

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**1043-99 Chloride 2 Indicator**

Revision date: 24.04.2019

Product code: 104399

Page 1 of 9

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

1043-99 Chloride 2 Indicator

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

Water analysis

**1.3. Details of the supplier of the safety data sheet**

Company name: HACH LANGE GmbH  
Street: Willstätterstr. 11  
Place: D-40549 Düsseldorf  
Telephone: +49 (0)211 5288-383  
e-mail: SDS@hach.com  
Internet: www.de.hach.com  
Responsible Department: HACH LANGE Ltd.  
5, Pacific Way  
Salford Manchester M50 1DL - United Kingdom  
Tel. +44 (0) 161 872 1487 \* Fax +44 (0) 161 848 7324  
e-Mail: info-uk@hach.com

HACH LANGE Ltd.  
Unit 1, Chestnut Road Western Industrial Estate  
IRL-Dublin 12  
Tel. +353 (0)1 4602522  
e-Mail: info-ie@hach.com

**1.4. Emergency telephone number:**

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Skin Sens. 1

Germ cell mutagenicity: Muta. 1B

Carcinogenicity: Carc. 1B

Specific target organ toxicity - single exposure: STOT SE 3

Hazardous to the aquatic environment: Aquatic Acute 1

Hazardous to the aquatic environment: Aquatic Chronic 1

Hazard Statements:

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause genetic defects.

May cause cancer by inhalation.

May cause respiratory irritation.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

**2.2. Label elements**

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 1043-99 Chloride 2 Indicator

Revision date: 24.04.2019

Product code: 104399

Page 2 of 9

#### Regulation (EC) No. 1272/2008

##### Hazard components for labelling

potassium chromate

**Signal word:** Danger

##### Pictograms:



##### Hazard statements

H302 Harmful if swallowed.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H319 Causes serious eye irritation.  
 H335 May cause respiratory irritation.  
 H340 May cause genetic defects.  
 H350i May cause cancer by inhalation.  
 H410 Very toxic to aquatic life with long lasting effects.

##### Precautionary statements

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 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.  
 P302+P352 IF ON SKIN: Wash with plenty of water.  
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
 P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P391 Collect spillage.

##### Special labelling of certain mixtures

Restricted to professional users.

##### Additional advice on labelling

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

#### 2.3. Other hazards

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	GHS Classification	
144-55-8	Sodium hydrogen carbonate	45-55 %
	205-633-8	
7789-00-6	potassium chromate	45-55 %
	232-140-5	
	024-006-00-8	
	Carc. 1B, Muta. 1B, Acute Tox. 3, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3, Aquatic Acute 1, Aquatic Chronic 1; H350i H340 H301 H315 H319 H317 H335 H400 H410	

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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 1043-99 Chloride 2 Indicator

Revision date: 24.04.2019

Product code: 104399

Page 3 of 9

#### Further Information

This product contains substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).  
potassium chromate

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

Take off all contaminated clothing immediately.  
Consult a physician. Show this safety data sheet to the doctor in attendance.

#### After inhalation

Move to fresh air.  
Consult a physician. Show this safety data sheet to the doctor in attendance.

#### After contact with skin

Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Call a physician immediately. Show this safety data sheet to the doctor in attendance.

#### After contact with eyes

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Show this safety data sheet to the doctor in attendance.

#### After ingestion

Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting.  
Consult a physician. Show this safety data sheet to the doctor in attendance.

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

irritant effects

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn.

### 5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.

### 5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

#### Additional information

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

### 6.3. Methods and material for containment and cleaning up

Use mechanical handling equipment. Treat recovered material as described in the section "Disposal considerations".

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 1043-99 Chloride 2 Indicator

Revision date: 24.04.2019

Product code: 104399

Page 4 of 9

#### 6.4. Reference to other sections

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Advice on safe handling

Use only in well-ventilated areas. Do not breathe vapours/dust.

#### 7.2. Conditions for safe storage, including any incompatibilities

##### Requirements for storage rooms and vessels

Keep tightly closed in a dry, cool and well-ventilated place. Protect against light. Accessible only for authorized persons.

