

Multielement-Standardlösung "PK" 5 Elemente in verdünntem Säuregemisch

Revision date: 29.07.2024

Product code: 33441

Page 1 of 12

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

1.1. Product identifier

Multielement-Standardlösung "PK" 5 Elemente in verdünntem Säuregemisch

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: Place:	Stempelstraße 6 D-47167 Duisburg	
Telephone: E-mail:	0203/5194-0 info@analytichem.de	Telefax: 0203/5194-290
Contact person: E-mail: Internet: Responsible Department:	Abteilung Produktsicherheit produktsicherheit@analytichem.de www.analytichem.de Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
<u>1.4. Emergency telephone</u> number:	Exposure, or Accident Call CHEMTF	ous Goods] Incidents Spill, Leak, Fire, REC Day or Night Within USA and Canada: Canada: +1 703-741-5970 (collect calls

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 Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Pictograms:

Regulation (EC) No 1272/2008

Signal word:

Warning



Hazard statements

H290	May be corrosive to metals.
H319	Causes serious eye irritation.

Precautionary statements

P280

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



Multielement-Standardlösung "PK" 5 Elemente in verdünntem Säuregemisch

Revision date: 29.07.2024	Product code: 33441	Page 2 of 12
P305+P351+P338	protection. 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	EC No Index No REACH No		
	Classification (Regulation (EC) N	o 1272/2008)		
7647-01-0	Hydrochloric acid			1 - < 5 %
	231-595-7	017-002-01-X	01-2119484862-27	
	Skin Corr. 1B, STOT SE 3; H314	H335		
13477-34-4	Calcium nitrate tetrahydrate			1 - < 5 %
	233-332-1		01-2119495093-35	
	Ox. Sol. 3, Acute Tox. 4, Eye Dat	m. 1; H272 H302 H318	·	
7697-37-2	nitric acid			< 1 %
	231-714-2	007-030-00-3	01-2119487297-23	
	Ox. Liq. 3, Met. Corr. 1, Acute To	x. 3, Skin Corr. 1A; H272 H2	290 H331 H314 EUH071	

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name			
	Specific Conc.	Limits, M-factors and ATE			
7647-01-0	231-595-7	Hydrochloric acid	1 - < 5 %		
	,	kin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 5 STOT SE 3; H335: >= 10 - 100			
13477-34-4	233-332-1	Calcium nitrate tetrahydrate	1 - < 5 %		
	dermal: LD50	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 300 - < 2000 mg/kg			
7697-37-2	231-714-2	nitric acid	< 1 %		
		E 2,65 mg/l (vapours) Ox. Liq. 3; H272: >= 65 - 100 Skin Corr. 1A; H314: >= 20 orr. 1B; H314: >= 5 - < 20			

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

No data available

After inhalation

Provide fresh air. Call a doctor if you feel unwell.



an analyti**chem** brand

according to Regulation (EC) No 1907/2006

Multielement-Standardlösung "PK" 5 Elemente in verdünntem Säuregemisch

Revision date: 29.07.2024

Product code: 33441

Page 3 of 12

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

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

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 In case of fire may be liberated: Nitrogen oxides (NOx) Hydrogen chloride (HCI) Metal oxide smoke, toxic

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

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



Multielement-Standardlösung "PK" 5 Elemente in verdünntem Säuregemisch

according to Regulation (EC) No 1907/2006

Revision date: 29.07.2024

Product code: 33441

Page 4 of 12

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

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



Multielement-Standardlösung "PK" 5 Elemente in verdünntem Säuregemisch

Revision date: 29.07.2024

Product code: 33441

Page 5 of 12

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
7647-01-0	Hydrogen chloride	5	8		TWA (8 h)	
		10	15		STEL (15 min)	
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	

DNEL/DMEL values

Substance				
	Exposure route	Effect	Value	
Hydrochloric acid				
long-term	inhalation	local	8 mg/m³	
acute	inhalation	local	15 mg/m³	
EL, long-term	inhalation	local	8 mg/m³	
EL, acute	inhalation	local	15 mg/m³	
13477-34-4 Calcium nitrate tetrahydrate				
Consumer DNEL, acute oral systemic 10			10 mg/kg bw/day	
	Hydrochloric acid long-term acute EL, long-term EL, acute Calcium nitrate tetrahydrate	Exposure route Hydrochloric acid long-term inhalation acute inhalation EL, long-term inhalation EL, acute inhalation Calcium nitrate tetrahydrate Inhalation	Exposure route Effect Hydrochloric acid inhalation local long-term inhalation local acute inhalation local EL, long-term inhalation local EL, acute inhalation local Calcium nitrate tetrahydrate inhalation local	

PNEC values

CAS No	Substance			
Environmental compartment Value				
13477-34-4 Calcium nitrate tetrahydrate				
Micro-organism	Micro-organisms in sewage treatment plants (STP) 18 mg/l			

