

according to UK REACH Regulation

Standard multi-element solution 7 elements per 100 mg/kg n nitric acid 0.5 mol/l (3 %) with traces..

Revision date: 22.11.2023 Product code: 33535 Page 1 of 12

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

1.1. Product identifier

Standard multi-element solution 7 elements per 100 mg/kg n nitric acid 0.5 mol/l (3 %) with traces..

UFI: G4VY-F2FN-N00X-U87R

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 Street: Stempelstraße 6 Place: D-47167 Duisburg Telephone: 0203/5194-0

E-mail: info@analytichem.de

Contact person: Abteilung Produktsicherheit Telephone: 0203/5194-107/117

E-mail: produktsicherheit@analytichem.de

Internet: www.analytichem.de

Responsible Department: Abteilung Produktsicherheit

1.4. Emergency telephone
 number:
 For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire,
 Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada:

1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls

Telefax: 0203/5194-290

accepted)

Further Information

inapplicable, this product is a mixture REACH registration number see section 3

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Met. Corr. 1; H290 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

nitric acid

Signal word: Danger

Pictograms:





according to UK REACH Regulation

Standard multi-element solution 7 elements per 100 mg/kg n nitric acid 0.5 mol/l (3 %) with traces..

Revision date: 22.11.2023 Product code: 33535 Page 2 of 12

Hazard statements

H290 May be corrosive to metals.
H315 Causes skin irritation.
H318 Causes serious eve damage.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

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

protection.

P302+P352 IF ON SKIN: Wash with plenty of water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

Immediately call a POISON CENTER/doctor.

P310 **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				
	EC No	Index No	REACH No		
	Classification (GB CLP Regulatio	n)	•		
7697-37-2	nitric acid				
	231-714-2	007-030-00-3	01-2119487297-23		
	Ox. Liq. 3, Met. Corr. 1, Acute To				
7761-88-8	silver nitrate				
	231-853-9	047-001-00-2	01-2119513705-43		
	Ox. Sol. 2, Met. Corr. 1, Skin Corr. 1B, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H272 H290 H314 H318 H400 H410				

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

Specific Conc. Limits, M-factors and ATE

Specific Conc. Limits, Wi-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						
		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					
7761-88-8	231-853-9	silver nitrate	< 0.1 %				
	1	= > 348 mg/kg; oral: LD50 = > 2000 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



according to UK REACH Regulation

Standard multi-element solution 7 elements per 100 mg/kg n nitric acid 0.5 mol/l (3 %) with traces..

Revision date: 22.11.2023 Product code: 33535 Page 3 of 12

General information

No data available

After inhalation

Provide fresh air.

Call a doctor if you feel unwell.

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

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)

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.



Safety Data Sheet

according to UK REACH Regulation

Standard multi-element solution 7 elements per 100 mg/kg n nitric acid 0.5 mol/l (3 %) with traces..

Revision date: 22.11.2023 Product code: 33535 Page 4 of 12

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. Use extractor hood (laboratory).

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



Safety Data Sheet

according to UK REACH Regulation

Standard multi-element solution 7 elements per 100 mg/kg n nitric acid 0.5 mol/l (3 %) with traces..

Revision date: 22.11.2023 Product code: 33535 Page 5 of 12

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.

Hints on joint storage

national regulations

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

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance					
DNEL type		Exposure route	Effect	Value		
7761-88-8	silver nitrate					
Consumer DNEL, long-term		oral	systemic	0,02 mg/kg bw/day		
Worker DNEL, long-term		inhalation	systemic	0,016 mg/m³		
Consumer DNEL, long-term		inhalation	systemic	0,006 mg/m³		

PNEC values

CAS No	Substance				
Environmental	Environmental compartment Value				
7761-88-8	silver nitrate				
Freshwater	Freshwater 0,0000				
Marine water		0,00086 mg/l			
Freshwater sec	438,13 mg/kg				
Marine sedime	438,13 mg/kg				
Micro-organism	0,025 mg/l				
Soil 1,41 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.



according to UK REACH Regulation

Standard multi-element solution 7 elements per 100 mg/kg n nitric acid 0.5 mol/l (3 %) with traces..

Revision date: 22.11.2023 Product code: 33535 Page 6 of 12

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

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

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.

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
Odour: odourless
Odour threshold: No data available

Melting point/freezing point:

Boiling point or initial boiling point and

No data available

No data available

boiling range:

No data available Flammability: Lower explosion limits: No data available Upper explosion limits: No data available Flash point: No data available Auto-ignition temperature: No data available No data available Decomposition temperature: acidic pH-Value: Viscosity / kinematic: No data available Water solubility: completely miscible

Solubility in other solvents

No data available

Partition coefficient n-octanol/water:

Vapour pressure:

Vapour pressure:

No data available

No data available

No data available

Bulk density:

No data available



Safety Data Sheet

according to UK REACH Regulation

Standard multi-element solution 7 elements per 100 mg/kg n nitric acid 0.5 mol/l (3 %) with traces..

