

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Buffer solution pH 5.9 (20 °C) for determination of borate according to DIN 38405-17:1981, DEV D17

Revision date: 07.02.2025

Product code: 05933

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

1.1. Product identifier

Buffer solution pH 5.9 (20 °C) for determination of borate according to DIN 38405-17:1981, DEV D17

UFI: MDEH-20V9-J005-FHTY

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

Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH
ACD
Street: Stempelstraße 6
Place: D-47167 Duisburg
Telephone: 0203/5194-0
Telefax: 0203/5194-290
E-mail: info@analytichem.de
Contact person: Abteilung Produktsicherheit
Telephone: 0203/5194-107/117
E-mail: produktsicherheit@analytichem.de
Internet: www.analytichem.de
Responsible Department: Abteilung Produktsicherheit

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

This product is a mixture. REACH Registration Number see section 3.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin Irrit. 2; H315

Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Warning

Pictograms:



Hazard statements

H315

Causes skin irritation.

H319

Causes serious eye irritation.

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Precautionary statements

- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P302+P352 IF ON SKIN: Wash with plenty of 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.
P337+P313 If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures in aqueous solution

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
631-61-8	ammonium acetate			40 - < 45 %
	211-162-9			
7664-93-9	sulphuric acid			1 - < 5 %
	231-639-5	016-020-00-8	01-2119458838-20	
	Met. Corr. 1, Skin Corr. 1A, Eye Dam. 1; H290 H314 H318			
7664-38-2	phosphoric acid			1 - < 5 %
	231-633-2	015-011-00-6	01-2119485924-24	
	Met. Corr. 1, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1; H290 H302 H314 H318			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
631-61-8	211-162-9	ammonium acetate	40 - < 45 %
		dermal: LD50 = > 26556,42 mg/kg; oral: LD50 = >= 2333,28 mg/kg	
7664-93-9	231-639-5	sulphuric acid	1 - < 5 %
		oral: LD50 = 2140 mg/kg Skin Corr. 1A; H314: >= 15 - 100 Skin Irrit. 2; H315: >= 5 - < 15 Eye Irrit. 2; H319: >= 5 - < 15	
7664-38-2	231-633-2	phosphoric acid	1 - < 5 %
		oral: ATE = 500 mg/kg Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25	

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

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General information

No data available

After inhalation

Provide fresh air.

After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

In case of skin irritation, consult a physician.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth immediately and drink plenty of water.

Call a physician immediately.

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

Irritant

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible liquids

Hazardous combustion products

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Use water spray jet to protect personnel and to cool endangered containers.

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

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6.3. Methods and material for containment and cleaning up

For containment

- Cover drains.
- Prevent spread over a wide area (e.g. by containment or oil barriers).
- Collect in closed and suitable containers for disposal.
- Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

- Clean contaminated articles and floor according to the environmental legislation.

Other information

- Provide adequate ventilation.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

- Safe handling: see section 7
- Personal protection equipment: see section 8
- Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

- Handle and open container with care.
- Keep container tightly closed.
- Do not breathe vapour/aerosol.
- Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

- Usual measures for fire prevention.

Advice on general occupational hygiene

- Wash contaminated clothing prior to re-use.
- Do not breathe vapour/aerosol.
- Avoid contact with skin, eyes and clothes.

Further information on handling

- Wash contaminated clothing before reuse.
- Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

- Keep container tightly closed.

Hints on joint storage

- No data available

Further information on storage conditions

- Store in a dry place.

7.3. Specific end use(s)

- Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Occupational exposure limits

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
7664-38-2	Orthophosphoric acid	-	1		TWA (8 h)	
		-	2		STEL (15 min)	
7664-93-9	Sulphuric acid	-	0.05		TWA (8 h)	

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
631-61-8	ammonium acetate			
	Worker DNEL, long-term	inhalation	systemic	911,56 mg/m ³
	Worker DNEL, acute	inhalation	systemic	5469,35 mg/m ³
	Worker DNEL, long-term	dermal	systemic	10,34 mg/kg bw/day
	Worker DNEL, acute	dermal	systemic	62,04 mg/kg bw/day
	Consumer DNEL, long-term	inhalation	systemic	449,56 mg/m ³
	Consumer DNEL, acute	inhalation	systemic	2674,16 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	5,17 mg/kg bw/day
	Consumer DNEL, acute	dermal	systemic	31,02 mg/kg bw/day
	Consumer DNEL, long-term	oral	systemic	5,17 mg/kg bw/day
	Consumer DNEL, acute	oral	systemic	31,02 mg/kg bw/day
7664-93-9	sulphuric acid			
	Worker DNEL, long-term	inhalation	local	0,05 mg/m ³
7664-38-2	phosphoric acid			
	Worker DNEL, acute	inhalation	local	2 mg/m ³
	Worker DNEL, long-term	inhalation	local	2,92 mg/m ³
	Consumer DNEL, long-term	inhalation	systemic	4,57 mg/m ³
	Consumer DNEL, long-term	inhalation	local	0,36 mg/m ³
	Consumer DNEL, long-term	oral	systemic	0,1 mg/kg bw/day
	Worker DNEL, long-term	inhalation	systemic	10,7 mg/m ³

