

SECTION 1: Identification of the substance/mixture and of the company/undertaking
. 1.1 Product identifier
. Trade name: ADOX ADOFIX Plus
. Article number: 105107

. 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 Fixing bath 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


GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

. Classification according to Directive 67/548/EEC or Directive 1999/45/EC Not applicable.

. 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


GHS07

. Signal word Warning

. Hazard statements

H319 Causes serious eye irritation.

. Precautionary statements

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.

P337+P313 If eye irritation persists: Get medical advice/attention.

. 2.3 Other hazards
. Results of PBT and vPvB assessment
. PBT: Not applicable.

(Contd. on page 2)

Trade name: ADOX ADOFIX Plus

(Contd. of page 1)

. 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: 64-19-7 EINECS: 200-580-7 Index number: 607-002-00-6 Reg.nr.: 01-2119475328-30	acetic acid  C R35 R10  Flam. Liq. 3, H226;  Met. Corr. 1, H290; Skin Corr. 1A, H314	1-5%
CAS: 10043-35-3 EINECS: 233-139-2 Index number: 005-007-00-2 Reg.nr.: 01-2119486683-25	boric acid  T Repr. Cat. 2 R60-61  Repr. 1B, H360FD	1-5%
CAS: 7681-57-4 EINECS: 231-673-0 Index number: 016-063-00-2 Reg.nr.: 01-2119531326-45	sodium metabisulphite  Xn R22;  Xi R41 R31  Eye Dam. 1, H318;  Acute Tox. 4, H302	1-5%

. SVHC

10043-35-3 boric acid

. **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 skin contact:** Immediately rinse with water.
- . **After eye contact:** Rinse opened eye for several (15 min) under running water.
- . **After swallowing:** If symptoms persist consult doctor.

. 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)

. 5.3 Advice for firefighters

. **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

. 6.1 Personal precautions, protective equipment and emergency procedures Ensure adequate ventilation

. 6.2 Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

(Contd. on page 3)

Trade name: ADOX ADOFIX Plus

(Contd. of page 2)

- . **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- . **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.

SECTION 7: Handling and storage

- . **7.1 Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- . **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.
- . **Further information about storage conditions:**
Protect from heat and direct sunlight.
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:**

64-19-7 acetic acid (1- <3%)

IOELV (EU)	Long-term value: 25 mg/m ³ , 10 ppm
PEL (USA)	Long-term value: 25 mg/m ³ , 10 ppm
REL (USA)	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm
TLV (USA)	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm

10043-35-3 boric acid (1- <2%)

TLV (USA)	Short-term value: 6* mg/m ³ Long-term value: 2* mg/m ³ *as inhalable fraction
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7681-57-4 sodium metabisulphite (1- <2%)

WEL (Great Britain)	Long-term value: 5 mg/m ³
REL (USA)	Long-term value: 5 mg/m ³
TLV (USA)	Long-term value: 5 mg/m ³

- . **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.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

- . **Respiratory protection:** Ensure adequate ventilation

- . **Protection of hands:**

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

(Contd. on page 4)

Trade name: ADOX ADOFIX Plus

(Contd. of page 3)

. 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 through time has to be found out by the manufacturer of the protective gloves and has to be observed.

. Eye protection: Goggles recommended during refilling

. 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 20 °C: 5.5

. Change in condition
Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

. 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: 1.287 g/cm³
. 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.

(Contd. on page 5)

Trade name: ADOX ADOFIX Plus

(Contd. of page 4)

Kinematic:	Not determined.
. Solvent content:	
Organic solvents:	2.0 %
VOC (EC)	2.02 %
. 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** No dangerous reactions known.
- . **10.4 Conditions to avoid** No further relevant information available.
- . **10.5 Incompatible materials:** No further relevant information available.
- . **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:

64-19-7 acetic acid

Oral	LD50	3310 mg/kg (rat)
Dermal	LD50	1130 mg/kg (rabbit)
Inhalative	LC50	1h: 5620 mg/L (mou)

10043-35-3 boric acid

Oral	LD50	2660 mg/kg (rat)
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7681-57-4 sodium metabisulphite

Oral	LD50	1540 mg/kg (rat)
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- . **Primary irritant effect:**
- . **on the skin:** No irritant effect.
- . **on the eye:** Irritating effect.
- . **Sensitisation:** No sensitising effects known.

SECTION 12: Ecological information

- . **12.1 Toxicity**

. Aquatic toxicity:

64-19-7 acetic acid

LC50	24h: >100 mg/L (daphnia magna (Großer Wasserfloh))
	96h: >1000 mg/L (fish (acute toxicity study))
	96h: 75 mg/L (Lepomis macrochirus)
	24h: 106 mg/L (Pimephales promelas)

10043-35-3 boric acid

EC50	48h: 133 mg/l (daphnia magna (Großer Wasserfloh))
LC50	96h: 50-100 mg/L (Oncorhynchus mykiss)

7681-57-4 sodium metabisulphite

EC50	48h: 89 mg/l (daphnia magna (Großer Wasserfloh))
LC50	96h: 150-220 mg/L (Oncorhynchus mykiss)

(Contd. on page 6)

Trade name: ADOX ADOFIX Plus

(Contd. of page 5)

- . **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.
- . **Additional ecological information:**
- . **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
- . **12.5 Results of PBT and vPvB assessment**
- . **PBT:** Not applicable.
- . **vPvB:** Not applicable.
- . **12.6 Other adverse effects** No further relevant information available.

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

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|---|-----------------|
| . 14.1 UN-Number | |
| . ADR, ADN, IMDG, IATA | Void |
| . 14.2 UN proper shipping name | |
| . ADR, ADN, IMDG, IATA | Void |
| . 14.3 Transport hazard class(es) | |
| . ADR, ADN, IMDG, IATA | |
| . Class | Void |
| . 14.4 Packing group | |
| . ADR, IMDG, IATA | Void |
| . 14.5 Environmental hazards: | |
| . Marine pollutant: | No |
| . 14.6 Special precautions for user | Not applicable. |
| . 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| . UN "Model Regulation": | - |

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**
- . **National regulations:**
- . **Other regulations, limitations and prohibitive regulations**
- . **Substances of very high concern (SVHC) according to REACH, Article 57**

10043-35-3	boric acid
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(Contd. on page 7)

Trade name: ADOX ADOFIX Plus

(Contd. of page 6)

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

H226 Flammable liquid and vapour.
 H290 May be corrosive to metals.
 H302 Harmful if swallowed.
 H314 Causes severe skin burns and eye damage.
 H318 Causes serious eye damage.
 H360FD May damage fertility. May damage the unborn child.

R10 Flammable.
 R22 Harmful if swallowed.
 R31 Contact with acids liberates toxic gas.
 R35 Causes severe burns.
 R41 Risk of serious damage to eyes.
 R60 May impair fertility.
 R61 May cause harm to the unborn child.

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)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 Flam. Liq. 3: Flammable liquids, Hazard Category 3
 Met. Corr. 1: Corrosive to metals, Hazard Category 1
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
 Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
 Repr. 1B: Reproductive toxicity, Hazard Category 1B