

Multielement-Standardlösung "3" 7 Elemente in Salpetersäure 1 mol/l Revision date: 26.06.2024 Product code: 32418 Page 1 of 12 SECTION 1: Identification of the substance/mixture and of the company/undertaking 1.1. Product identifier Multielement-Standardlösung "3" 7 Elemente in Salpetersäure 1 mol/l UFI: U7SV-32G7-J004-YXAP 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 AnalytiChem GmbH Company name: 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 produktsicherheit@analytichem.de E-mail: Internet: www.analytichem.de Responsible Department: Abteilung Produktsicherheit For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, 1.4. Emergency telephone Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: number: 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

Met. Corr. 1; H290 Skin Corr. 1B; H314 Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

2.2. Label elements

 Regulation (EC) No 1272/2008

 Hazard components for labelling nitric acid

 Signal word:
 Danger

Pictograms:



Hazard statements H290

May be corrosive to metals.



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		Multielement-otanuardiosung o 7 Elemente in oalpetersaure i mom						
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H314	Causes severe skin burns and eye damage.							
Precautionary statements	3							
P260	Do not breathe dust/fume/gas/mist/vapours/spray.							
	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.							
	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.							
	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.							

Corrosive to the respiratory tract.

2.3. Other hazards

EUH071

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures in aqueous solution

Relevant ingredients

CAS No	Chemical name				
	EC No	Index No	REACH No		
	Classification (Regulation	(EC) No 1272/2008)	·		
7697-37-2	nitric acid				
	231-714-2	007-030-00-3	01-2119487297-23		
	Ox. Liq. 3, Met. Corr. 1, A				
10031-43-3	Copper(II) nitrate trihydrat	< 1 %			
			01-2119969290-34		
	Ox. Sol. 2, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Aquatic Acute 1, Aquatic Chronic 1; H272 H302 H315 H319 H400 H410				

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					
7697-37-2	231-714-2	nitric acid	5 - < 10 %			
	inhalation: ATE 2,65 mg/l (vapours) Ox. Liq. 3; H272: >= 65 - 100 Skin Corr. 1A; H314: >= 20 - 100 Skin Corr. 1B; H314: >= 5 - < 20					
10031-43-3	Copper(II) nitrate trihydrate					
	oral: ATE = 500 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

General information

First aider: Pay attention to self-protection!



an analyti**chem** brand

according to Regulation (EC) No 1907/2006 Multielement-Standardlösung "3" 7 Elemente in Salpetersäure 1 mol/l

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After inhalation

Provide fresh air.

Call a physician immediately.

After contact with skin

Wash immediately with: Water Take off immediately all contaminated clothing and wash it before reuse. Call a physician immediately.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Remove contact lenses, if present and easy to do. Continue rinsing.

Protect uninjured eye.

After ingestion

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Do not allow a neutralisation agent to be drunk. Call a physician immediately.

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

Causes burns. Irritant Cough Dyspnoea Vomiting Methaemoglobinaemia Risk of serious damage to eyes.

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 In case of fire may be liberated: Nitrogen oxides (NOx)

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. In case of fire and/or explosion do not breathe fumes. Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Move undamaged containers from immediate hazard area if it can be done safely. Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures



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General advice

Corrosive to metals.

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

7.1. Precautions for safe handling

Advice on safe handling

Read label before use. Handle and open container with care. When using do not eat, drink, smoke, sniff. Use personal protection equipment. Provide adequate ventilation. Avoid contact with skin, eyes and clothes. Do not breathe vapour/aerosol.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. Avoid: aerosol or mist formation Do not breathe vapour/aerosol.

Further information on handling

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities



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Requirements for storage rooms and vessels

Corrosive to metals.

Unsuitable container/equipment material: Metal

The product develops hydrogen in an aqueous solution in contact with metals.

Further information on storage conditions

Keep container tightly closed.