#### 7.3. Specific end use(s)

Reagent for analysis

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
-	Chromium (VI) compounds (as Cr)	-	0.05		TWA (8 h)	WEL

##### Biological Monitoring Guidance Values (EH40)

CAS No	Substance	Parameter	Value	Test material	Sampling time
	Chromium VI	chromium (creatinine)	10 µmol/mol	urine	Post shift

##### Additional advice on limit values

None known.

#### 8.2. Exposure controls

##### Appropriate engineering controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

##### Protective and hygiene measures

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Wash hands before breaks and after work.

##### Eye/face protection

Safety glasses with side-shields

##### Hand protection

Use barrier skin cream.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact:

Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove

material: nitrile rubber, Layer thickness 0.40 mm, Breakthrough time: > 30 min

##### Skin protection

Remove and wash contaminated clothing before re-use.

##### Respiratory protection

Breathing apparatus only if aerosol or dust is formed.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 1043-99 Chloride 2 Indicator

Revision date: 24.04.2019

Product code: 104399

Page 5 of 9

Recommended Filter type: ABEK-filter

**Environmental exposure controls**

Do not flush into surface water or sanitary sewer system.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	solid, powder
Colour:	light yellow
Odour:	odourless
pH-Value (at 20 °C):	8,2 (5 % solution)

**Changes in the physical state**

Melting point:	not applicable
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not applicable
Decomposition temperature:	100 °C
Flash point:	not applicable

**Flammability**

Solid:	not applicable
Gas:	not applicable

**Explosive properties**

not applicable

Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	not applicable

**Auto-ignition temperature**

Solid:	not applicable
Gas:	not applicable

Decomposition temperature: no data available

**Oxidizing properties**

no data available

Vapour pressure:	no data available
Vapour pressure:	no data available
Density (at 20 °C):	2,25 g/cm <sup>3</sup>
Bulk density:	not applicable
Water solubility: (at 20 °C)	completely soluble

**Solubility in other solvents**

no data available

Partition coefficient:	no data available
Viscosity / dynamic:	no data available
Viscosity / kinematic:	no data available
Flow time:	no data available
Vapour density:	no data available
Evaporation rate:	no data available

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 1043-99 Chloride 2 Indicator

Revision date: 24.04.2019

Product code: 104399

Page 6 of 9

Solvent separation test:

no data available

Solvent content:

no data available

#### 9.2. Other information

Solid content:

not applicable

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Corrosive to metals

#### 10.2. Chemical stability

Stable under recommended storage conditions.

#### 10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

#### 10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat.

#### 10.5. Incompatible materials

Organic materials,

#### 10.6. Hazardous decomposition products

Chromium oxides

#### Further information

very reactive

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity

Harmful if swallowed.

No data is available on the product itself. Information given is based on data on the components and the toxicology of similar products.

##### ATEmix calculated

ATE (oral) 360,0 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
144-55-8	Sodium hydrogen carbonate				
	oral	LD50 mg/kg	4220	rat	
7789-00-6	potassium chromate				
	oral	LD50 mg/kg	180	mouse	

##### Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

##### Sensitising effects

May cause an allergic skin reaction. (potassium chromate)

##### Carcinogenic/mutagenic/toxic effects for reproduction

May cause genetic defects. (potassium chromate)

May cause cancer by inhalation. (potassium chromate)

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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 1043-99 Chloride 2 Indicator

Revision date: 24.04.2019

Product code: 104399

Page 7 of 9

#### STOT-single exposure

May cause respiratory irritation. (potassium chromate)

#### 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

No toxicology information is available.

#### Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

### SECTION 12: Ecological information

#### 12.1. Toxicity

May cause long-term adverse effects in the aquatic environment.

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
144-55-8	Sodium hydrogen carbonate					
	Acute fish toxicity	LC50 mg/l	7550	96 h		
	Acute crustacea toxicity	EC50 mg/l	2350	48 h		
7789-00-6	potassium chromate					
	Acute fish toxicity	LC50 mg/l	45,6	96 h	Pimephales promelas	
	Acute crustacea toxicity	EC50 mg/l	0,18	48 h	Daphnia pulex	

#### 12.2. Persistence and degradability

No data is available on the product itself.

