

Revision date: 28.09.2023	Product code: 2123	Page 1 o
SECTION 1: Identification of t	ne substance/mixture and of the com	ipany/undertaking
1.1. Product identifier		
CTAB solution 0.0151 mol/l	- 0.0151 M solution buffered with boric ac	id buffer pH 9.6
UFI:	D1TV-G10F-100C-VY44	
1.2. Relevant identified uses of th	e substance or mixture and uses advise	d against
Use of the substance/mixture		
Laboratory chemicals		
•	stances as such or in preparations at indu	strial sites
Professional uses: Public d	omain (administration, education, entertain	iment, services, craftsmen)
Uses advised against		
Do not use for private purpo	oses (household).	
1.3. Details of the supplier of the	safety data sheet	
Company name:	AnalytiChem GmbH	
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		ous Goods] Incidents Spill, Leak, Fire,
number:	•	REC Day or Night Within USA and Canada: Canada: +1 703-741-5970 (collect calls

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Aquatic Acute 1; H400 Aquatic Chronic 1; H410

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Signal word:

Pictograms:

Warning



Hazard statements

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statements

P273	Avoid release to the environment.
P391	Collect spillage.



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P501

Dispose of contents/container to an appropriate recycling or disposal facility.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization Mixtures in aqueous solution

Hazardous components

CAS No	Chemical name			
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)		
57-09-0	cetrimonium bromide			< 1 %
	200-311-3		01-2119989160-35	
	Acute Tox. 4, Skin Irrit. 2, Eye Dan 1; H302 H315 H318 H335 H373 H	ic Acute 1, Aquatic Chronic		
10043-35-3	boric acid			< 1 %
	233-139-2	005-007-00-2	01-2119486683-25	
	Repr. 1B; H360FD			

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 57-09-0 200-311-3 cetrimonium bromide < 1 % oral: LD50 = ca. 2970 mg/kg Aquatic Acute 1; H400: M=100 Aquatic Chronic 1; H410: M=100 10043-35-3 233-139-2 < 1 % boric acid inhalation: LC50 = > 2,12 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 3450 mg/kg

Further Information

No data available

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No data available

After inhalation

Provide fresh air.

After contact with skin

Wash immediately with: Water Remove contaminated, saturated clothing immediately.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water. Call a doctor if you feel unwell.



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

No data available

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-flammable.

5.3. Advice for firefighters

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

Additional information

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.

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



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7.1. Precautions for safe handling

Advice on safe handling

Handle and open container with care. Keep container tightly closed. Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink.

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

TRGS 510

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

DNEL/DMEL values

CAS No	Substance		-	
DNEL type		Exposure route	Effect	Value
57-09-0	cetrimonium bromide			
Worker DNEL,	acute	inhalation	local	0,05 mg/m³
Worker DNEL,	long-term	dermal	systemic	0,4 mg/kg bw/day
10043-35-3	boric acid			
Worker DNEL,	long-term	inhalation	systemic	8,3 mg/m³
Worker DNEL,	long-term	dermal	systemic	392 mg/kg bw/day
Consumer DN	EL, long-term	inhalation	systemic	4,15 mg/m³
Consumer DN	EL, long-term	dermal	systemic	196 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,98 mg/kg bw/day
Consumer DN	EL, acute	oral	systemic	0,98 mg/kg bw/day



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PNEC values

CAS No	Substance	
Environmenta	al compartment	Value
57-09-0	cetrimonium bromide	
Freshwater		0,000022 mg/l
Freshwater (i	intermittent releases)	0,0004 mg/l
Marine water		0,000002 mg/l
Micro-organisms in sewage treatment plants (STP)		0,19 mg/l
Soil		0,21 mg/kg
10043-35-3	boric acid	
Freshwater		2,9 mg/l
Freshwater (intermittent releases)		13,7 mg/l
Marine water		2,9 mg/l
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil	5,7 mg/kg	

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

Wear eye/face protection.

