

Safety Data Sheet

Revision date: 05.10.2017

according to Regulation (EC) No. 1907/2006

Issue date: 05.10.2017

according to Regulation (EU) No 453/2010

Product name: ba 4

Version: 7.1

1. Identification of the substance/mixture and of the company/undertaking**1.1. Product identifiers**

Identification of the substance or mixture ba 4

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.3. Details of the supplier of the safety data sheet****supplier (manufacturer/importer/downstream user/distributor)**

gwk Gesellschaft Wärme Kältetechnik mbH

Scherl 10

D-58540 Meinerzhagen

Telephone: +49 2354 7060 0

Telefax: +49 2354 7060 156

Dept. responsible for information:

Abteilung Produktsicherheit

E-mail

info@gwk.de**1.4. Emergency telephone number**

Emergency telephone number

Poison Emergency Call Berlin +49 (0) 30 30686700

2. Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP].

Acute Tox. 4 / H302

Acute toxicity (oral)

Harmful if swallowed.

Acute Tox. 4 / H332

Acute toxicity (inhalative)

Harmful if inhaled.

Skin Irrit. 2 / H315

skin corrosion/irritation

Causes skin irritation.

Eye Dam. 1 / H318

Serious eye damage/eye irritation

Causes serious eye damage.

STOT SE 3 / H335

Specific target organ toxicity (single exposure)

May cause respiratory irritation.

2.2. Label elements

The product is classified and labelled according to EC directives or corresponding national laws.

Labelling according to Regulation (EC) No. 1272/2008 [CLP]**Hazard pictograms****Danger****Hazard statements**

H302

Harmful if swallowed.

H332

Harmful if inhaled.

H315

Causes skin irritation.

H318

Causes serious eye damage.

H335

May cause respiratory irritation.

Precautionary statements

P260

Do not breathe vapour.

P280

Wear protective gloves and eye/face protection.

P301 + P312

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P403 + P233

Store in a well-ventilated place. Keep container tightly closed.

contains:

hydrogen peroxide solution

Supplemental Hazard information (EU)

n.a.

2.3. Other hazards

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3. Composition / Information on ingredients**3.2. Mixtures****Product description / chemical characterization****Description****Hazardous ingredients****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

EC No.	REACH No.	Wt %
CAS No.	Chemical name	Remark
INDEX No.	classification:	
231-765-0	01-2119485845-22 (FI, SE, NL)	
7722-84-1	hydrogen peroxide solution	25 - 50
008-003-00-9	Acute Tox. 4 H302 / Acute Tox. 4 H332 / Skin Corr. 1 H314 / STOT SE 3 H335 / Ox. Liq. 1 H271	

Additional information

Full text of H-phrases: see section 16.

4. First-aid measures**4.1. Description of first aid measures****General information**

In all cases of doubt, or when symptoms persist, seek medical advice.

In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice.

In case of inhalation

Remove casualty to fresh air and keep warm and at rest.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Following skin contact

Remove contaminated, saturated clothing immediately.

Wash immediately with: WaterWash immediately with: Water

After eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Seek medical advice immediately.

After ingestion

If swallowed, rinse mouth with water (only if the person is conscious).

Seek medical advice immediately.

Keep victim calm.

Do NOT induce vomiting.

Self-protection of the first aider

First aider: Pay attention to self-protection!

4.2. Most important symptoms and effects, both acute and delayed

In all cases of doubt, or when symptoms persist, seek medical advice.

4.3. Indication of any immediate medical attention and special treatment needed**Treatment**

Treat symptomatically.

5. Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media:**

Water, Foam, Water spray jetCo-ordinate fire-fighting measures to the fire surroundings.

Extinguishing media which must not be used for safety reasons:

carbon dioxide, Extinguishing powder

5.2. Special hazards arising from the substance or mixture

The product itself does not burn.

OxidisingDanger of bursting container.

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5.3. Special protective equipment for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

Cool closed containers that are near the source of the fire. Do not allow water used to extinguish fire to enter drains, ground or waterways. Treat runoff as hazardous.

6. Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protection equipment. Provide adequate ventilation. Do not breathe vapours.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see chapter 13). Sawdust, Fabric

6.4. Reference to other sections

Observe protective provisions (see chapter 7 and 8).

7. Handling and storage**7.1. Precautions for safe handling****Advices on safe handling**

Avoid contact with skin and eyes. If handled uncovered, arrangements with local exhaust ventilation should be used if possible. Handle and open container with care. When using do not eat, drink or smoke.