#### 12.3. Bioaccumulative potential

no data available

#### 12.4. Mobility in soil

no data available

#### 12.5. Results of PBT and vPvB assessment

no data available

#### 12.6. Other adverse effects

Discharge into the environment must be avoided.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Advice on disposal

In accordance with local and national regulations.

##### Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 1043-99 Chloride 2 Indicator

Revision date: 24.04.2019

Product code: 104399

Page 8 of 9

#### Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

### SECTION 14: Transport information

#### Land transport (ADR/RID)

**14.1. UN number:** UN 3288  
**14.2. UN proper shipping name:** Toxic solid, inorganic, n.o.s.  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III

#### Inland waterways transport (ADN)

**Other applicable information (inland waterways transport)**  
Not tested

#### Marine transport (IMDG)

**14.1. UN number:** UN 3288  
**14.2. UN proper shipping name:** Toxic solid, inorganic, n.o.s. (Potassium chromate mixture)  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III  
Marine pollutant: --  
EmS: F-A,S-A

#### Air transport (ICAO-TI/IATA-DGR)

**14.1. UN number:** UN 3288  
**14.2. UN proper shipping name:** Toxic solid, inorganic, n.o.s. (Potassium chromate mixture)  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes



#### 14.6. Special precautions for user

Use personal protective equipment.

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

#### Other applicable information

Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit, Hazard Class: 9, UN Number 3316, Package group II, EMS Code: F-A, S-P

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

##### EU regulatory information

Authorisations (REACH, annex XIV):  
potassium chromate



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 1043-99 Chloride 2 Indicator

Revision date: 24.04.2019

Product code: 104399

Page 9 of 9

Restrictions on use (REACH, annex XVII):

Entry 28: potassium chromate

#### National regulatory information

Employment restrictions:

Observe restrictions to employment for juvenils 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 contaminating class (D):

3 - highly water contaminating

#### Additional information

professional use

#### 15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

### SECTION 16: Other information

#### Changes

Revision: 24.04.2019

Safety datasheet sections which have been updated: 11, 15

Revision: 4.09.2017

Safety datasheet sections which have been updated: 2, 4

Revision: 08.06.2016

Safety datasheet sections which have been updated: 2, 3, 8, 9, 11

Revision: 11.04.2016

Safety datasheet sections which have been updated: 3

Revision: 26.05.2015

Safety datasheet sections which have been updated: 2, 11

#### Relevant H and EUH statements (number and full text)

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H340	May cause genetic defects.
H350i	May cause cancer by inhalation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

#### Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**2349832 Silver Nitrate Titrant 0,0493 N**

Revision date: 18.01.2017

Product code: 2349832

Page 1 of 9

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

2349832 Silver Nitrate Titrant 0,0493 N

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

Water analysis

**1.3. Details of the supplier of the safety data sheet**

Company name: HACH LANGE GmbH  
Street: Willstätterstr. 11  
Place: D-40549 Düsseldorf  
Telephone: +49 (0)211 5288-383  
e-mail: SDS@hach.com  
Internet: www.de.hach.com  
Responsible Department: HACH LANGE Ltd.  
5, Pacific Way  
Salford Manchester M50 1DL - United Kingdom  
Tel. +44 (0) 161 872 1487 \* Fax +44 (0) 161 848 7324  
e-Mail: info-uk@hach.com

HACH LANGE Ltd.  
Unit 1, Chestnut Road Western Industrial Estate  
IRL-Dublin 12  
Tel. +353 (0)1 4602522  
e-Mail: info-ie@hach.com

**1.4. Emergency telephone number:**

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Hazardous to the aquatic environment: Aquatic Acute 1

Hazardous to the aquatic environment: Aquatic Chronic 1

Hazard Statements:

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

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

silver nitrate

**Signal word:** Warning**Pictograms:****Hazard statements**

H410

Very toxic to aquatic life with long lasting effects.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**2349832 Silver Nitrate Titrant 0,0493 N**

Revision date: 18.01.2017

Product code: 2349832

Page 2 of 9

**Precautionary statements**

P273 Avoid release to the environment.  
P391 Collect spillage.

**Additional advice on labelling**

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

**2.3. Other hazards**

None known.