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
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	

PNEC values

CAS No	Substance		
Environmental compartment Value			
10031-43-3	Copper(II) nitrate trihydrate		
Freshwater		0,0078 mg/l	
Marine water		0,0052 mg/l	
Freshwater sediment 87 m		87 mg/kg	
Marine sediment		676 mg/kg	
Micro-organisms in sewage treatment plants (STP) 0,23		0,23 mg/l	
Soil 65 mg/kg		65 mg/kg	

8.2. Exposure controls

Appropriate engineering controls

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

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

Wear eye/face protection.

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



Safety Data Sheet

according to Regulation (EC) No 1907/2006

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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. Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols. The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

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

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Physical state:	Liquid	
Colour:	blue	
Odour:	like: Nitric acid	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and		No data available
boiling range:		
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:		0
Viscosity / kinematic:		No data available
Water solubility:		completely miscible
Solubility in other solvents		
No data available		
Partition coefficient n-octanol/water:		No data available
Vapour pressure:		No data available
Vapour pressure:		No data available
Density (at 20 °C):		1,0393 g/cm³
Bulk density:		No data available
Relative vapour density:		No data available
0.2. Other information		
Information with regard to physical haz	ard classes	
Explosive properties		
No data available		
Sustaining combustion:		No data available
Self-ignition temperature		
Solid:		No data available
Gas:		No data available
Oxidizing properties		
Oxidizing		

9.



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Other safety characteristics

Evaporation rate: Solvent separation test: Solvent content: Solid content: Sublimation point: Softening point: Pour point: No data available: Viscosity / dynamic: Flow time: No data available No data available No data available No data available 0 No data available No data available No data available

> No data available No data available

> No data available

Further Information

Corrosive to metals.

SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive to metals. Oxidising agent

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Alkali (lye)

The product develops hydrogen in an aqueous solution in contact with metals. Amines, Ammonia, Alcohols, Alkali metals, Hydrogen peroxide Copper, Combustible solids, Solvent, Alkaline earth metal, mercury (Hg).

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

Cellulose Metal

The product develops hydrogen in an aqueous solution in contact with metals.

10.6. Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

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

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



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CAS No	Chemical name					
	Exposure route	Dose	Species	Source	Method	
7697-37-2	nitric acid					
	inhalation vapour	ATE 2,65 mg/l				
10031-43-3	Copper(II) nitrate trihydrate					
	oral	ATE 500 mg/kg				

Irritation and corrosivity

Skin corrosion/irritation: Causes severe skin burns and eye damage.

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

Corrosive to the respiratory tract.

Following ingestion Gastric perforation Irritating to respiratory system.

Pulmonary oedema

see also Section 4

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.

Specific effects in experiment on an animal

There are no data available on the preparation/mixture itself.

Additional information on tests

There are no data available on the preparation/mixture itself.

Practical experience

There are no data available on the preparation/mixture itself.

11.2. Information on other hazards

Other information

There are no data available on the preparation/mixture itself.

Further information

There are no data available on the preparation/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	
7697-37-2	nitric acid							
	Acute fish toxicity	LC50 mg/l	1559	96 h	Topeka shiner	Environmental Toxicology and Chemistry,	other: ASTM E729-26	
	Fish toxicity	NOEC	268 mg/l	30 d	juvenile Topeka shiner and with juvenile Fathead m	Study report (2009)	Growth tests estimated the test chemical	
	Algae toxicity	NOEC mg/l	> 419	10 d	several benthic diatoms; see results	Marine Biology 43:307-315 (1977)	Ten cultures of benthic diatoms were iso	
	Acute bacteria toxicity	EC50 mg/l()	> 1000	3 h	Activated sludge	Study report (2008)	OECD Guideline 209	
10031-43-3	Copper(II) nitrate trihydrate							
	Acute fish toxicity	LC50 mg/l	0,193	96 h	Pimephales promelas	Study report (1996)	measurements were conducted by standard	
	Acute algae toxicity	ErC50 mg/l	0,152	72 h	Pseudokirchneriella subcapitata	Publication (2005)	OECD Guideline 201	
	Acute crustacea toxicity	EC50 mg/l	0,007	48 h	Daphnia magna	Study report (1978)	- Test were conducted on Daphnia magna t	
	Fish toxicity	NOEC mg/l	0,123	12 d	Atherinops affinis	Mar. Environ. Res. 31: 17-35 (1991)	Three tests are reported, designed to de	
	Algae toxicity	NOEC mg/l	0,0102	19 d	other aquatic plant: giant kelp Macrocystis pyrife	Mar. Ecol. Prog. Ser. 68: 147 - 156 (199	Tests were conducted to determine the ef	
	Crustacea toxicity	NOEC mg/l	0,033	14 d	Penaeus mergulensis and Penaeus monodon	Bull. Environ. Contain. Toxicol. (1995)	The effects of dissolved copper on the g	

