SAFETY DATA SHEET

[In accordance with the criteria of Regulation No 1907/2006 (REACH) as amended

Date of issue: 15.07.2020 Version: 1.0/EN

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

ADOTOL Konstant II

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: photographic developer.

Uses advised against: not determined.

1.3 Details of the supplier of the safety data sheet

Manufacturer: **Adox Fotowerke GmbH**

Address: Pieskower Str. 30A, 15526 Bad Saarow, Germany

Telephone/fax: +49 (0)33631 6459-0/+49 (0)33631 6459-190

E-mail address for a competent person responsible for SDS: info@adox.de

1.4 Emergency telephone number

112

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Skin Sens. 1 H317, **Eye Dam. 1** H318, **Muta. 2** H341, **Carc. 2** H351, **Aquatic Acute 1** H400

May cause an allergic skin reaction. Causes serious eye damage. Suspected of causing genetic defects. Suspected of causing cancer. Very toxic to aquatic life.

2.2 Label elements

Hazard pictograms and signal words

DANGER

Names of substances mentioned on the label

Contains hydroquinone.

Hazard statements

H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.
H400 Very toxic to aquatic life.

Precautionary statements

P201 Obtain special instructions before use.
P264 Wash hands thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear 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.
P310 Immediately call a POISON CENTER/doctor.
P501 Dispose of contents/container to properly labeled waste containers in accordance with national legislation.

2.3 Other hazards

The components of this mixture do not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH.

Section 3: Composition/information on ingredients

3.1 Substances

Not applicable.

3.2 Mixtures

CAS: 497-19-8 EC: 207-838-8 Index number: 011-005-00-2 REACH number: 01-2119485498-19-XXXX	sodium carbonate Eye Irrit. 2 H319	30-35 %
CAS: 123-31-9 EC: 204-617-8 Index number: 604-005-00-4 REACH number: -	hydroquinone Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Sens. 1 H317, Muta. 2 H341, Carc 2 H351, Aquatic Acute 1 H400 (M=10)	5-9,5 %

Full text of each relevant H phrase is given in section 16 of SDS.

Section 4: First aid measures

4.1 Description of first aid measures

Skin contact: consult a doctor if disturbing symptoms appear. Take off contaminated clothing. Wash the contaminated skin thoroughly with plenty of water with soap.

Eye contact: consult a doctor immediately. Protect the non-irritated eye, remove contact lenses. Wash the contaminated eyes with plenty of water for 10-15 minutes. Avoid powerful water stream – risk of cornea damage. Put on sterile dressing.

Ingestion: consult a doctor if disturbing symptoms appear. Rinse mouth with water, give plenty of water to drink. Never give anything by mouth to an unconscious person.

Inhalation: consult a doctor if disturbing symptoms appear. Move the victim to fresh air. Keep victim warm and calm.

4.2 Most import ant symptoms and effects, both acute and delayed

Skin contact: prolonged contact may cause redness, skin dryness, itch, rash or other allergic reactions.

Eye contact: possible redness, tearing, burning sensation pain, irritation, risk of eye damage.

Ingestion: possible stomach pain, nausea, vomiting.

Inhalation: high concentration of dust may cause respiratory tract irritation.

Other effects of exposure: suspected of causing genetic defects. Suspected of causing cancer.

4.3 Indication of any immediate medical attention and special treatment needed

Physician makes a decision regarding further medical treatment after thoroughly examination of the injured.

Section 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: adapt the extinguishing media to surrounding materials.

Unsuitable extinguishing media: water jet – risk of the propagation of the flame.

5.2 Special hazards arising from the substance or mixture

During the fire, the product may produce toxic fumes of carbon oxides or other unidentified thermal decomposition products. Do not inhale combustion products, they can be dangerous for human health.

5.3 Advice for firefighters

Personal protection typical in case of fire. Do not stay in the fire zone without self-contained breathing apparatus and protective clothing resistant to chemicals. Cool the endangered containers with water spray from a safe distance. Collect used extinguishing media.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Limit the access for the outsiders into the breakdown area, until the suitable cleaning operations are completed. Ensure that only the trained personnel removes the effects of the accident. Use personal protective measures. Avoid skin and eyes contamination. Ensure adequate ventilation.

6.2 Environmental precautions

In case of release of large amounts of the product, it is necessary to take appropriate steps to prevent it from spreading into the environment. Notify relevant emergency services.

6.3 Methods and material for containment and cleaning up

Collect mechanically. Treat the collected material as waste. Clean the contaminated area.

6.4 Reference to other sections

Personal protective equipment – see section 8. Appropriate conduct with waste product – see section 13.

