

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Metol-disulfite-citric acid for photometric phosphate determination

Revision date: 28.02.2025 Product code: 11963 Page 1 of 12

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

1.1. Product identifier

Metol-disulfite-citric acid for photometric phosphate determination

UFI: 3342-21X2-F00A-71P0

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 For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire,

number: 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

Eye Dam. 1; H318 Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

disodium disulphite

Signal word: Danger

Pictograms:



Hazard statements

H318 Causes serious eye damage.

H412 Harmful to aquatic life with long lasting effects.



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Precautionary statements

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing

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.

Special labelling of certain mixtures

EUH031 Contact with acids liberates toxic gas.

EUH208 Contains bis(4-hydroxy-N-methylanilinium) sulphate. May produce an allergic reaction.

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)		
7681-57-4	disodium disulphite			1 - < 5 %
	231-673-0	016-063-00-2	01-2119531326-45	
	Acute Tox. 4, Eye Dam. 1; H302 H318 EUH031			
5949-29-1	Citric acid 1-hydrate			1 - < 5 %
	201-069-1		01-2119457026-42	
	Eye Irrit. 2, STOT SE 3; H	319 H335		
55-55-0	bis(4-hydroxy-N-methylan	ilinium) sulphate		< 1 %
	200-237-1	650-031-00-4		
	Acute Tox. 4, Skin Sens. 7 H400 H410	1, STOT RE 2, Aquatic Acute 1, Aq	uatic Chronic 1; H302 H317 H373	

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	
7681-57-4	231-673-0	disodium disulphite	1 - < 5 %
	dermal: LD50	= > 2000 mg/kg; oral: LD50 = 1420 mg/kg	
5949-29-1	201-069-1	Citric acid 1-hydrate	1 - < 5 %
	dermal: LD50	= > 2000 mg/kg; oral: LD50 = 5400 mg/kg	
55-55-0	200-237-1	bis(4-hydroxy-N-methylanilinium) sulphate	< 1 %
	dermal: LD50	= > 1000 mg/kg; oral: LD50 = 565 mg/kg	

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.

After contact with eves

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

Allergic reactions

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

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.

6.3. Methods and material for containment and cleaning up



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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

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
7681-57-4	Sodium metabisulphite	-	5		TWA (8 h)	



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DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
7681-57-4	disodium disulphite			
Worker DNEL, long-term		inhalation	systemic	225 mg/m³
Consumer DNEL, long-term		inhalation	systemic	66 mg/m³
Consumer DNEL, long-term		oral	systemic	8,6 mg/kg bw/day

PNEC values

CAS No	Substance	
Environment	al compartment	Value
7681-57-4	disodium disulphite	
Freshwater		1 mg/l
Marine wate	r	0,1 mg/l
Micro-organi	sms in sewage treatment plants (STP)	75,4 mg/l
5949-29-1	Citric acid 1-hydrate	
Freshwater		0,44 mg/l
Marine wate	r	0,044 mg/l
Freshwater sediment		34,6 mg/kg
Marine sediment		3,46 mg/kg
Micro-organisms in sewage treatment plants (STP)		1000 mg/l
Soil		33,1 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

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 741 Dermatril® L Recommended material: NBR (Nitrile rubber) 0,11mm Wearing time with permanent contact: >480min

By short-term hand contact

Recommended glove articles: KCL 741 Dermatril® L Recommended 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).



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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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Colour: colourless light yellow

Odour: characteristic
Odour threshold: No data available

Melting point/freezing point:

No data available
Boiling point or initial boiling point and

No data available

boiling range:

Flammability:

Lower explosion limits:

Upper 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:

2,7

Viscosity / kinematic:

Water solubility:

No data available

No data available

Solubility in other solvents

No data available

Partition coefficient n-octanol/water:

Vapour pressure:

Vapour pressure:

No data available

Vapour pressure:

No data available

No data available

No data available

1,082 g/cm³

Bulk density:

No data available

Relative vapour density:

No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

No data available

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:

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



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Pour point: No data available

No data available:

Viscosity / dynamic:

Flow time:

No data available

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

Toxicocinetics, metabolism and distribution

There are no data available on the mixture itself.

Acute toxicity

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

Contact with acids liberates toxic gas.