Revision date: 22.11.2023 Product code: 33535 Page 7 of 12

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

Oxidizing

Other safety characteristics

Evaporation rate:

Solvent separation test:

No data available
Solvent content:

Solid content:

Sublimation point:

Softening point:

No data available
Pour point:

No data available
No data available
No data available

No data available:

Viscosity / dynamic:

Flow time:

No data available

No data available

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 (Ive)

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

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 GB CLP Regulation



according to UK REACH Regulation

Standard multi-element solution 7 elements per 100 mg/kg n nitric acid 0.5 mol/l (3 %) with traces..

Revision date: 22.11.2023 Product code: 33535 Page 8 of 12

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

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
7697-37-2	nitric acid					
	inhalation vapour	ATE 2,65	mg/l			
7761-88-8	silver nitrate	lver nitrate				
	oral	LD50 mg/kg	> 2000	Rat	Study report (1993)	OECD Guideline 401
	dermal	LD50 mg/kg	> 348	Guinea pig	J. Vet. Med. Sci.73 1417 - 1423. (2011	

Irritation and corrosivity

Causes skin irritation.

Causes serious eye damage.

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.

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

There are no data available on the mixture itself.



Safety Data Sheet

according to UK REACH Regulation

Standard multi-element solution 7 elements per 100 mg/kg n nitric acid 0.5 mol/l (3 %) with traces..

Revision date: 22.11.2023 Product code: 33535 Page 9 of 12

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		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	
7761-88-8	silver nitrate							
	Acute fish toxicity	LC50 mg/l	0,0012	96 h	Pimephales promelas	Environmental Toxicology and Chemistry.	A guideline was not specified. The test	
	Acute algae toxicity	ErC50 mg/l	0,0099	96 h	Pseudokirchneriella subcapitata	Environmental Science and Technology. 44	eline: U.S. Environmental Protection Age	
	Acute crustacea toxicity	EC50 mg/l	0,00022	48 h	Daphnia magna	Environmental Toxicology and Chemistry.	The protective effect of reactive sulphi	
	Fish toxicity	NOEC 0,00125 m	> ng/l	73 d	Oncorhynchus mykiss	Environmental Toxicology and Chemistry 2	other: ASTM 1241-98	
	Algae toxicity	NOEC mg/l	0,0012	14 d	Champia parvula	in Bishop WE, Cardwell RD Heidolph BB (E	The toxicity tests lasted 11 days for th	
	Crustacea toxicity	NOEC mg/l	0,00031	20 d	Isonychia bicolour	Environmental Toxicology and Chemistry.	20 day sublethal effects on representati	

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
7761-88-8	silver nitrate	70	Cyprinus carpio	Water, Air and Soil

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 UK REACH.

There are no data available on the mixture itself.

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.



Safety Data Sheet

according to UK REACH Regulation

Standard multi-element solution 7 elements per 100 mg/kg n nitric acid 0.5 mol/l (3 %) with traces..

Revision date: 22.11.2023 Product code: 33535 Page 10 of 12

Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted.

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.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number: UN 3264

14.2. UN proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)

14.3. Transport hazard class(es): 14.4. Packing group: Ш Hazard label: 8 Classification code: C1 **Special Provisions:** 274 Limited quantity: 5 L Excepted quantity: F1 Transport category: 3 Hazard No: 80 Tunnel restriction code: Ε

Inland 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. (nitric acid)

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8Classification code:C1Special Provisions:274Limited quantity:5 LExcepted quantity:E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 3264

14.2. UN proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric acid)

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8Special Provisions:223, 274Limited quantity:5 LExcepted quantity:E1EmS:F-A, S-B



according to UK REACH Regulation

Standard multi-element solution 7 elements per 100 mg/kg n nitric acid 0.5 mol/l (3 %) with traces..

Revision date: 22.11.2023 Product code: 33535 Page 11 of 12

Air 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. (Nitric acid)

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8

Special Provisions:

Limited quantity Passenger:

Passenger LQ:

Y841

Excepted quantity:

E1

IATA-packing instructions - Passenger:852IATA-max. quantity - Passenger:5 LIATA-packing instructions - Cargo:856IATA-max. quantity - Cargo:60 L

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, Entry 75

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: 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

SECTION 16: Other information

Changes

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

Abbreviations and acronyms

Ox. Liq: Oxidising liquids
Ox. Sol: Oxidising solids
Met. Corr: Corrosive to metals
Acute Tox: Acute toxicity
Skin Corr: Skin corrosion
Skin Irrit: Skin irritation
Eye Dam: Eye damage

Aquatic Acute: Acute aquatic hazard Aquatic Chronic: Chronic aquatic hazard



according to UK REACH Regulation

Standard multi-element solution 7 elements per 100 mg/kg n nitric acid 0.5 mol/l (3 %) with traces..

Revision date: 22.11.2023 Product code: 33535 Page 12 of 12

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

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Skin Irrit. 2; H315	Calculation method
Eye Dam. 1; H318	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

C	ievanit ii and Eon Stat	ements (number and run text)
	H272	May intensify fire; oxidiser.
	H290	May be corrosive to metals.
	H314	Causes severe skin burns and eye damage.
	H315	Causes skin irritation.
	H318	Causes serious eye damage.
	H331	Toxic if inhaled.
	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.

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.

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.)