Precautions against fire and explosion:

Only use containers specifically approved for the substance/product. Container should not be closed gas-tight.

7.2. Conditions for safe storage, including any incompatibilities**Packaging materials:**

Unsuitable container/equipment material: No data available

Requirements for storage rooms and vessels

Keep in a cool, well-ventilated place.

Hints on joint storage

Do not store together with: Alkali (lye) Reducing agent, Organic solvents:

Further information on storage conditions

Take care of instructions on label.

7.3. Specific end use(s)

Observe technical data sheet. Observe instructions for use.

8. Exposure controls / Personal protection**8.1. Control parameters****Occupational exposure limit values:**

n.a.

DNEL:

hydrogen peroxide solution

INDEX No. 008-003-00-9 / EC No. 231-765-0 / CAS No. 7722-84-1

DNEL acute inhalative (local), Workers: 3 mg/m³

DNEL long-term inhalative (local), Workers: 1,4 mg/m³

PNEC:

hydrogen peroxide solution

INDEX No. 008-003-00-9 / EC No. 231-765-0 / CAS No. 7722-84-1

PNEC aquatic, freshwater: 0,0126 mg/L

PNEC aquatic, marine water: 0,0126 mg/L

PNEC sediment, freshwater: 0,047 mg/kg

PNEC sediment, marine water: 0,047 mg/kg

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PNEC, Soil: 0,0023 mg/kg

PNEC sewage treatment plant (STP): 4,66 mg/L

8.2. Exposure controls

Provide good ventilation. This can be achieved with local or room suction. If this should not be sufficient to keep aerosol and solvent vapour concentration below the exposure limit values, a suitable respiratory protection must be used.

Occupational exposure controls**Respiratory protection**

If concentration of solvents is beyond the occupational exposure limit values, approved and suitable respiratory protection must be used. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190). Use only respiratory protection equipment with CE-symbol including four digit test number.

Hand protection

For prolonged or repeated handling the following glove material must be used: Butyl caoutchouc (butyl rubber)

Thickness of the glove material > 0,4 mm ; Breakthrough time (maximum wearing time) > 480 min.

Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin. Recommended glove articles DIN EN 374

Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

Eye protection

Wear closely fitting protective glasses in case of splashes.

Protective clothing

Wear antistatic clothing of natural fibers (cotton) or heat resistant synthetic fibers.

Protective measures

After contact clean skin thoroughly with water and soap or use appropriate cleanser.

Environmental exposure controls

Do not allow to enter into surface water or drains. See chapter 7. No additional measures necessary.

9. Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance:**

Physical state liquid **Colour**

colourless

Odour

characteristic

Safety relevant basis data

	value	Unit	Method	Remark
Flash point:	n.a.			
Ignition temperature in °C:	n.a.			
Lower explosion limit	n.a.			
Upper explosion limit	n.a.			
Vapour pressure²⁰	30,00	hPa		
Density:²⁰	1,13	g/cm ³		
Water solubility (g/L)	999			
pH at °C:²⁰	3,00			
Viscosity at °C:²⁰	1,1	mPa·s		
Boiling temperature / boiling range:	108	°C		
Melting point/freezing point	-32	°C		

9.2. Other information:**10. Stability and reactivity****10.1. Reactivity****10.2. Chemical stability**

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to chapter 7.

10.3. Possibility of hazardous reactions

Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions.

10.4. Conditions to avoid

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to chapter 7.

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10.5. Incompatible materials**10.6. Hazardous decomposition products**

Hazardous decomposition byproducts may form with exposure to high temperatures.

11. Toxicological information**11.1. Information on toxicological effects****Acute toxicity**

Hydrogen peroxide 35 % not for biocidal use

oral, LD50, Rat: 1193 - 1270 mg/kg

inhalative (vapours), LC50, Rat: (4 h)

hydrogen peroxide solution

oral, LD50, Rat: > 500 mg/kg

Values refer to diluted substance (49,9%)

dermal, LD50, Rabbit: > 4000 mg/kg

Values refer to diluted substance (49,9%)

inhalative (vapours), LC50, Rat: 2 mg/L (4 h)

Irritant and corrosive effects

Hydrogen peroxide 35 % not for biocidal use

Skin

Eyes

hydrogen peroxide solution

Skin

Causes skin irritation.

Sensitisation

hydrogen peroxide solution

Skin:

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Toxicological data are not available.

