

according to Regulation (EC) No 1907/2006

Dragendorff's R 1 Reag. Ph. Eur., chapter 4.1.1 (1070601)

Revision: 21.03.2025

Product code: 27531

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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UFI: 6P7F-M2C6-Q00N-8MJD

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Reagents and laboratory chemicals

Only for laboratory and analysis purposes.

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH

ACD

Street: Stempelstraße 6

Place: D-47167 Duisburg

Telephone: 0203/5194-0

Telefax: 0203/5194-290

E-mail: info@analytichem.de

Contact person: Abteilung Produktsicherheit

Telephone: 0203/5194-107/117

E-mail: produktsicherheit@analytichem.de

Internet: www.analytichem.de

Responsible Department: Abteilung Produktsicherheit

1.4. Emergency telephone**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**

Eye Dam. 1; H318

STOT RE 1; H372

Full text of hazard statements: see SECTION 16.

2.2. Label elements**Regulation (EC) No 1272/2008****Hazard components for labelling**

(+) -tartaric acid

potassium iodide

Signal word: Danger**Pictograms:**

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Hazard statements

- H318 Causes serious eye damage.
H372 Causes damage to organs (thyroid gland) through prolonged or repeated exposure if swallowed.

Precautionary statements

- P260 Do not breathe mist/vapours/spray.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing and eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Chemical characterization**

Mixtures in aqueous solution

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
87-69-4	(+)-tartaric acid			10 - < 15 %
	201-766-0		01-2119537204-47	
	Eye Dam. 1; H318			
7681-11-0	potassium iodide			10 - < 15 %
	231-659-4		01-2119906339-35	
	STOT RE 1; H372			
1304-85-4	bismuth subnitrate			1 - < 5 %
	Ox. Sol. 2, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H272 H315 H319 H335			

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		
87-69-4	201-766-0	(+)-tartaric acid	10 - < 15 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg		
7681-11-0	231-659-4	potassium iodide	10 - < 15 %
	oral: LD50 = 3118 mg/kg		
1304-85-4		bismuth subnitrate	1 - < 5 %
	inhalation: LC50 = > 5,07 mg/l (dusts or mists); 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**

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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.

After contact with eyes

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

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

After ingestion

Rinse mouth immediately and drink plenty of water.

Call a physician immediately.

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

Irritant

Agitation

Vomiting

May cause sensitisation especially in sensitive humans.

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:

Hydrogen iodide (HI)

5.3. Advice for firefighters

Do not inhale explosion and combustion gases.

Avoid contact with skin, eyes and clothes.

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

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****For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

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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**

Handle and open container with care.
Provide adequate ventilation.
Avoid contact with skin, eyes and clothes.
Do not breathe vapour/aerosol.
Avoid: aerosol or mist formation

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Take off contaminated clothing.
Wash hands before breaks and after work.
When using do not eat or drink.

Further information on handling

Take off contaminated clothing and wash it before reuse.
Wash hands before breaks and after work.
Draw up and observe skin protection programme.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Store in a well-ventilated place. Keep container tightly closed.
Keep container dry.

Hints on joint storage

national regulations

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Further information on storage conditions

Protect against: Light

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
87-69-4	(+)-tartaric acid			
Worker DNEL, long-term	inhalation	systemic	5,2 mg/m ³	
Worker DNEL, long-term	dermal	systemic	2,9 mg/kg bw/day	
Consumer DNEL, long-term	inhalation	systemic	1,3 mg/m ³	
Consumer DNEL, long-term	dermal	systemic	1,5 mg/kg bw/day	
Consumer DNEL, long-term	oral	systemic	8,1 mg/kg bw/day	
1304-85-4	bismuth subnitrate			
Worker DNEL, long-term	inhalation	systemic	2,7 mg/m ³	
Consumer DNEL, long-term	inhalation	systemic	0,67 mg/m ³	
Consumer DNEL, long-term	oral	systemic	5 mg/kg bw/day	

PNEC values

CAS No	Substance	Value
87-69-4	(+)-tartaric acid	
Freshwater	0,312 mg/l	
Freshwater (intermittent releases)	0,514 mg/l	
Marine water	0,312 mg/l	
Freshwater sediment	1,141 mg/kg	
Marine sediment	1,141 mg/kg	
Micro-organisms in sewage treatment plants (STP)	10 mg/l	
Soil	0,045 mg/kg	
1304-85-4	bismuth subnitrate	
Freshwater	0,137 mg/l	
Freshwater (intermittent releases)	1,37 mg/l	
Marine water	0,014 mg/l	
Freshwater sediment	14176,5 mg/kg	
Marine sediment	1417,7 mg/kg	
Secondary poisoning	33,3 mg/kg	
Micro-organisms in sewage treatment plants (STP)	17,5 mg/l	
Soil	120,3 mg/kg	

8.2. Exposure controls**Appropriate engineering controls**

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

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equipment.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Suitable eye 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

Trade name/designation KCL 741 Dermatril® L

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

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation KCL 741 Dermatril® 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.

