

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 21.06.2010

Version 1

Revision: 21.06.2010

1 Identification of substance:

- **Product details:**
- **Trade name:** **ADOX ADONAL**
- **Application of the substance / the preparation** Photographic developer
- **Manufacturer/Supplier:**
 FOTOIMPEX GmbH
 Pieskower Str. 30 A
 D-15526 Bad Saarow
 Tel.: +49 (0)33631 438556
 Fax: +49 (0)30/28599475
 http://www.fotoimpex.de
- **Informing department:**
 Tel.: +49 (0)33631 438556
 Fax: +49 (0)30/28599475
 E-mail: info@fotoimpex.de
- **Emergency information:** Tel.: 0700-24112112 (CAL)

2 Hazards identification

- **Hazard designation:**



C Corrosive
 N Dangerous for the environment

- **Information pertaining to particular dangers for man 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.

R 34 Causes burns.

R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 68 Possible risk of irreversible effects.

- **Classification system**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

3 Composition/information on ingredients

- **Chemical characterization**
- **Description:** Mixture of the substances listed below with harmless additions.

- **Dangerous components:**

CAS: 123-30-8 EINECS: 204-616-2	4-aminophenol	Xn, N; R 20/22-68-50/53	2.0-5.0%
CAS: 1310-58-3 EINECS: 215-181-3	potassium hydroxide	C, Xn; R 22-35	2.0-5.0%
CAS: 7440-66-6 EINECS: 231-175-3	zinc powder -zinc dust (pyrophoric)	F, N; R 15-17-50/53	< 0.5%

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

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4 First aid measures

- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water (> 15 min). Then consult doctor.
- **After swallowing**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; instantly call for medical help.
- **Information for doctor**
- **The following symptoms may occur:** No known symptoms to date.

5 Fire fighting measures

- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **Special hazards caused by the material, its products of combustion or resulting gases:**
Can be released in case of fire
sulphur dioxide (SO₂)
Carbon monoxide (CO)
- **Protective equipment:** Do not inhale explosion gases or combustion gases.
- **Additional information** The product is not flammable

6 Accidental release measures

- **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:**
Inform respective authorities in case product reaches water or sewage system.
Do not allow to enter drainage system, surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Ensure adequate ventilation.
- **Additional information:**
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

7 Handling and storage

- **Handling**
- **Information for safe handling:** No special precautions necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and containers:** No special requirements.

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- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in a cool place.
- **Recommended storage temperature:** 5-30°C
- **Storage class** LGK 8B (VCI-Concept)

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see section 7.

- **Components with limit values that require monitoring at the workplace:**

1310-58-3 potassium hydroxide

WEL	Short-term value: 2 mg/m ³
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- **Additional information:** The lists that were valid during the compilation were used as basis.
- **Personal protective equipment**
- **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.
- **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
Recommended thickness of the material: ≥ 0.38 mm
- **Penetration time of glove material**
Value for permeation: Level ≥ 6 (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.
- **As protection from splashes 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.

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- **Body protection:** Protective work clothing.

9 Physical and chemical properties:

· General Information

Form:	Fluid
Colour:	Dark brown
	Clear
Odour:	Not characteristic

· Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	100°C

- **Flash point:** Not applicable

- **Self-inflammability:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive.

- **Vapour pressure at 20°C:** 23 hPa

- **Density at 20°C** 1.36 g/cm³

· Solubility in / Miscibility with

Water:	miscible
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- **pH-value at 20°C:** 11.8

· Viscosity:

dynamic:	Not determined
kinematic:	Not determined

· Solvent content:

Organic solvents:	0.0 %
Water:	60.3 %

Solids content:	39.4 %
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10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

· **Materials to be avoided:**

· **Dangerous reactions**

Reacts with strong acids
Reacts with acids releasing sulphur dioxide

· **Dangerous products of decomposition:** No dangerous decomposition products known

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11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

123-30-8 4-aminophenol

Oral	LD50	375 mg/kg (rat)
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1310-58-3 potassium hydroxide

Oral	LD50	365 mg/kg (rat)
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- **Primary irritant effect:**

- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effect known.
- **Subacute to chronic toxicity:** Possible risk of irreversible effects.

- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological information:

- **Information about elimination (persistence and degradability):** Not determined

- **Behaviour in environmental systems:** Not determined

- **Mobility and bioaccumulation potential:** Not determined

- **Ecotoxicological effects:** Not determined

- **Aquatic toxicity:** Not determined

- **Remark:** Toxic for fish

- **Additional ecological information:**

- **General notes:**

Water hazard class 3 (German Regulation) (Self-assessment): highly water-endangering.

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

13 Disposal considerations

- **Product:**

- **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
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- **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

- **Land transport ADR/RID (cross-border)**



- **ADR/RID-GGVS/E Class:** 8 Corrosive substances.
- **Kemler Number:** 80
- **UN-Number:** UN 1814
- **Packaging group:** III
- **Label:** 8
- **Special marking:** Symbol (fish and tree)
- **Designation of goods:** POTASSIUM HYDROXIDE SOLUTION
- **Limited quantities (LQ):** LQ7
- **Remarks:** "Limited quantity" according to chapter 3.4 ADR, if carried in combination packagings with not more than 5 litres per inner packaging and not more than 30 kg litres per package

- **Maritime transport IMDG:**



- **IMDG Class:** 8
- **UN Number:** UN 1814
- **Label:** 8
- **Packaging group:** III
- **EMS Number:** F-A,S-B
- **Correct technical name:** POTASSIUM HYDROXIDE SOLUTION
- **Remarks:** "Limited quantity" according to chapter 3.4 IMDG, if carried in combination packagings with not more than 5 litres per inner packaging and not more than 30 kg per package

- **Air transport ICAO-TI and IATA-DGR:**



- **ICAO/IATA Class:** 8
- **UN/ID Number:** UN 1814
- **Label:** 8
- **Packaging group:** III
- **Correct technical name:** POTASSIUM HYDROXIDE SOLUTION

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· **Remarks:** Packing Instruction
PAX 819, CAO 821

15 Regulatory information

· **Designation according to EC guidelines:**

The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

· **Code letter and hazard designation of product:**



C Corrosive
N Dangerous for the environment

· **Hazard-determining components of labelling:**

4-aminophenol
potassium hydroxide

· **Risk phrases:**

34 Causes burns.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
68 Possible risk of irreversible effects.

· **Safety phrases:**

1/2 Keep locked up and out of the reach of children.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
61 Avoid release to the environment. Refer to special instructions/safety data sheets.

· **National regulations**

· **Technical instructions (air):**

Class	Share in %
I	4.2

· **Water hazard class:** Water danger class 3 (Self-assessment): highly water-endangering.

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.

· **Relevant R-phrases**

15 Contact with water liberates extremely flammable gases.
17 Spontaneously flammable in air.
20/22 Harmful by inhalation and if swallowed.
22 Harmful if swallowed.
35 Causes severe burns.
50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
68 Possible risk of irreversible effects.

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Sources

Internal physical tests, 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>
applicable EEC directives:
- 67/548/EC
- 1999/45/EC

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