**SECTION 3: Composition/information on ingredients**
**3.2. Mixtures**
**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7732-18-5	Water			> 95 %
	231-791-2			
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol			< 5 %
	200-661-7	603-117-00-0		
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336			
7761-88-8	silver nitrate			<1 %
	231-853-9	047-001-00-2		
	Ox. Sol. 2, Acute Tox. 4, Skin Corr. 1B, STOT SE 3, STOT RE 1, Aquatic Acute 1 (M-Factor = 100), Aquatic Chronic 1 (M-Factor = 100); H272 H302 H314 H335 H372 H400 H410			

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

**SECTION 4: First aid measures**
**4.1. Description of first aid measures**
**General information**

Take off contaminated clothing and shoes immediately.  
Show this safety data sheet to the doctor in attendance.

**After inhalation**

Move to fresh air.  
If symptoms persist, call a physician.

**After contact with skin**

Wash off immediately with plenty of water for at least 15 minutes.  
If skin irritation persists, call a physician.

**After contact with eyes**

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**After ingestion**

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Obtain medical attention.

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

Silver in the form of a finely divided dust may cause discoloration in contact with skin, and argyrosis in case of inhalation.

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

Treat symptomatically.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2349832 Silver Nitrate Titrant 0,0493 N

Revision date: 18.01.2017

Product code: 2349832

Page 3 of 9

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Water Dry powder Carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

None known.

### 5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.

### 5.3. Advice for firefighters

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

#### Additional information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

### 6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

### 6.4. Reference to other sections

13. Disposal considerations

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

Use only in well-ventilated areas.

Wash thoroughly after handling.

#### Advice on protection against fire and explosion

None known.

See also section 5

#### Further information on handling

Observe label precautions.

Avoid contact with skin, eyes and clothing.

Avoid contact with eyes.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

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

Keep away from direct sunlight.

#### Hints on joint storage

None known.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**2349832 Silver Nitrate Titrant 0,0493 N**

Revision date: 18.01.2017

Product code: 2349832

Page 4 of 9

**Further information on storage conditions**

no data available

**7.3. Specific end use(s)**

Reagent for analysis

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
67-63-0	Propan-2-ol	400	999		TWA (8 h)	WEL
		500	1250		STEL (15 min)	WEL
-	Silver (soluble compounds as Ag)	-	0.01		TWA (8 h)	WEL

**Additional advice on limit values**

None known.

**8.2. Exposure controls****Appropriate engineering controls**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

**Protective and hygiene measures**

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Wash hands before breaks and at the end of workday.

**Eye/face protection**

Safety glasses with side-shields

**Hand protection**

Use barrier skin cream.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.

In full contact: Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

**Skin protection**

Avoid contact with skin, eyes and clothing.

**Respiratory protection**

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

**Environmental exposure controls**

Do not flush into surface water or sanitary sewer system.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	liquid
Colour:	colourless
Odour:	alcohol-like
pH-Value (at 20 °C):	3,5

**Changes in the physical state**

Melting point: not applicable

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**2349832 Silver Nitrate Titrant 0,0493 N**

Revision date: 18.01.2017

Product code: 2349832

Page 5 of 9

Initial boiling point and boiling range: no data available  
Sublimation point: not applicable  
Softening point: not applicable  
Pour point: no data available  
:  
Flash point: >94,4 °C

**Flammability**

Solid: not applicable  
Gas: not applicable

**Explosive properties**

no data available

Lower explosion limits: no data available  
Upper explosion limits: no data available  
Ignition temperature: no data available

**Auto-ignition temperature**

Solid: not applicable  
Gas: not applicable

Decomposition temperature: no data available

**Oxidizing properties**

no data available

Vapour pressure: no data available

Vapour pressure: no data available

Density (at 20 °C): 1 g/cm<sup>3</sup>

Bulk density: no data available

Water solubility: soluble  
(at 20 °C)**Solubility in other solvents**

no data available

Partition coefficient: no data available

Viscosity / dynamic: no data available

Viscosity / kinematic: no data available

Flow time: no data available

Vapour density: no data available

Evaporation rate: no data available

Solvent separation test: no data available

Solvent content: no data available

**9.2. Other information**

Solid content: no data available

no data available

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No dangerous reaction known under conditions of normal use.