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PNEC values

CAS No	Substance	Value
Environmental compartment		
631-61-8	ammonium acetate	
Freshwater		3,08 mg/l
Marine water		0,308 mg/l
Freshwater sediment		2,51 mg/kg
Marine sediment		0,251 mg/kg
Micro-organisms in sewage treatment plants (STP)		677 mg/l
Soil		0,72 mg/kg
7664-93-9	sulphuric acid	
Micro-organisms in sewage treatment plants (STP)		8,8 mg/l

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

Recommended glove articles: KCL 730 Camatril® Velours

Recommended material: NBR (Nitrile rubber) 0,4 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Recommended glove articles: KCL 720 Camapren®

Recommended material: CR (polychloroprene, chloroprene rubber) 0,65 mm

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet (>, <)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing.

Wash hands before breaks and after work.

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Environmental exposure controls

Do not allow to enter into surface water or drains.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	colourless	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		No data available
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value (at 20 °C):		6,0
Viscosity / kinematic:		No data available
Water solubility:		No data available
Solubility in other solvents		No data available
Dissolution rate:		No data available
Partition coefficient n-octanol/water:		No data available
Dispersion stability:		No data available
Vapour pressure:		No data available
Density:		1,1107 g/cm ³
Relative density:		No data available
Bulk density:		No data available
Relative vapour density:		No data available
Particle characteristics:		No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties	
Sustaining combustion:	No data available
Self-ignition temperature	
Solid:	No data available
Gas:	No data available
Oxidizing properties	
	No data available

Other safety characteristics

Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	No data available
Solid content:	No data available
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	No data available

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Flow time:

No data available

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

No data available

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

No data available

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicokinetics, metabolism and distribution

There are no data available on the mixture itself.

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
631-61-8	ammonium acetate				
	oral	LD50 >= 2333,28 mg/kg		Read-across (2010)	Read-across approach from published expe
	dermal	LD50 > 26556,42 mg/kg		Read-across (2010)	Read-across approach from published expe
7664-93-9	sulphuric acid				
	oral	LD50 2140 mg/kg	Rat	Am Ind Hyg Assoc J. 1969 Sep-Oct; 30(5):	The study was performed as part of a ser
7664-38-2	phosphoric acid				
	oral	ATE 500 mg/kg			

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Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye irritation.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

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.

Information on likely routes of exposure

There are no data available on the mixture itself.

Specific effects in experiment on an animal

There are no data available on the mixture itself.

Additional information on tests

There are no data available on the mixture itself.

Practical experience

There are no data available on the mixture itself.

11.2. Information on other hazards

Endocrine disrupting properties

There are no data available on the mixture itself.

Other information

There are no data available on the mixture itself.

Further information

There are no data available on the mixture itself.

SECTION 12: Ecological information

12.1. Toxicity

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

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
631-61-8	ammonium acetate					
	Acute algae toxicity	ErC50 mg/l	> 1000	72 h	Skeletonema costatum	Study report (2005)
	Acute crustacea toxicity	EC50 mg/l	> 360,89	48 h		Read-across (2010)
	Fish toxicity	NOEC	154 mg/l	60 d	Cyprinus carpio	Publication (1999)
						OECD Guideline 204
7664-93-9	sulphuric acid					
	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Desmodesmus subspicatus	Study report (2009)
	Acute crustacea toxicity	EC50 mg/l	> 100	48 h	Daphnia magna	Study report (2009)
	Fish toxicity	NOEC	0,025	65 d	Jordanella floridae	Water Research Vol. 11, 612 - 626, 1977
						Groups of sexually mature flagfish
7664-38-2	phosphoric acid					
	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Desmodesmus subspicatus	Study report (2010)
	Acute crustacea toxicity	EC50 mg/l	> 100	48 h	Daphnia magna	Study report (2010)
	Acute bacteria toxicity	EC50 mg/l ()	> 1000	3 h	activated sludge of a predominantly domestic sewage	Study report (2010)
						OECD Guideline 209

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
631-61-8	ammonium acetate	-2,79

BCF

CAS No	Chemical name	BCF	Species	Source
631-61-8	ammonium acetate	3,162		Calculation (2010)

12.4. Mobility in soil

There are no data available on the mixture itself.

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. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

There are no data available on the mixture itself.

Further information

Do not allow to enter into surface water or drains.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Send to a physico-chemical treatment facility under observation of official regulations.
Do not allow to enter into surface water or drains.

Contaminated packaging

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3

Marketing and use of explosives precursors (Regulation (EU) 2019/1148):

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

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National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

Additional information

No data available

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,9,12.

Abbreviations and acronyms

Met. Corr: Substance or mixture corrosive to metals

Acute Tox: Acute toxicity

Skin Corr: Skin corrosion

Skin Irrit: Skin irritation

Eye Dam: Eye damage

Eye Irrit: Eye irritation

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method

Relevant H and EUH statements (number and full text)

- H290 May be corrosive to metals.
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

Provide appropriate information, instructions and training to users

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)