keep at rest in a position comfortable for breathing.
P301+P312 **If swallowed** call a POISON CENTER or doctor/physician if you feel unwell.
P305+P351+P338 **If in eyes** rinse cautiously with water for several minutes, Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 **If exposed or concerned** get medical advice/attention.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P330 – Rinse mouth.
P332+P313 If skin irritation occurs get medical advice/attention.
P337+P313 If eye irritation persists: get medical advice/attention.
P362+P364 Take off contaminated clothing and wash before reuse.
P403+P233 Store in a well-ventilated place & keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Part B

Classification according to Regulation (EC) No 1272/2008

Skin Irrit.2, H315 Causes skin irritation
Eye Irrit.2, H319 Causes serious eye irritation
STOT SE 3, H335, May cause respiratory irritation

Hazard pictograms



Signal word

Attention

Hazard-determining components of labelling

Metaborate Sodium

Hazard statements

H315 Causes skin irritation
H319 Causes serious eye irritation
H335 May cause respiratory irritation

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash ... thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN:Wash with plenty of soap and water.
P304+P340 IF INHALED:Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 IF IN EYES:Rinse cautiously with water for several minutes.Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P332+P313 If skin irritation occurs Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention
P362+P364 Take off contaminated clothing and wash before reuse.
P403+P233, Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

3. Composition/information on ingredients

Part A - Mixtures

Mixture of the substances listed below with harmless additions.

Dangerous components		
CAS: 87-66-1 EINECS : 201-762-9	Pyrogallol Acute Tox. 3 H301 Acute Tox. 4 H332 Acute Tox. 4 H312 Skin Irritation. 2 H315 Eye Dam.2 H319 Muta. 2 H341 Aquatic Tox. 3 H402 Aquatic Long Term 3. H413	5-10%
CAS: 7631-90-5 EINECS : 231-673-0	Sodium Bi-Sulphite Acute Tox. 4, H302 Eye Dam 2., H319	<5%
CAS: 55-55-0 EINECS : 200-237-1	Metol Acute Tox. 4, H302 , Skin Sens 2., H317, Target Tox. 3, H373, Aquatic Tox.1, H400, Aquatic Long- Term 1., H410	<1%

Part B - Mixtures

Mixture of the substances listed below with harmless additions.

Dangerous components		
CAS: 10555-76-7 EINECS: 231-891-6	Sodium metaborate tetrahydrate Skin Irrit.2, H315 Eye Irrit.2, H319 STOT SE 3, H335	15-25%

4. First aid measures

Parts A & B

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

Parts A & B

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 oxides Nitrogen oxides Silicates, Sodium oxides, Borum Oxide

Advice for firefighters

Protective equipment

Do not inhale explosion gases or combustion gases.

Wear self-contained breathing apparatus.

6. Accidental release measures

Parts A & B

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 & Storage

Parts A & B

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

Parts A & B

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

Sodium Tetraborate

WEL Long-term value: 1 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

Material of gloves

Nitrile rubber, NBR

Butyl rubber, BR

Fluorocarbon rubber (Viton)

Chloroprene rubber, CR

Recommended thickness of the material: ≥ 0.5 mm

Penetration time of glove material

Value for permeation: Level \leq (480 min)

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		
	Part A	Part B
<i>Appearance</i>		
Form	Liquid	Liquid
Colour	Clear / Yellow	Clear / Transparent
Odour	Not Characteristic	Not Characteristic
<i>Ignition temperature</i>	Not determined	
<i>Self-inflammability</i>	Product is not selfigniting.	
<i>Danger of explosion</i>	Product is not explosive.	
<i>Solubility in</i>		
water	miscible	miscible
<i>Solvent content</i>		
water	80%	75%
<i>Other information</i>	No further relevant information available.	

10. Stability and reactivity

Parts A & B

Reactivity

Chemical stability

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

Possibility of hazardous reactions No dangerous reactions known

Conditions to avoid Avoid contact with acids. Avoid excessive heat for prolonged periods of time.

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

Hazardous decomposition products:

Part A Oxides of Sulphur, Sodium oxides

Part B Sodium oxide, Boron oxide

11. Toxicological information

Part A

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:		
Pyrogallol		
Oral	LD 50	300 mg/kg (rat)
Sodium Bisulfite		
Oral	LD50	2000 mg/kg (rat)
Metol		
Oral	LD50	565 mg/kg (rat)

Subacute to chronic toxicity:

Possible risk of irreversible effects.

Part B

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:		
Sodium metaborate tetrahydrate		
Oral	LD 50	2330 mg/kg (rat)

Specific target organ system toxicity : May cause respiratory irritation

12. Ecological informations

Part A

Toxicity

Dangerous for the environment: May cause long-term adverse effects in the aquatic environment.

Pyrogallol

LC50 - Danio rerio (zebra fish) - 41.8 mg/l - 96.0 h

Sodium Bisulphite

LC50: = 240 mg/L, 96h static (Gambusia affinis)

EC50: = 119 mg/L, 48h (Daphnia magna)

Metol

EC50 0,019 mg/l daphnia magna 96 h

LC50 0,25 mg/l Pimephales promelas 96 h

Persistence and degradability Not determined

Bioaccumulative potential Not determined

Behaviour in environmental systems: Not determined

Mobility in soil No further relevant information available.

Ecotoxic effects: No further relevant information available.

Remark: Very toxic for fish

Other adverse effects No further relevant information available.

Part B

Toxicity No further relevant information available

13. Disposal considerations

Parts A & B

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.

14. Transport information

Parts A & B

UN-Number ADR, IMDG, IATA	UN2811 UN3077
UN proper shipping name ADR	TOXIC LIQUID ORGANIC, N.O.S. (Pyrogallol, Metol)
IMDG, IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Pyrogallol, Metol)
Transport hazard class(es) ADR, IMDG, IATA	TOXIC LIQUID ORGANIC, N.O.S. (Pyrogallol, Metol)
	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Pyrogallol, Metol)
Class	6 Toxic and Infectious Substances 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: Toxic substances. 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

Parts A & B

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.

Water hazard class: highly water-endangering.

Other regulations, limitations and prohibitive regulations

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:

BERGGER SAS, Les Plaines de Réjatas, 87260 Vicq Sur Breuilh, France.

Tel. +33 (0)9 66 89 50 26;

email: info@bergger.com

www.bergger.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)

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

European Photographic Chemical Industry Code of Practice For Classification And Labelling Material Safety Data

Sheet, Misc. manufacturers. Dangerous Properties of Industrial Chemicals, 6.edition, N.Sax, 1984.