

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



AZ 400 K Developer

0005

Substance No.: SXR084862
Version 1.0 DE-GHS

Revision Date 17.04.2015

Print Date 13.08.2015

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

1.1 Product identifier

Trade name : AZ 400 K Developer 0005

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

Use of the Substance/Mixture : Electronic industry
Intermediate for electronic industry

1.3 Details of the supplier of the safety data sheet

Company :

E-mail address of person responsible for the SDS : PSE@merckgroup.com

1.4 Emergency telephone number

Emergency telephone number :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

GHS Classification

Corrosive to metals, Category 1
Skin corrosion, Category 1B

H290: May be corrosive to metals.
H314: Causes severe skin burns and eye damage.

2.2 Label elements

GHS-Labeling

Symbol(s) :



Signal word : Danger

Hazard statements : H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



AZ 400 K Developer

Substance No.: SXR084862
Version 1.0 DE-GHS

0005

Revision Date 17.04.2015

Print Date 13.08.2015

Precautionary statements : **Prevention:**
P280 Wear protective gloves/ protective clothing/
eye protection/ face protection.

Response:
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do
NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take
off immediately all contaminated clothing.
Rinse skin with water/ shower.
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.

Hazardous components which must be listed on the label:

- 1310-58-3 potassium hydroxide

2.3 Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical characterization

Aqueous alkaline preparation

Hazardous components

dipotassium tetraborate

CAS-No. : 1332-77-0
EC-No. : 215-575-5
Classification : Repr. 1B; H360FD
(REGULATION (EC) No
1272/2008)
Concentration [%] : $\geq 3 - < 5,2$

potassium hydroxide

CAS-No. : 1310-58-3
EC-No. : 215-181-3
Registration number : 01-2119487136-33-xxxx
Classification : Met. Corr. 1; H290
(REGULATION (EC) No
1272/2008) Acute Tox. 4; H302
Skin Corr. 1A; H314

Concentration [%] : $\geq 2 - < 5$

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



AZ 400 K Developer

Substance No.: SXR084862
Version 1.0 DE-GHS

0005

Revision Date 17.04.2015

Print Date 13.08.2015

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Remove soiled or soaked clothing immediately
If someone exposed to the product feels unwell, contact a doctor and show this safety data sheet.
Adhere to personal protective measures when giving first aid
- Inhalation : Remove the casualty into fresh air and keep him calm.
Call in a physician immediately and show him the Safety Data Sheet.
- Skin contact : Wash off immediately with plenty of water for at least 15 minutes.
Call a physician immediately.
Show this safety data sheet to the doctor in attendance.
- Eye contact : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Remove contact lenses.
- Ingestion : Do not induce vomiting.
Call in a physician immediately and show him the Safety Data Sheet.
Let plenty of water be drunk in small gulps.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : compatible with all usual extinguishing media

5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : No information available.

5.3 Advice for firefighters

- Special protective equipment for firefighters : Use personal protective equipment.
In the event of fire, wear self-contained breathing apparatus.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



AZ 400 K Developer

Substance No.: SXR084862
Version 1.0 DE-GHS

0005

Revision Date 17.04.2015

Print Date 13.08.2015

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : See: Exposure controls and personal protection.

6.2 Environmental precautions

Environmental precautions : Try to prevent the material from entering drains or water courses.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Rinse off with lots of water, in required by addition of citric acid, observe pH-value.

6.4 Reference to other sections

Additional advice : Information regarding Safe handling, see chapter 7.
Information regarding personal protective measures see, chapter 8.
Information regarding Waste Disposal, see chapter 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Use only in area provided with appropriate exhaust ventilation.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container.

Further information on storage conditions : Keep containers tightly closed in a dry, cool and well-ventilated place.
Protect from frost, heat and sunlight.

Advice on common storage : Do not store or transport together with foodstuffs

7.3 Specific end use(s)

: No information available.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



AZ 400 K Developer

Substance No.: SXR084862
Version 1.0 DE-GHS

0005

Revision Date 17.04.2015

Print Date 13.08.2015

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

potassium hydroxide : End Use: Industrial use
Exposure routes: Inhalation
Potential health effects: Local effects
Value: 1 mg/m³

8.2 Exposure controls

Engineering measures

See chapter 7; no measures exceeding the ones mentioned are necessary.

Personal protective equipment

Respiratory protection : Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure
Breathing apparatus in the event of aerosol or mist formation.
Recommended Filter type:
P2 filter

Hand protection : Break through time: > 10 min
Glove thickness: > 0,4 mm
For short-term exposure (splash protection):
Nitrile rubber gloves.
Remarks: These types of protective gloves are offered by various manufacturers. Please note the manufacturers' detailed statements, especially about the minimum thickness and the minimum breakthrough time. Consider also the particular working conditions under which the gloves are being used.

Eye protection : Tightly fitting safety goggles

Skin and body protection : Protective suit

Hygiene measures : When using do not eat, drink or smoke.
Keep away from food and drink.
Wash hands before breaks and at the end of workday.
Use barrier skin cream.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



AZ 400 K Developer

0005

Substance No.: SXR084862
Version 1.0 DE-GHS

Revision Date 17.04.2015

Print Date 13.08.2015

Protective measures : Observe the usual precautions for handling chemicals.
Avoid contact with skin and eyes.