Hand protection

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

By long-term hand contact Trade name/designation: KCL 741 Dermatril® L Suitable material: NBR (Nitrile rubber) 0,11mm Wearing time with permanent contact: >480min

By short-term hand contact Trade name/designation: KCL 741 Dermatril® L Suitable material: NBR (Nitrile rubber) 0,11mm Wearing time with occasional contact (splashes): >480min

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.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

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

9.1. mormation on basic physical and ch		
Physical state:	Liquid	
Colour:	colourless	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and		?
boiling range:		
Flammability:		not applicable
Lauran averla sign linsita.		not applicable
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		?
Auto-ignition temperature:		No data available
Decomposition temperature:		not determined
pH-Value:		No data available
Viscosity / kinematic:		No data available
Water solubility:		No data available
Solubility in other solvents		
not determined		
Partition coefficient n-octanol/water:		not determined
Vapour pressure:		No data available
Vapour pressure:		No data available
Density:		1,00029 g/cm³
Bulk density:		No data available
Relative vapour density:		not determined
9.2. Other information		
Information with regard to physical ha	zard classes	
Explosive properties		
No data available		
Sustaining combustion:		No data available
Self-ignition temperature		
Solid:		not applicable
Gas:		not applicable
Oxidizing properties		
Not oxidising.		
Other safety characteristics		
Evaporation rate:		not determined
Solvent separation test:		No data available
Solvent content:		0
Solid content:		0
Sublimation point:		No data available
Softening point:		No data available
Pour point:		No data available
No data available:		
Viscosity / dynamic:		No data available
Flow time:		No data available
Flow time: Further Information		No data available



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SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

none

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Toxicocinetics, metabolism and distribution

No data available

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
57-09-0	cetrimonium bromide					
	oral	LD50 mg/kg	ca. 2970	Rat	SCCS opinion document (2009)	OECD Guideline 401
10043-35-3	boric acid					
	oral	LD50 mg/kg	3450	Rat	Toxicology and Applied Pharmacology 23:	other: No data
	dermal	LD50 mg/kg	> 2000	Rabbit	Study report (1982)	other: FIFRA
	inhalation (4 h) dust/mist	LC50 mg/l	> 2,12	Rat	Study report (1997)	OECD Guideline 403

Irritation and corrosivity

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

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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



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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.

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience No data available

11.2. Information on other hazards

Other information

No data available

Further information

No data available

SECTION 12: Ecological information

12.1. Toxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.



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CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] [d]	Species	Source	Method
57-09-0	cetrimonium bromide						
	Acute fish toxicity	LC50 mg/l	0,28	96 h	Oryzias latipes	www.env.go.jp/Ch emi/sesaku/02e.p df	OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	0,00411	72 h	Pseudokirchneriella subcapitata	Study report (2007)	OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	0,026	48 h	Daphnia magna	Study report (2007)	OECD Guideline 202
	Fish toxicity	NOEC mg/l	ca. 0,23	35 d	Pimephales promelas	Environmental Toxicology and Chemistry v	35 days embryo-larval toxicity test, fol
	Crustacea toxicity	NOEC mg/l	0,023	21 d	Daphnia magna	www.env.go.jp/Ch emi/ (2010)	OECD Guideline 211
	Acute bacteria toxicity	(EC50 mg/l)	0,63	0,5 h	Photobacterium phosphoreum	Environmental Pollution vol 111, pp. 169	other: Microtox test
10043-35-3	boric acid						
	Acute fish toxicity	LC50 mg/l	79,7	96 h	Pimephales promelas	Study report (2010)	other: ASTM E729-95 Standard Guide for C
	Acute algae toxicity	ErC50	66 mg/l	72 h	Phaeodactylum tricornutum	Study report (2011)	ISO 10253
	Acute crustacea toxicity	EC50	109 mg/l	48 h	Ceriodaphnia dubia	Study report (2010)	other: ASTM E729-95 Standard Guide for C
	Fish toxicity	NOEC mg/l	11,2	32 d	Pimephales promelas	Study report (2010)	other: ASTM E1241-05 Standard Guide for
	Algae toxicity	NOEC mg/l	17,5	3 d	Pseudokirchneriella subcapitata	Study report (2000)	OECD Guideline 201
	Crustacea toxicity	NOEC mg/l	25,9	42 d	other aquatic crustacea: Hyalella azteca	Study report (2010)	other: US EPA 2000 Methods for assessing
	Acute bacteria toxicity	(EC50 mg/l)	> 10000	3 h	activated sludge of a predominantly domestic sewag	Study report (2001)	OECD Guideline 209

