

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Potassium chloride solution 3.5 mol/l - 3.5 N solution saturated with AgCl

Revision date: 10.08.2023

Product code: 20158

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

1.1. Product identifier

Potassium chloride solution 3.5 mol/l - 3.5 N solution saturated with AgCl

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	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 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 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

Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures in aqueous solution

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7447-40-7	potassium chloride			20 - < 25 %
	231-211-8			
7783-90-6	silver chloride			< 0.1 %
	232-033-3			
	Met. Corr. 1, Aquatic Acute 1, Aquatic Chronic 1; H290 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		
7447-40-7	231-211-8	potassium chloride	20 - < 25 %
	oral: LD50 = ca. 2600 mg/kg		
7783-90-6	232-033-3	silver chloride	< 0.1 %
	oral: LD50 = > 2000 mg/kg Aquatic Acute 1; H400: M=1000 Aquatic Chronic 1; H410: M=100		

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.

After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

After ingestion

Rinse mouth immediately and drink plenty of water.

Call a doctor if you feel unwell.

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

Irritant

Vomiting

Gastrointestinal complaints

Cardiac arrhythmias

Circulatory collapse

4.3. Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

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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: Hydrogen chloride (HCl)

5.3. Advice for firefighters

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

Avoid contact with skin, eyes and clothes.

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

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

Keep container tightly closed.

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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.

Further information on storage conditions

storage temperature +15°C - +25°C

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
7447-40-7	potassium chloride			
Worker DNEL, long-term		inhalation	systemic	1064 mg/m ³
Worker DNEL, acute		inhalation	systemic	5320 mg/m ³
Worker DNEL, long-term		dermal	systemic	303 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	910 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	273 mg/m ³
Consumer DNEL, acute		inhalation	systemic	1365 mg/m ³
Consumer DNEL, long-term		dermal	systemic	182 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	910 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	91 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	455 mg/kg bw/day
7783-90-6	silver chloride			
Worker DNEL, long-term		inhalation	systemic	0,13 mg/m ³
Consumer DNEL, long-term		inhalation	systemic	0,053 mg/m ³
Consumer DNEL, long-term		oral	systemic	1,59 mg/kg bw/day

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PNEC values

CAS No	Substance	Value
Environmental compartment		
7447-40-7	potassium chloride	
Freshwater		0,1 mg/l
Freshwater (intermittent releases)		1 mg/l
Marine water		0,1 mg/l
Micro-organisms in sewage treatment plants (STP)		10 mg/l
7783-90-6	silver chloride	
Freshwater		0,00004 mg/l
Marine water		0,00086 mg/l
Freshwater sediment		438,13 mg/kg
Marine sediment		438,13 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,025 mg/l
Soil		0,794 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 Dermatrill® 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 Dermatrill® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

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.

Wash hands before breaks and after work.

Respiratory protection

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

Environmental exposure controls

Do not allow to enter into surface water or drains.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	colourless	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
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:		No data available
Viscosity / kinematic:		No data available
Water solubility:		completely miscible
Solubility in other solvents		
No data available		
Dissolution rate:		No data available
Partition coefficient n-octanol/water:		No data available
Dispersion stability:		No data available
Vapour pressure:		No data available
Vapour pressure:		No data available
Density:		1,18 g/cm ³
Relative density:		No data available
Bulk density:		No data available
Relative vapour density:		No data available
Particle characteristics:		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:		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
Flow time:		No data available

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Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

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

Toxicokinetics, metabolism and distribution

There are no data available on the 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
7447-40-7	potassium chloride				
	oral	LD50 mg/kg	ca. 2600	rat, guinea pig, sheep, goat	J Pharmacol Exp Therap 35, 1-15, 1929 (1)
7783-90-6	silver chloride				
	oral	LD50 mg/kg	> 2000	Rat	Study report (1993) OECD Guideline 401

Irritation and corrosivity

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

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

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STOT-repeated exposure

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

Aspiration hazard

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

Information on likely routes of exposure

There are no data available on the mixture itself.

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

No data available

11.2. Information on other hazards

Endocrine disrupting properties

There are no data available on the mixture itself.

Other information

There are no data available on the mixture itself.

Further information

Irritant

Vomiting

Gastrointestinal complaints

Cardiac arrhythmias

Circulatory collapse

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7447-40-7	potassium chloride					
	Acute fish toxicity	LC50 880 mg/l	96 h	Pimephales promelas	Environmental Toxicology and Chemistry,	OECD Guideline 203
	Acute algae toxicity	ErC50 > 100 mg/l	72 h	Desmodesmus subspicatus	Study report (2010)	OECD Guideline 201
	Acute bacteria toxicity	(EC50 > 1000 mg/l)	3 h	activated sludge, domestic	Study report (2010)	OECD Guideline 209
7783-90-6	silver chloride					
	Acute fish toxicity	LC50 0,0012 mg/l	96 h	Pimephales promelas	Environmental Toxicology and Chemistry 2	A guideline was not specified. The test
	Acute crustacea toxicity	EC50 0,00022 mg/l	48 h	Daphnia magna	Environmental Toxicology and Chemistry 2	48-hour static renewal toxicity tests. A
	Fish toxicity	NOEC > 0,00125 mg/l	73 d	Oncorhynchus mykiss	Environmental Toxicology and Chemistry 2	other: ASTM 1241-98
	Algae toxicity	NOEC 0,0012 mg/l	14 d	Champia parvula	in Bishop WE, Cardwell RD Heidolph BB (E	The toxicity tests lasted 11 days for th
	Crustacea toxicity	NOEC 0,001 mg/l	7 d	Ceriodaphnia reticulata	Publication (1986)	other: 7 day semi-static chronic toxicit

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.

BCF

CAS No	Chemical name	BCF	Species	Source
7783-90-6	silver chloride	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 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.

Do not empty into drains.

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Contaminated packaging

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

Packing which cannot be properly cleaned must be disposed of.

SECTION 14: Transport information**Land transport (ADR/RID)**

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 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

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

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

National regulatory information

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

Additional information

No data available

SECTION 16: Other information**Changes**

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

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Abbreviations and acronyms

Met. Corr: Substance or mixture corrosive to metals

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
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

- H290 May be corrosive to metals.
- 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.

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