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



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CAS No	Chemical name	Chemical name				
	Exposure route	Dose		Species	Source	Method
7681-57-4	disodium disulphite					
	oral	LD50 mg/kg	1420	Rat	Study report (1987)	OECD Guideline 401
	dermal	LD50 mg/kg	> 2000	Rat	Study report (2009)	OECD Guideline 402
5949-29-1	Citric acid 1-hydrate					
	oral	LD50 mg/kg	5400	Mouse	Study report (1981)	OECD Guideline 401
	dermal	LD50 mg/kg	> 2000	Rat	Study report (2006)	OECD Guideline 402
55-55-0	bis(4-hydroxy-N-methyla	anilinium) su	lphate			
	oral	LD50 mg/kg	565	Mouse	ChemIDplusA TOXNET Database, 2017 (2017)	other: As mentioned below
	dermal	LD50 mg/kg	> 1000	Guinea pig	ChemIDplusA TOXNET Database, 2017 (2017)	other: As mentioned below

Irritation and corrosivity

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

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

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

Contains bis(4-hydroxy-N-methylanilinium) sulphate. May produce an allergic reaction.

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.

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

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



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Harmful to aquatic life with long lasting effects.

CAS No	Chemical name							
	Aquatic toxicity	Dose		[h] [d]	Species	Source	Method	
7681-57-4	disodium disulphite							
	Acute fish toxicity	LC50 464 mg/l	> 215 - <	96 h	Leuciscus idus	Study report (1989)	other: German industrial standard test g	
	Acute algae toxicity	ErC50 mg/l	43,8	72 h	Desmodesmus subspicatus	Study report (1989)	OECD Guideline 201	
	Acute crustacea toxicity	EC50	89 mg/l	48 h	Daphnia magna	Study report (1990)	other: 79/831/EEC, appendix V, part C	
	Fish toxicity	NOEC mg/l	>= 316	34 d	Danio rerio	Study report (2010)	OECD Guideline 210	
	Crustacea toxicity	NOEC mg/l	> 10	21 d	Daphnia magna	Study report (1993)	OECD Guideline 211	
	Acute bacteria toxicity	EC50 mg/l ()	> 1000	3 h	activated sludge of a predominantly domestic sewag	Study report (2010)	OECD Guideline 209	
5949-29-1	Citric acid 1-hydrate							
	Acute fish toxicity	LC50 mg/l	> 100	96 h	Pimephales promelas	Photogr. Sci. Eng. 16(5):370-377 (1972)		
	Acute crustacea toxicity	EC50 mg/l	> 50	48 h	other aquatic crustacea: Dreissena polymorpha	Environ.Toxicol.C hem. 16(9): 1930-1934 (other: ASTM	
	Algae toxicity	NOEC	425 mg/l	8 d	Scenedesmus quadricauda	Water Research 14: 231-241 (1980)	other: Bringmann and Kuhn	
55-55-0	bis(4-hydroxy-N-methylan	ilinium) sulp	hate					
	Acute fish toxicity	LC50 mg/l	0,925	96 h	Oryzias latipes	J-check (Japan Chemicals Collaborative K	OECD Guideline 203	
	Acute algae toxicity	ErC50 mg/l	0,506	72 h	Pseudokirchneriella subcapitata	REACh Registration Dossier	other: Predicted data	
	Acute crustacea toxicity	EC50 mg/l	0,724	48 h	Daphnia magna	REACh Registration Dossier	other: Predicted data	

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
5949-29-1	Citric acid 1-hydrate	-1,55
55-55-0	bis(4-hydroxy-N-methylanilinium) sulphate	0,79



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BCF

CAS No	Chemical name	BCF	Species	Source
5949-29-1	Citric acid 1-hydrate	3,2		In: (2009)
	bis(4-hydroxy-N-methylanilinium) sulphate	3,162	Fish	REACh Registration D

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.

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 (A	ADR/RID)
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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

r 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



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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, Entry 75

National regulatory information

Water hazard class (D): 2 - obviously hazardous to water

Additional information

No data available

SECTION 16: Other information

Abbreviations and acronyms

Acute Tox: Acute toxicity
Eye Dam: Eye damage
Eye Irrit: Eye irritation
Skin Sens: Skin sensitisation

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 Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Eye Dam. 1; H318	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

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.H412 Harmful to aquatic life with long lasting effects.

EUH031 Contact with acids liberates toxic gas.

EUH208 Contains bis(4-hydroxy-N-methylanilinium) sulphate. May produce an allergic reaction.

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.



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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.)