**10.2. Chemical stability**

Stable under recommended storage conditions.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**2349832 Silver Nitrate Titrant 0,0493 N**

Revision date: 18.01.2017

Product code: 2349832

Page 6 of 9

**10.3. Possibility of hazardous reactions**

None known.

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**Decomposition products: Carbon dioxide (CO<sub>2</sub>) Carbon monoxide**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Toxicokinetics, metabolism and distribution**

No toxicology information is available.

**Acute toxicity**

No data is available on the product itself.

Health injuries are not known or expected under normal use.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol				
	oral	LD50 mg/kg	5045	rat	RTECS
	dermal	LD50 mg/kg	12800	rabbit	
	inhalation (4 h) vapour	LC50	46,5 mg/l	rat	
7761-88-8	silver nitrate				
	oral	LD50 mg/kg	1173	rat	RTECS

**Irritation and corrosivity**

No known effect.

**Sensitising effects**

No sensitisation responses were observed.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Contains no ingredient listed as a carcinogen

**STOT-repeated exposure**

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Aspiration hazard**

No aspiration toxicity classification

**Specific effects in experiment on an animal**

No toxicology information is available.

**Additional information on tests**

None known.

**Practical experience****Observations relevant to classification**

None known.

**Other observations**

None known.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2349832 Silver Nitrate Titrant 0,0493 N

Revision date: 18.01.2017

Product code: 2349832

Page 7 of 9

#### Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No information on ecology is available.

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol					
	Acute fish toxicity	LC50 mg/l	1400	96 h	Lepomis macrochirus (Bluegill sunfish)	
	Acute algae toxicity	ErC50 mg/l	> 1000	72 h	Pseudokirchneriella subcapitata (green algae)	IUCLID
	Acute crustacea toxicity	EC50 mg/l	13299	48 h	Daphnia magna (Water flea)	IUCLID
7761-88-8	silver nitrate					
	Acute fish toxicity	LC50 mg/l	0,006	96 h	Oncorhynchus mykiss (rainbow trout)	
	Acute crustacea toxicity	EC50 mg/l	0,00156	48 h	Daphnia magna (Water flea)	

#### 12.2. Persistence and degradability

No data is available on the product itself.

#### 12.3. Bioaccumulative potential

no data available

#### 12.4. Mobility in soil

no data available

#### 12.5. Results of PBT and vPvB assessment

no data available

#### 12.6. Other adverse effects

Discharge into the environment must be avoided.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Advice on disposal

In accordance with local and national regulations.

##### Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

##### Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

##### Waste disposal number of contaminated packaging



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2349832 Silver Nitrate Titrant 0,0493 N

Revision date: 18.01.2017

Product code: 2349832

Page 8 of 9

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

#### SECTION 14: Transport information

##### Land transport (ADR/RID)

###### Other applicable information (land transport)

Not subject to transport regulations.

##### Inland waterways transport (ADN)

###### Other applicable information (inland waterways transport)

Not tested

##### Marine transport (IMDG)

###### Other applicable information (marine transport)

Not subject to transport regulations.

##### Air transport (ICAO-TI/IATA-DGR)

###### Other applicable information (air transport)

Not subject to transport regulations.

##### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:        yes



##### 14.6. Special precautions for user

not applicable

##### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

#### SECTION 15: Regulatory information

##### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

###### National regulatory information

Water contaminating class (D):        3 - highly water contaminating

##### 15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

#### SECTION 16: Other information

##### Changes

Revision: 18.01.2017

Safety datasheet sections which have been updated: 2, 4, 8, 9, 10, 11, 12

Revision: 20.05.2015

Safety datasheet sections which have been updated: 2, 4, 11, 14

Revision: 10.01.2013

##### Relevant H and EUH statements (number and full text)

H225                    Highly flammable liquid and vapour.

H272                    May intensify fire; oxidiser.

H302                    Harmful if swallowed.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 2349832 Silver Nitrate Titrant 0,0493 N

Revision date: 18.01.2017

Product code: 2349832

Page 9 of 9

H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

#### Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

---

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