

SECTION 1: Identification of the substance/mixture and of the company/undertaking
. 1.1 Product identifier

. **Trade name:** Adox MCC Developer

. **Article number:** 105106

. 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** Developer for photographic use

. 1.3 Details of the supplier of the safety data sheet

. **Manufacturer/Supplier:**

ADOX Fotowerke GmbH
 Pieskower Str. 30 A
 15526 Bad Saarow / Germany
 www.adox.de

. **Further information obtainable from:** ADOX: +49 (0) 33631 6459-0 E-mail: info@adox.de

. **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**



GHS08

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 2 H351 Suspected of causing cancer.



GHS05

Eye Dam. 1 H318 Causes serious eye damage.



GHS09

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; Sensitising

R43: May cause sensitisation by skin contact.



N; Dangerous for the environment

R50: Very toxic to aquatic organisms.

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Trade name: Adox MCC Developer

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. 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


GHS05

GHS07

GHS08

GHS09

. Signal word Danger
. Hazard-determining components of labelling:

hydroquinone

4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one (HMP)

. Hazard statements

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 / eye 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.

P310 Immediately call a POISON CENTER/doctor.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P302+P352 IF ON SKIN: Wash with plenty of 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	1-5%
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	1- 5%

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		(Contd. of page 2)
CAS: 1332-77-0 EINECS: 215-575-5	dipotassium tetraborate  Xn R63  Repr. 2, H361	1- <2%
CAS: 13047-13-7 EINECS: 235-920-3	4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one (HMP)  Xn R22;  Xi R43;  N R51/53  Aquatic Chronic 2, H411;  Acute Tox. 4, H302; Skin Sens. 1, H317	<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**
- . **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:** 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.
- . **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**
Nitrogen oxides (NO_x)
Carbon monoxide (CO)
Sulphur dioxide (SO₂)
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- . **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 equipment. Keep unprotected persons away.
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).
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.
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:** Protect from heat.

. 7.2 Conditions for safe storage, including any incompatibilities

. Storage:

. **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.

. Information about storage in one common storage facility:

Store away from foodstuffs.
Store away from oxidising agents.

. 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: 5-30 °C

. **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:

111-46-6 diethylene glycol (3-5%)

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

123-31-9 hydroquinone (1- <3%)

WEL (Great Britain)	Long-term value: 0.5 mg/m ³
PEL (USA)	Long-term value: 2 mg/m ³
REL (USA)	Ceiling limit: 2* mg/m ³ *15-min
TLV (USA)	Long-term value: 1 mg/m ³ DSEN

. 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/kd bw/day (Worker (Arbeiter))
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

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)

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. **Additional information:** The lists valid during the making were used as basis.

. **8.2 Exposure controls**

. **Personal protective equipment:**

. **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

. **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

. **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

Neoprene gloves

. **Penetration time of glove material**

Glove material	breakthrough-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:**



Tightly sealed goggles

. **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:** Recognisable

. **Odour threshold:** Not determined.

. **pH-value at 25 °C:** 11.3

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. Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	> 100 °C
. Flash point: Not applicable.	
. Flammability (solid, gaseous): Not applicable.	
. Ignition temperature:	
Decomposition temperature:	Not determined.
. Self-igniting: Product is not selfigniting.	
. Danger of explosion: Product does not present an explosion hazard.	
. Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
. Vapour pressure at 20 °C: 23 hPa	
. Density at 20 °C: 1.339 g/cm ³	
. Relative density Not determined.	
. Vapour density Not determined.	
. Evaporation rate Not determined.	
. Solubility in / Miscibility with water: Fully miscible.	
. Partition coefficient (n-octanol/water): Not determined.	
. Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
. Solvent content:	
Organic solvents:	4.2 %
Water:	>67 %
VOC (EC)	4.18 %
. 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: Stable at environment temperature.
- . 10.3 Possibility of hazardous reactions Reacts with acids, alkalis and oxidising agents.
- . 10.4 Conditions to avoid No further relevant information available.
- . 10.5 Incompatible materials: Under certain fire conditions, traces of other toxic gases cannot be excluded.
- . 10.6 Hazardous decomposition products: Irritant gases/vapours

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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Trade name: Adox MCC Developer

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123-31-9 hydroquinone

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

13047-13-7 4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one (HMP)

Oral	LD50	566 mg/kg (rat)
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. **Primary irritant effect:**

- . **on the skin:** No irritant effect.
- . **on the eye:** Strong irritant with the danger of severe eye injury.
- . **Sensitisation:** Sensitisation 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

. **Acute effects (acute toxicity, irritation and corrosivity)**

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

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

Muta. 2, Carc. 2

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))

123-31-9 hydroquinone

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

13047-13-7 4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one (HMP)

LC50	1-10 mg/L (fish (acute toxicity study))
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. **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:** Very toxic for fish

. **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.

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

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

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.

. **12.5 Results of PBT and vPvB assessment**

. **PBT:** Not applicable.

. **vPvB:** Not applicable.

. **12.6 Other adverse effects** No further relevant information available.

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Trade name: Adox MCC Developer

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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.

. 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, 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

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Trade name: Adox MCC Developer

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. 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
. Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
. Transport category	3
. Tunnel restriction code	E
. IMDG	
. Limited quantities (LQ)	5L
. Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
. UN "Model Regulation":	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone), 9, III

SECTION 15: Regulatory information

- . **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- . **Labelling according to Regulation (EC) No 1272/2008** GHS label elements
- . **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.
- H341 Suspected of causing genetic defects.
- H351 Suspected of causing cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H400 Very toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.
- R22 Harmful if swallowed.
- 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.
- R63 Possible risk of harm to the unborn child.
- R68 Possible risk of irreversible effects.

. 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)
 VOC: Volatile Organic Compounds (USA, EU)

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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

Acute Tox. 4: Acute toxicity, Hazard Category 4

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Muta. 2: Germ cell mutagenicity, Hazard Category 2

Carc. 2: Carcinogenicity, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

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