12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

BCF

CAS No	Chemical name	BCF	Species	Source
10031-43-3	Copper(II) nitrate trihydrate	0,02 - 20	Crangon crangon	Symp. Biologica. Hun

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.

Further information

Do not allow to enter into surface water or drains. Discharge into the environment must be avoided.

SECTION 13: Disposal considerations



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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.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

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

Dispose of waste according to "Kreislaufwirtschafts- und Abfallgesetz (KrW-/AbfG)".

SECTION 14: Transport information

Land transport (ADR/RID)	
14.1. UN number or ID number:	UN 2031
14.2. UN proper shipping name:	NITRIC ACID
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8
Classification code:	C1
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	80
Tunnel restriction code:	E
Inland waterways transport (ADN)	
14.1. UN number or ID number:	UN 2031
14.2. UN proper shipping name:	NITRIC ACID
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8
Classification code:	C1
Limited quantity:	1 L
Excepted quantity:	E2
Marine transport (IMDG)	
14.1. UN number or ID number:	UN 2031
14.2. UN proper shipping name:	NITRIC ACID
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8
Special Provisions:	-
Limited quantity:	1 L
Excepted quantity:	E2
EmS:	F-A, S-B
Air transport (ICAO-TI/IATA-DGR)	
14.1. UN number or ID number:	UN 2031
14.2. UN proper shipping name:	NITRIC ACID
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8
Special Provisions:	A212
Limited quantity Passenger:	Forbidden
Passenger LQ:	Forbidden
Excepted quantity:	E0



an analyti chem brand	á	according to Regulation (EC) No 1907/2006					
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	tions December	· · · · · · · · · · · · · · · · · · ·					
IATA-packing instruc IATA-max. quantity -	•	Forbidden					
1 2	0	Forbidden 855					
IATA-packing instructions - Cargo: 855 IATA-max. quantity - Cargo: 30 L							
SECTION 15: Regula	-						
	-	ations/legislation specific for the substance or mixture					
Entry 3, Entry 75 Marketing and use o Acquisition, intro (EU) 2019/1148.	REACH, annex XVII): f explosives precursors duction, possession or	s (Regulation (EU) 2019/1148): use of this product by the general public is restricted by Regulation tions, and significant disappearances and thefts should be reported to					
National regulatory	information						
Employment restricti Water hazard class (Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. 1 - slightly hazardous to water					
SECTION 16: Other in	nformation						
	-	the previous version in section(s): 1,9,12.					
Abbreviations and a Ox. Liq: Oxidising Ox. Sol: Oxidisin Met. Corr: Subst	g liquid	ve to metals					
Acute Tox: Acute							
Skin Corr: Skin c	•						
Skin Irrit: Skin irri	tation						
Eye Dam: Eye da	•						
Eye Irrit: Eye irrit							
	cute aquatic hazard	d					
	Chronic aquatic hazar						
		tion method according to Regulation (EC) No 1272/2008 [CLP]					
Classification		tion procedure					
Met. Corr. 1; H290		of test data					
Skin Corr. 1B; H314	Calculatio						
Eye Dam. 1; H318	Calculatio						
	I statements (number						
H272	May intensify fire						
	H290 May be corrosive to metals.						
H302							
H314 Causes severe skin burns and eye damage.							
H315 Causes skin irritation.							
H318	H318 Causes serious eye damage.						

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H319

H331

H400

Causes serious eye irritation.

Very toxic to aquatic life.

Toxic if inhaled.



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EUH071

Corrosive to the respiratory tract.

Further Information

Provide appropriate information, instructions and training to users

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.

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