

**Safety data sheet  
according to 1907/2006/EC, Article 31**

Printing date 11.11.2019

Version number 3.0

Revision: 11.11.2019

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

- **1.1 Product identifier**
- **Trade name: Precision Reagent - Chloride**
- **Article number: KR 101**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
For Laboratory Use Only
- **Application of the substance / the mixture** Water Testing Reagent
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Serosep Ltd.  
Annacotty Business Park  
Annacotty  
Co. Limerick  
Ireland
- **Further information obtainable from:**  
Tel: +353 61 358190  
Fax: +353 61 358191  
E-mail: acoonerty@serosep.com
- **1.4 Emergency telephone number:**  
Emergency medical information: 8am-10pm (seven days) contact National Poisons Information Centre,  
Beaumont Hospital, Dublin 9. Tel 01 8092566.

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

STOT SE 2 H371 May cause damage to organs.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.

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- **Hazard pictograms**



GHS05 GHS07 GHS08

- **Signal word** Danger

- **Hazard-determining components of labelling:**

methanol  
 Ferric Nitrate  
 mercury dithiocyanate  
 nitric acid

- **Hazard statements**

H332 Harmful if inhaled.  
 H315 Causes skin irritation.  
 H318 Causes serious eye damage.  
 H371 May cause damage to organs.  
 H373 May cause damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P280 Wear protective gloves / eye protection / face protection.  
 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.  
 P310 Immediately call a POISON CENTER/doctor.  
 P321 Specific treatment (see on this label).  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

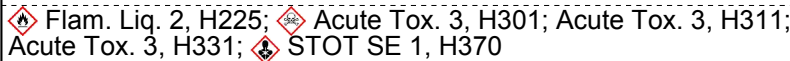

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**

- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 67-56-1	methanol	9.0%
EINECS: 200-659-6		
CAS: 10421-48-4	Ferric Nitrate	3.0%
		

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CAS: 7697-37-2 EINECS: 231-714-2	nitric acid ⚠ Ox. Liq. 2, H272; ⚠ Skin Corr. 1A, H314	1.0%
CAS: 592-85-8 EINECS: 209-773-0	mercury dithiocyanate ⚠ Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; ⚠ STOT RE 2, H373; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.2%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** Call for a doctor immediately.

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

No further relevant information available.

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

No further relevant information available.

### SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **5.2 Special hazards arising from the substance or mixture**

No further relevant information available.

· **5.3 Advice for firefighters**

· **Protective equipment:** Mouth respiratory protective device.

### SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.
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### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Keep ignition sources away - Do not smoke.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

· <b>Ingredients with limit values that require monitoring at the workplace:</b>
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<b>67-56-1 methanol</b>
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OEL	Long-term value: 260 mg/m <sup>3</sup> , 200 ppm Sk, IOELV
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<b>7697-37-2 nitric acid</b>
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OEL	Short-term value: 2.6 mg/m <sup>3</sup> , 1 ppm IOELV
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<b>592-85-8 mercury dithiocyanate</b>
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OEL	Long-term value: 0.02 mg/m <sup>3</sup> as Hg; IOELV, Repr. 1B
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- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

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The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**

Safety glasses



Tightly sealed goggles

## SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

**Form:** Fluid  
**Colour:** According to product specification

- **Odour:** Characteristic

- **Odour threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

**Melting point/freezing point:** Undetermined.  
**Initial boiling point and boiling range:** 64 °C

- **Flash point:** >55 °C

- **Flammability (solid, gas):** Not applicable.

- **Ignition temperature:** 455 °C

- **Decomposition temperature:** Not determined.

- **Auto-ignition temperature:** Product is not selfigniting.

- **Explosive properties:** Product does not present an explosion hazard.

- **Explosion limits:**

**Lower:** 5.5 Vol %  
**Upper:** 44 Vol %

- **Vapour pressure at 20 °C:** 23 hPa

- **Density:** Not determined.