Section 7: Handling and storage

7.1 Precautions for safe handling

Handle in accordance with good occupational hygiene and safety practices. Avoid contact with skin and eyes. Before break and after work wash hands. Use only in accordance with the identified purpose. Ensure adequate ventilation of area, where the product is used. Use personal protective equipment.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in tightly closed, original containers in a dry, cool and well-ventilated area. Keep away from food, beverages or animal feed. Avoid direct exposure to sunlight. Do not store with incompatible materials (see subsection 10.5).

7.3 Specific end use(s)

No information about other uses than those mentioned in subsection 1.2.

Section 8: Exposure controls/personal protection

8.1 Control parameters

No occupational exposure limit values were established for the components of the mixture.

Legal basis: Commission Directive 2006/15/EC, 2000/39/EC, 2009/161/EC, 2017/164/EU, 2019/1831/EU.

Please check any national occupational exposure limit values in your country.

DNEL for sodium carbonate [CAS 497-19-8]

Workers, long-term - local effects, inhalation:	10 mg/m^3
Population, acute - systemic effects, inhalation:	10 mg/m^3

8.2 Exposure controls

Use the product in accordance with good occupational hygiene and safety practices. Ensure adequate ventilation of the area where the product is used and stored. Before break and after work wash hands carefully. Do not eat, drink or smoke when using the product. Take off contaminated clothing and wash it before next use. Provide eye fountain.

Hand and body protection

Use protective gloves resistant to the product. Material for gloves choose individually at the worplace. In case of a short contact, use protective gloves with effectiveness level ≥ 2 (breakthrough time > 30 min.). In case of a prolonged contact, use protective gloves with effectiveness level = 6 (breakthrough time > 480 min.). Wear protective clothing.

When using protective gloves during work with chemical products, it should be noted that the efficacy levels and corresponding breakthrough times do not indicate actual times of protection at a particular workplace, because the protection can be affected by many factors, e.g. temperature, other substances etc. If there are any signs of degradation, damage or change in appearance (colour, flexibility, shape), it is recommended to replace the gloves with a new pair. Please follow the manufacturer's instructions, not only in terms of gloves' usage, but also in terms of their cleaning, maintenance and storage. It is also important to know how to take off the gloves in order to avoid hands contamination.

Eyes protection

Use safety glasses.

Respiratory protection

Use respiratory protection in case of insufficient ventilation.

Applied personal protective equipment must comply with the requirements of the Regulation (EU) 2016/425. The choice of personal protective equipment should be made taking into account the concentration and form of the substance in the workplace, the routes of exposure, the time of exposure and activities performed by the employee. The employer is obliged to provide protective equipment relevant to performed activities and in accordance with all quality requirements, including its maintenance and cleaning.

Environmental exposure controls

Do not allow large quantities of the product to contaminate ground water, drains, sewages or soil. Possible emissions from the ventilation systems and processing equipment should be controlled in order to determinate their compatibility with environmental protection regulations.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

physical state:	solid
colour:	slightly yellow
odour:	odourless
odour threshold:	not determined
pH (20 °C):	10,3
melting point/freezing point:	not determined
initial boiling point and boiling range:	not determined
flash point:	not determined
evaporation rate:	not determined
flammability (solid, gas):	not applicable
upper/lower flammability or explosive limits:	not determined
vapour pressure:	not determined
vapour density:	not determined
density:	1,05 g/cm^3
solubility(ies):	soluble in water
partition coefficient: n-octanol/water:	not determined
auto-ignition temperature:	not determined
decomposition temperature:	not determined

explosive properties:	not display
oxidising properties:	not display
viscosity:	not determined

9.2 Other information

There are no additional test results.

Section 10: Stability and reactivity

10.1 Reactivity

Product is reactive. Product does not undergo a dangerous polymerization. See also subsections 10.3-10.5.

10.2 Chemical stability

The product is stable under normal conditions of use and storage.

10.3 Possibility of hazardous reactions

Hazardous reactions are not known.

10.4 Conditions to avoid

Avoid heat sources and direct exposure to sunlight.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Not known.

Section 11: Toxicological information

11.1 Information on toxicological effects

Toxicity of components

sodium carbonate [CAS 497-19-8]

LD_{50} (oral, rat)	2800 mg/kg
LD_{50} (dermal, rabbit/rat)	> 2000 mg/kg
LC_{50} (inhalation, rabbit)	2,3 mg/l

hydroquinone [CAS 123-31-9]

LD_{50} (oral, rat)	> 375 mg/kg
LD_{50} (dermal, rat)	> 2000 mg/kg

Toxicity of mixture

Acute toxicity

ATEmix (oral) > 2000 mg/kg

The acute toxicity estimate (ATEmix) for the classification of a substance in a mixture was determined using the appropriate conversion value from Table 3.1.2 in Annex I to CLP as amended.

Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Serious eye damage/irritation

Causes serious eye damage.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

Germ cell mutagenicity
Suspected of causing genetic defects.
Carcinogenicity
Suspected of causing cancer.
Reproductive toxicity
Based on available data, the classification criteria are not met.
STOT-single exposure
Based on available data, the classification criteria are not met.
STOT-repeated exposure
Based on available data, the classification criteria are not met.
Aspiration hazard
Based on available data, the classification criteria are not met.

Section 12: Ecological information

12.1 Toxicity

Toxicity of components

sodium carbonate [CAS 497-19-8]
Toxicity for fish: LC_{50} 300 mg/l/96h (*Lepomis macrohirus*)
Toxicity for invertebrates: EC_{50} 200-227 mg/l/48 h (*Ceriodaphnia dubia*)
hydroquinone [CAS 123-31-9]
Toxicity for fish: LC_{50} 0,638 mg/l/96 h
Toxicity for daphnia: EC_{50}: 0,134 mg/l/48h
Toxicity for daphnia: NOEC 0,0057 mg/l/21d
Toxicity for algae: EC_{50} 0,33 mg/l/72h
Toxicity for algae: NOEC 0,019 mg/l/72h

Toxicity of mixture

Very toxic to aquatic life.

12.2 Persistence and degradability

No data.

12.3 Bioaccumulative potential

No data.

12.4 Mobility in soil

Mobility of components of the mixture in soil depends on the hydrophilic and hydrophobic properties and biotic and abiotic conditions of soil, including its structure, climatic conditions, seasons and soil organisms.

12.5 Results of PBT and vPvB assessment

Components of the mixture do not meet the PBT or vPvP criteria.

12.6 Other adverse effects

The mixture is not classified as hazardous to the ozone layer. Consider other harmful effects of individual components of the mixture on the environment (e.g., endocrine disrupting potential, global warming potential).

Section 13: Disposal considerations

13.1 Waste treatment methods

Disposal methods for the product: disposal in accordance with the local legislation. Store residues in original containers. Recycle, if possible. Waste code should be given in the place of waste formation.

Disposal methods for used packing: reuse/recycle/liquidate empty containers in accordance with the legislation in force. Only containers completely empty can be recycled.

Legal basis: Directive 2008/98/EC as amended, 94/62/EC as amended.

Section 14: Transport information

14.1 UN number

UN 3077

14.2 UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. [HYDROQUINONE]

14.3 Transport hazard class(es)

9

14.4 Packing group

III

14.5 Environmental hazards

The substance is hazardous to the environment.

14.6 Special precautions for user

Use personal protective equipment in accordance with section 8.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

Section 15: Regulatory information

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

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC as amended.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 as amended.

Commission Regulation (EU) No 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives as amended.

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste as amended.

Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC.

Commission Directive 2009/161/EU of 17 December 2009 establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC.
Commission Directive 2017/164/EU of 31 January 2017 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU.
Commission Directive 2019/1831/EU of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC.
Regulation (EU) No 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC.

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for mixtures.

Section 16: Other information

Full text of indicated H phrases mentioned in section 3

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H341	Suspected of causing genetic defects
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.

Clarification of aberrations and acronyms

PBT	Persistent, Bioaccumulative and Toxic substance
vPvB	very Persistent, very Bioaccumulative substance.
Acute Tox. 4	Acute toxicity, category 4
Eye Irrit. 2	Eye irritation category 2
Skin Sens. 1	Skin sensitization act. 1, 1B
Eye Dam. 1	Serious eye damage category 1
Muta. 2	Germ cell mutagenicity cat. 2
Carc. 2	Carcinogenicity category 2
Aquatic Chronic 3	Hazardous to the aquatic environment (chronic) category 3
Aquatic Acute 1	Hazardous to the aquatic environment (acute) category 1

Trainings

Before commencing working with the product, the user should learn the Health & Safety regulations, regarding handling chemicals, and in particular, undergo a proper workplace training.

Key literature references and sources of data

This SDS was prepared on the basis of sheets of the individual components, literature data, online databases (eg. ECHA, TOXNET, COSING) as well as our knowledge and experience, taking into account current legislation.

Procedures used to classify the mixture according to Regulation EC 1272/2008

Classification was based on test results and data on the content of hazardous substances and prepared using calculation method under the guidance of Regulation 1272/2008/EC (CLP) as amended.

Other data

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The information above is based on a current available data concerning the product, but also on the experience and knowledge in this field of the producer. They are neither a quality description of the product nor a guarantee of particular features. They are to be treated as aid to safety in transport, storage and usage of the product. That does not free the user from the responsibility of improper usage of the information above and also of improper compliance with the law norms in the field.