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
57-09-0	cetrimonium bromide	3,18
10043-35-3	boric acid	-1,09
BCF		

501				
CAS No	Chemical name	BCF	Species	Source
57-09-0	cetrimonium bromide	> 407 - < 741	Cyprinus carpio	Official Bulletin of
10043-35-3	boric acid	0,558	Oncorhynchus nerka	Water Research Vol.



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12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH. The product has not been tested.

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

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

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 empty into drains.

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
	(cetrimonium bromide)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9
Classification code:	M6
Special Provisions:	274 335 375 601
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	90
Tunnel restriction code:	-
Inland waterways transport (ADN)	
14.1. UN number or ID number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
	(cetrimonium bromide)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9
Classification code:	M6
Special Provisions:	274 335 375 601
Limited quantity:	5 L
Excepted quantity:	E1
Marine transport (IMDG)	
14.1. UN number or ID number:	UN 3082



an analytichem brand according to UK REACH Regulation CTAB solution 0.0151 mol/l - 0.0151 M solution buffered with boric acid buffer pH 9.6 Revision date: 28.09.2023 Product code: 21234 Page 11 of 12 14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cetrimonium bromide) 14.3. Transport hazard class(es): 9 ||| 14.4. Packing group: Hazard label: q **Special Provisions:** 274, 335, 969 Limited quantity: 5 L Excepted quantity: F1 F-A, S-F EmS: Air transport (ICAO-TI/IATA-DGR) 14.1. UN number or ID number: UN 3082 14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cetrimonium bromide) 14.3. Transport hazard class(es): 9 ||| 14.4. Packing group: Hazard label: 9 **Special Provisions:** A97 A158 A197 A215 Limited quantity Passenger: 30 ka G Passenger LQ: Y964 Excepted quantity: E1 IATA-packing instructions - Passenger: 964 IATA-max. quantity - Passenger: 450 L IATA-packing instructions - Cargo: 964 450 I IATA-max. quantity - Cargo: 14.5. Environmental hazards ENVIRONMENTALLY HAZARDOUS: Yes Danger releasing substance: (cetrimonium bromide) 14.6. Special precautions for user No information available. 14.7. Maritime transport in bulk according to IMO instruments not applicable **SECTION 15: Regulatory information** 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture EU regulatory information Authorisations (REACH, annex XIV): Substances of very high concern, SVHC (REACH, article 59): horic acid Restrictions on use (REACH, annex XVII): Entry 3, Entry 30, Entry 75 National regulatory information Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Water hazard class (D): 3 - highly hazardous to water Additional information No data available 15.2. Chemical safety assessment Chemical safety assessments for substances in this mixture were not carried out. **SECTION 16: Other information**



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Changes

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

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 Harmonized 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 LC50: Lethal concentration, 50% LD50: Lethal dose, 50% Acute Tox: Acute toxicity Skin Irrit: Skin irritation Eye Dam: Eye damage Repr: Reproductive toxicity STOT SE: Specific target organ toxicity - single exposure STOT RE: Specific target organ toxicity - repeated exposure Aquatic Acute: Acute aquatic hazard Aquatic Chronic: Chronic aquatic hazard

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 1; H410	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H360FD	May damage fertility. May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

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