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- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>· <b>Relative density</b></li> <li>· <b>Vapour density</b></li> <li>· <b>Evaporation rate</b></li> </ul> | <ul style="list-style-type: none"> <li>Not determined.</li> <li>Not determined.</li> <li>Not determined.</li> </ul> |
|---|---|

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>Solubility in / Miscibility with water:</b></li> </ul> | <ul style="list-style-type: none"> <li>Not miscible or difficult to mix.</li> </ul> |
|--|---|

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>Partition coefficient: n-octanol/water:</b></li> </ul> | <ul style="list-style-type: none"> <li>Not determined.</li> </ul> |
|--|---|

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>· <b>Viscosity:</b></li> <li style="padding-left: 20px;">Dynamic:</li> <li style="padding-left: 20px;">Kinematic:</li> </ul> | <ul style="list-style-type: none"> <li>Not determined.</li> <li>Not determined.</li> </ul> |
|---|--|

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>Solvent content:</b></li> <li style="padding-left: 20px;">Organic solvents:</li> <li style="padding-left: 20px;">Water:</li> <li style="padding-left: 20px;">VOC (EC)</li> </ul> | <ul style="list-style-type: none"> <li>9.0 %</li> <li>86.8 %</li> <li>9.00 %</li> </ul> |
|--|---|

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>Solids content:</b></li> <li>· <b>9.2 Other information</b></li> </ul> | <ul style="list-style-type: none"> <li>3.2 %</li> <li>No further relevant information available.</li> </ul> |
|--|---|

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**  
Harmful if inhaled.

- **LD/LC50 values relevant for classification:**

### 67-56-1 methanol

Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

### 592-85-8 mercury dithiocyanate

Oral	LD50	46 mg/kg (rat)
Dermal	LD50	685 mg/kg (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes skin irritation.
- **Serious eye damage/irritation**  
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

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- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**  
May cause damage to organs.
- **STOT-repeated exposure**  
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

- |                                       |  |
|---------------------------------------|--|
| · <b>14.1 UN-Number</b>               |  |
| · <b>ADR, IMDG, IATA</b>              | UN2924   |
| · <b>14.2 UN proper shipping name</b> |  |
| · <b>ADR</b>                          | 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHANOL, NITRIC ACID) |
| · <b>IMDG, IATA</b>                   | FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHANOL, NITRIC ACID)      |

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· **14.3 Transport hazard class(es)**

· **ADR**



· **Class** 3 Flammable liquids.  
· **Label** 3+8

· **IMDG**



· **Class** 3 Flammable liquids.  
· **Label** 3/8

· **IATA**



· **Class** 3 Flammable liquids.  
· **Label** 3 (8)

· **14.4 Packing group**

· **ADR, IMDG, IATA** III

· **14.5 Environmental hazards:**

· **Marine pollutant:** No

· **14.6 Special precautions for user**

· **Danger code (Kemler):** Warming: Flammable liquids.  
38  
· **EMS Number:** F-E,S-C  
· **Segregation groups** Strong acids, heavy metals and their salts (including their organometallic compounds), mercury and mercury compounds  
· **Stowage Category** A  
· **Stowage Code** SW2 Clear of living quarters.

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 5L  
· **Excepted quantities (EQ)** Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml  
· **Transport category** 3  
· **Tunnel restriction code** D/E

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<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHANOL, NITRIC ACID), 3 (8), III

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 18, 69

- **Regulation (EU) No 649/2012**

592-85-8	mercury dithiocyanate	Annex I Part 1 Annex I Part 3 Annex V Part 2
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- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

- H225 Highly flammable liquid and vapour.
- H272 May intensify fire; oxidiser.
- H300 Fatal if swallowed.
- H301 Toxic if swallowed.
- H310 Fatal in contact with skin.
- H311 Toxic in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H330 Fatal if inhaled.
- H331 Toxic if inhaled.
- H370 Causes damage to organs.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

- **Department issuing SDS:** Chemical Laboratory

- **Contact:** A. Coonerty

- **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
 ICAO: International Civil Aviation Organisation

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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 Harmonised 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 (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Ox. Liq. 2: Oxidizing liquids – Category 2

Acute Tox. 2: Acute toxicity – Category 2

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 1: Acute toxicity – Category 1

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

**\* Data compared to the previous version altered.**