Specific target organ toxicity

Hydrogen peroxide 35 % not for biocidal use

Specific target organ toxicity (single exposure), Irritation:

hydrogen peroxide solution

Specific target organ toxicity (single exposure), Irritation:

Aspiration hazard

Toxicological data are not available.

Practical experience/human evidence

Other observations:

Overall Assessment on CMR properties**12. Ecological information****overall evaluation**

Do not allow to enter into surface water or drains.

12.1. Toxicity

hydrogen peroxide solution

Fish toxicity, LC50, Pimephales promelas: 22 - 33 mg/L (96 h)

Daphnia toxicity, EC50, Daphnia magna (Big water flea): 2,4 - 7,7 mg/L (48 h)

Acute (short-term) fish toxicity, LC50:, Oncorhynchus mykiss (Rainbow trout): 38,5 mg/L (168 h)

Acute (short-term) fish toxicity, LC50:, Leuciscus idus (golden orfe): 35 mg/L (48 h)

Algae toxicity, LC50:: > 1,7 mg/L

Long-term Ecotoxicity

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Toxicological data are not available.

12.2. Persistence and degradability

Toxicological data are not available.

12.3. Bioaccumulative potential

hydrogen peroxide solution

Distribution coefficient (n-octanol / water) (log P O/W): -1,57

Bioconcentration factor (BCF)

Toxicological data are not available.

12.4. Mobility in soil

Toxicological data are not available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects**13. Disposal considerations****13.1. Waste treatment methods****Appropriate disposal / Product Recommendation**

Do not allow to enter into surface water or drains. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

packaging**Recommendation**

Non-contaminated packages may be recycled. Vessels not properly emptied are special waste.

14. Transport information**14.1. UN number**

UN 2014

14.2. UN proper shipping name

Land transport (ADR/RID):

Hydrogen peroxide, aqueous solution
(Hydrogen Peroxide)

Sea transport (IMDG):

HYDROGEN PEROXIDE, AQUEOUS SOLUTION
(Hydrogen Peroxide)

Air transport (ICAO-TI / IATA-DGR):

Hydrogen peroxide, aqueous solution
(Hydrogen Peroxide)

14.3. Transport hazard class(es)

5.1 (8)

14.4. Packing group

Land transport (ADR/RID):

II

Sea transport (IMDG):

II

Air transport (ICAO-TI / IATA-DGR):

I

14.5. Environmental hazards

Land transport (ADR/RID)

n.a.

Marine pollutant

n.a.

14.6. Special precautions for user

Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage.

Advices on safe handling: see parts 6 - 8

Additional information**Land transport (ADR/RID)**

tunnel restriction code

E

Sea transport (IMDG)

EMS-No.

F-H,S-Q

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14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

15. Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU legislation****Biocide directive (98/8/EC)**

biocide, active substance

hydrogen peroxide solution

349,3 g/kg

Information according to 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline).

VOC-value (in g/L) ISO 11890-2:

0

VOC-value (in g/L) ASTM D 2369:

0

National regulations**Restrictions of occupation**

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

Other regulations, restrictions and prohibition regulations**Substance/product listed in the following inventories:**

AICS gelistet (AICSJ-EN.rtf)

DSL gelistet (DSLJ-EN.rtf)

IECSC keine Information (IECSCK-EN.rtf)

KECI keine Information (KECIK-EN.rtf)

MITI gelistet (MITIJ-EN.rtf)

PICCS gelistet (PICCSJ-EN.rtf)

Listet in TOXIC SUBSTANCES CONTROL ACT (TSCA)

15.2. Chemical Safety Assessment

EC No.	Chemical name	REACH No.
CAS No.		
231-765-0	hydrogen peroxide solution	01-2119485845-22 (FI, SE, NL)
7722-84-1		

16. Other information**Relevant R-and H-phrases (Number and full text):**

Acute Tox. 4 / H302

Acute toxicity (oral)

Harmful if swallowed.

Acute Tox. 4 / H332

Acute toxicity (inhalative)

Harmful if inhaled.

Skin Corr. 1 / H314

skin corrosion/irritation

Causes severe skin burns and eye damage.

STOT SE 3 / H335

Specific target organ toxicity (single exposure)

May cause respiratory irritation.

Ox. Liq. 1 / H271

Oxidising liquids

May cause fire or explosion; strong oxidiser.

Additional information

The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations. Without written approval, the product must not be used for purposes different from those mentioned in chapter 1. It is always the user's duty to take any necessary measures for meeting the requirements laid down by local rules and regulations. The details in this safety data sheet describe the safety requirements of our product and are not to be regarded as guaranteed attributes of the product.