Environmental exposure controls

General advice : Try to prevent the material from entering drains or water courses.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Form : Liquid
Colour : colourless
Odour : odourless

Safety data

Flash point : Not applicable
Ignition temperature : not determined
Thermal decomposition : not determined
Lower explosion limit : not determined
Upper explosion limit : not determined
Flammability (solid, gas) : not determined
Oxidizing properties : not determined
Auto-ignition temperature : not determined
Burning number : not determined
pH : ca. 13 (20 °C)
Freezing point : not determined
Boiling temperature : approx. 100 °C
Sublimation point : not determined
Vapour pressure : approx. 23 hPa, 20 °C
Density : approx. 1,1 g/cm³, 20 °C
Water solubility : miscible in all proportions
Partition coefficient:
n-octanol/water : not determined
Solubility in other solvents : not determined
Viscosity, dynamic : approx. 1 mPas, 20 °C
Viscosity, kinematic : not determined
Relative vapour density : not determined
Corrosive in contact with
metals : 439 mm/a Corrosive to metals
Evaporation rate : not determined

9.2 Other information

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



AZ 400 K Developer

0005

Substance No.: SXR084862
Version 1.0 DE-GHS

Revision Date 17.04.2015

Print Date 13.08.2015

Further information : Remarks: Corrosive effect on aluminium.

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : When handled and stored appropriately no dangerous reactions are known

10.4 Conditions to avoid

Conditions to avoid : no data available

10.5 Incompatible materials

Materials to avoid : Acids

10.6 Hazardous decomposition products

Hazardous decomposition products : when handled and stored appropriately no dangerous decomposition products are known

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product

Acute oral toxicity : Acute Toxicity Estimate (ATE): 20.242,91 mg/kg, Calculation method

Acute inhalation toxicity : no data available

Acute dermal toxicity : no data available

Skin corrosion/irritation : no data available

Serious eye damage/eye irritation : no data available

Respiratory or skin sensitisation : no data available

Components:

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



AZ 400 K Developer

0005

Substance No.: SXR084862
Version 1.0 DE-GHS

Revision Date 17.04.2015

Print Date 13.08.2015

potassium hydroxide :

Acute oral toxicity : LD50: 333 mg/kg, rat

Skin corrosion/irritation : Result: Corrosive

Serious eye damage/eye irritation : Result: Corrosive, Classification: Corrosive

SECTION 12: Ecological information

12.1 Toxicity

Components:

potassium hydroxide:

Toxicity to daphnia and other aquatic invertebrates : LC50 : 80 mg/l
Exposure time: 24 h

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of contents/ container to an approved waste disposal plant.

Contaminated packaging : Dispose of as unused product.

SECTION 14: Transport information

ADR

UN number : 1814

Description of the goods : POTASSIUM HYDROXIDE SOLUTION

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



AZ 400 K Developer

0005

Substance No.: SXR084862
Version 1.0 DE-GHS

Revision Date 17.04.2015

Print Date 13.08.2015

Class : 8
Packing group : II
Classification Code : C5
Hazard Identification Number : 80
Labels : 8
Environmentally hazardous : no

IATA

UN number : 1814
Description of the goods : Potassium hydroxide solution
Class : 8
Packing group : II
Labels : 8
Environmentally hazardous : no

IMDG

UN number : 1814
Description of the goods : POTASSIUM HYDROXIDE SOLUTION
Class : 8
Packing group : II
Labels : 8
EmS Number 1 : F-A
EmS Number 2 : S-B
Marine pollutant : no

RID

UN number : 1814
Description of the goods : POTASSIUM HYDROXIDE SOLUTION
Class : 8
Packing group : II
Classification Code : C5
Hazard Identification Number : 80
Labels : 8
Environmentally hazardous : no

SECTION 15: Regulatory information

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

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors : Neither banned nor restricted

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Neither banned nor restricted

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Neither banned nor restricted

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



AZ 400 K Developer

0005

Substance No.: SXR084862
Version 1.0 DE-GHS

Revision Date 17.04.2015

Print Date 13.08.2015

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).
REACH - List of substances subject to authorisation (Annex XIV)	:	Neither banned nor restricted
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Neither banned nor restricted
Regulation (EC) No 850/2004 on persistent organic pollutants	:	Neither banned nor restricted
Water contaminating class (Germany)	: 1	weakly water polluting
Other regulations	:	BG Data Sheet M 004 "Substances causing irritation / corrosive substances" Observe the provisions of The Water Act for installations dealing with substances hazardous to water

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for a mixture.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

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

Decimal notation: "Thousands" places are identified with a dot (example: 2.000 mg/kg means "two thousand mg/kg"). Decimal places are identified with a comma (example: 1,35 g/cm³)

Further information

Further information : Observe national and local legal requirements

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

AZ and the AZ logo are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates.

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006



AZ 400 K Developer

Substance No.: SXR084862
Version 1.0 DE-GHS

0005

Revision Date 17.04.2015

Print Date 13.08.2015