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 entrepreneur 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:	orange brown	
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:		not determined
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		not applicable
Auto-ignition temperature:		No data available

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Decomposition temperature:	No data available
pH-Value:	0,7
Viscosity / kinematic:	No data available
Water solubility:	No data available
Solubility in other solvents	No data available
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	not determined
Dispersion stability:	No data available
Vapour pressure:	No data available
Density:	1,13356 g/cm ³
Relative density:	No data available
Bulk density:	No data available
Relative vapour density:	not determined
Particle characteristics:	No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties	No data available
Sustained combustibility:	No data available
Self-ignition temperature	not determined
Solid:	not determined
Gas:	not applicable
Oxidizing properties	No data available

Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	No data available
Solvent content:	No data available
Solid content:	No data available
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
Viscosity / dynamic:	No data available
Flow time:	No data available

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

Protect against: Light

10.3. Possibility of hazardous reactions

Alkali metals
Ammonia (NH₃)
Hydrogen peroxide

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Oxidising agent

Fluorine

10.4. Conditions to avoid

Light

10.5. Incompatible materials

No data available

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****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
87-69-4	(+) -tartaric acid				
	oral	LD50 > 2000 mg/kg	Rat	N/A (2010)	data sharing dispute
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2010)	OECD Guideline 402
7681-11-0	potassium iodide				
	oral	LD50 3118 mg/kg	Rat	Study report (1980)	OECD Guideline 401
1304-85-4	bismuth subnitrate				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2012)	EU Method B.1 tris
	inhalation (4 h) dust/mist	LC50 > 5,07 mg/l	Rat	Study report (2010)	OECD Guideline 436

Irritation and corrosivity

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

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

Sensitising effects

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

May cause sensitisation especially in sensitive humans.

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.

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STOT-single exposure

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

STOT-repeated exposure

Causes damage to organs through prolonged or repeated exposure. (potassium iodide)

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

There are no data available on the mixture itself.

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

Agitation

Vomiting

May cause sensitisation especially in sensitive humans.

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
87-69-4	(+) -tartaric acid					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Danio rerio	Study report (2010)	OECD Guideline 203
	Acute algae toxicity	ErC50 51,404 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (2010)	OECD Guideline 201
	Acute crustacea toxicity	EC50 93,313 mg/l	48 h	Daphnia magna	Study report (2010)	OECD Guideline 202
	Acute bacteria toxicity	EC50 > 1000 mg/l ()	3 h	Nature of inoculum: activated sludge, domestic, no	Study report (2010)	OECD Guideline 209
7681-11-0	potassium iodide					
	Acute fish toxicity	LC50 3780 mg/l	96 h	Oncorhynchus mykiss	Publication (1995)	other: Protocol to d
	Acute crustacea toxicity	EC50 1,27 mg/l	48 h	Daphnia magna	Study report (2012)	OECD Guideline 202
1304-85-4	bismuth subnitrate					
	Acute fish toxicity	LC50 > 137 mg/l	96 h	Danio rerio	REACH Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 > 137 mg/l	72 h	Pseudokirchneriella subcapitata	REACH Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 > 137 mg/l	48 h	Daphnia magna	REACH Registration Dossier	OECD Guideline 202

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
87-69-4	(+) -tartaric acid	0,012

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

There are no data available on the mixture itself.

Further information

Avoid release to the environment.

Do not allow to enter into surface water or drains.

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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:	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

14.7. Maritime transport in bulk according to IMO instruments

not applicable

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

National regulatory information

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Employment restrictions:	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.
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): 3,9,12.

Abbreviations and acronyms

Ox. Sol. 2: Oxidising solids, hazard category 2
Skin Irrit. 2: Skin irritation, hazard category 2
Eye Dam. 1: Serious eye damage, hazard category 1
Eye Irrit. 2: Eye irritation, hazard category 2
STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3
STOT RE 1: Specific target organ toxicity - repeated exposure, hazard category 1
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

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

Classification	Classification procedure
Eye Dam. 1; H318	Calculation method
STOT RE 1; H372	Calculation method

Relevant H and EUH statements (number and full text)

H272	May intensify fire; oxidiser.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H372	Causes damage to organs (thyroid gland) through prolonged or repeated exposure if swallowed.
H372	Causes damage to organs through prolonged or repeated exposure.

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. Provide appropriate information, instructions and training to users

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