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) 0,11 mm Wearing time with permanent contact: > 480 min

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): > 480 min



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Multielement-Standardlösung "PK" 5 Elemente in verdünntem Säuregemisch

Revision date: 29.07.2024

Product code: 33441

Page 6 of 12

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

Respiratory protection necessary at: aerosol or mist formation 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

	Physical state:	Liquid	
	Colour:	clear	
	Odour:	odourless	
	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:		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:		acidic
	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:		No data available
	Bulk density:		No data available
	Relative vapour density:		No data available
).2	2. Other information		
	Information with regard to physical haza	rd classes	
	Explosive properties		
	No data available		
	Sustaining combustion:		No data available
	Self-ignition temperature		
	Solid:		No data available
	Gas:		No data available

<u>9</u>.



Multielement-Standardlösung "PK" 5 Elemente in verdünntem Säuregemisch Revision date: 29.07.2024 Product code: 33441 Page 7 of 12 Oxidizing properties Oxidizing Other safety characteristics Evaporation rate: No data available 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 No data available Flow time:

Further Information

Corrosive to metals.

SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive to metals.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Alkali (lye)

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

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

Toxicocinetics, metabolism and distribution

There are no data available on the preparation/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



Multielement-Standardlösung "PK" 5 Elemente in verdünntem Säuregemisch

Revision date: 29.07.2024

Product code: 33441

Page 8 of 12

CAS No	Chemical name	Chemical name					
	Exposure route	Dose	Species	Source	Method		
13477-34-4	Calcium nitrate tetrahy	Calcium nitrate tetrahydrate					
	oral	LD50 > 300 - < 2000 mg/kg	Rat	Study report (2010)	OECD Guideline 423		
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2007)	OECD Guideline 402		
7697-37-2	nitric acid						
	inhalation vapour	ATE 2,65 mg/l					

Irritation and corrosivity

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

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.

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.



Multielement-Standardlösung "PK" 5 Elemente in verdünntem Säuregemisch

Revision date: 29.07.2024

Product code: 33441

Page 9 of 12

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] [d]	Species	Source	Method
7647-01-0	Hydrochloric acid						
	Acute fish toxicity	LC50	862 mg/l	96 h	Leuciscus idus		
13477-34-4	Calcium nitrate tetrahydr	ate					
	Acute fish toxicity	LC50 mg/l	1378	96 h	Poecilia reticulata	Water res. 11(10):927-935 (1977)	OECD Guideline 203
	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
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

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.

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

Discharge into the environment must be avoided.

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 empty into drains.

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.



Multielement-Standardlösung "PK" 5 Elemente in verdünntem Säuregemisch

Revision date: 29.07.2024

Product code: 33441

Page 10 of 12

SECTION 14: Transport information

and transport (ADR/RID)	1101 2264
14.1. UN number or ID number:	
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrochloric acid, nitric acid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C1
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E
land waterways transport (ADN)	
14.1. UN number or ID number:	UN 3264
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrochloric acid, nitric acid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C1
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1
arine transport (IMDG)	
<u>14.1. UN number or ID number:</u>	UN 3264
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrochloric acid,
14.2. ON proper snipping name.	Nitric acid)
<u>14.3. Transport hazard class(es):</u>	8
14.4. Packing group:	
Hazard label:	8
Special Provisions:	223, 274
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-B
ir transport (ICAO-TI/IATA-DGR)	
14.1. UN number or ID number:	UN 3264
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrochloric acid, Nitric acid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	
Hazard label:	8
Special Provisions:	A3 A803
Limited quantity Passenger:	1L
Passenger LQ:	Y841
Excepted quantity:	E1
IATA-packing instructions - Passenger:	852
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	856
IATA-max. quantity - Cargo:	60 L



Multielement-Standardlösung "PK" 5 Elemente in verdünntem Säuregemisch

work protection guideline' (94/33/EC).

1 - slightly hazardous to water

Revision date: 29.07.2024

Product code: 33441

Observe restrictions to employment for juveniles according to the 'juvenile

Page 11 of 12

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

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.

National regulatory information

Employment restrictions:

Water hazard class (D):

SECTION 16: Other information

Changes

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

Abbreviations and acronyms

Ox. Liq: Oxidising liquid Ox. Sol: Oxidising solid Met. Corr: Substance or mixture corrosive to metals Acute Tox: Acute toxicity Skin Corr: Skin corrosion Eye Dam: Eye damage Eye Irrit: Eye irritation STOT SE: Specific target organ toxicity - single exposure

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

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Eye Irrit. 2; H319	Calculation method

Relevant H and EUH statements (number and full text)

H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
EUH071	Corrosive to the respiratory tract.

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.



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Multielement-Standardlösung "PK" 5 Elemente in verdünntem Säuregemisch

Revision date: 29.07.2024

Product code: 33441

Page 12 of 12

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.)