

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : Ruthenium(III) chloride hydrate
Product code : GK0557
CAS number : 14898-67-0
EINECS : 233-167-5

1.2 Relevant identified uses of the substance or mixture and uses advised against

PC21: Laboratory chemicals.

1.3 Details of the supplier of the safety data sheet

Company name	: Glentham Life Sciences Ltd	Telephone	: +44 (0) 1225 667 798
	: Unit 5 Leaffield Way	Fax	: +44 (0) 2033 978 909
	: Corsham SN13 9SW	Email	: info@glentham.com
	: United Kingdom	Web	: www.glentham.com

1.4 Emergency telephone number

Emergency telephone number: +44 (0) 1225 667 798 (09.00 – 17.00 GMT)

1.5 REACH

A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

2. Hazards identification

2.1 Classification of the substance or mixture

Classification under CLP

Met. Corr. 1, Acute Oral Tox. 4, Skin Corr. 1B, Eye Dam. 1, Aquatic Chronic 3.

2.2 Label elements

Label elements under CLP

Pictograms



Signal words

Warning

Hazard statements

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 or doctor/physician.

2.3 Other hazards

PBT

This substance is not identified as a PBT substance.

3.0 Composition/information on ingredients

3.1 Substances

Product name	: Ruthenium(III) chloride hydrate	MW: 207.43
CAS number	: 14898-67-0	MF : $\text{Cl}_3\text{Ru} \cdot \text{xH}_2\text{O}$
EINECS	: 233-167-5	

4.0 First aid measures

4.1 Description of first aid measures

Skin contact

Wash immediately with plenty of soap and water. Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Transfer to hospital if there are burns or symptoms of poisoning.

Eye contact

Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.

Ingestion

Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. Give 1 cup of water to drink every 10 minutes. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.

Inhalation

Consult a doctor. Remove casualty from exposure ensuring one's own safety whilst doing so. If conscious, ensure the casualty sits or lies down. If unconscious and breathing is OK, place in the recovery position. If breathing becomes bubbly, have the casualty sit and provide oxygen if available.

4.2 Most important symptoms and effects, both acute and delayed

Skin contact

There may be mild irritation at the site of contact. Blistering may occur. Progressive ulceration will occur if treatment is not immediate.

Eye contact

There may be irritation and redness. There may be pain and redness. Corneal burns may occur. May cause permanent damage.

Ingestion

There may be soreness and redness of the mouth and throat. There may be difficulty swallowing. Corrosive burns may appear around the lips. Nausea and stomach pain may occur. There may be vomiting. Blood may be vomited. There may be bleeding from the mouth or nose. There may be irritation of the throat.

Inhalation

There may be irritation of the throat with a feeling of tightness in the chest. There may be shortness of breath with a burning sensation in the throat. Exposure may cause coughing or wheezing. Drowsiness or mental confusion may occur. Absorption through the lungs can occur causing symptoms similar to those of ingestion.

Delayed / immediate effects

Immediate effects can be expected after short-term exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Immediate / special treatment

Eye bathing equipment should be available on the premises. Not applicable.

5.0 Fire-fighting measures

5.1 Extinguishing media

Use water spray to cool containers. Suitable extinguishing media for the surrounding fire should be used.

5.2 Special hazards arising from the substance or mixture

Exposure hazards

Corrosive. In combustion emits toxic fumes.

5.3 Advice for fire-fighters

Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

6.0 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions

Refer to section 8 of SDS for personal protection details. Notify the police and fire brigade immediately. If outside do not approach from downwind. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Do not attempt to take action without suitable protective clothing - see section 8 of SDS. Do not create dust.

6.2 Environmental precautions

Do not discharge into drains or rivers.

6.3 Methods and material for containment and cleaning up

Clean-up procedures

Transfer to a closable, labelled salvage container for disposal by an appropriate method. Clean-up should be dealt with only by qualified personnel familiar with the specific substance.

6.3 Reference to other sections

Refer to section 8 of SDS.

7.0 Handling and storage

7.1 Precautions for safe handling**Handling requirements**

Ensure there is sufficient ventilation of the area. Do not handle in a confined space. Avoid the formation or spread of dust in the air. Avoid direct contact with the substance.

7.2 Conditions for safe storage, including any incompatibilities**Storage conditions**

Store in cool, well ventilated area. Keep container tightly closed. Avoid contact with water or humidity.

7.3 Specific end use(s)

No data available.

8.0 Exposure controls/personal protection**8.1 Control parameters****Workplace exposure limits**

Not applicable.

8.2 Exposure controls**Engineering measures**

Ensure there is sufficient ventilation of the area. Ensure there is exhaust ventilation of the area. Not applicable.

Respiratory protection

Respiratory protective device with particle filter. Self-contained breathing apparatus must be available in case of emergency.

Hand protection

Protective gloves.

Eye protection

Safety glasses. Tightly fitting safety goggles. Ensure eye bath is to hand.

Skin protection

Protective clothing.

9.0 Physical and chemical properties**9.1 Information on basic physical and chemical properties****Physical Form:**

Colour:

9.2 Other information

Not applicable.

10.0 Stability and reactivity**10.1 Reactivity****10.2 Chemical stability**

Stable under normal conditions.

10.3 Possibility of hazardous reactions**Hazardous reactions**

Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.

10.4 Conditions to avoid

Heat.

10.5 Incompatible materials**Materials to avoid**

Strong acids. Strong oxidising agents.

11.0 Toxicological information**11.1 Information on toxicological effects****Toxicity values**

Not applicable.

11.2 Information on toxicological effects**Skin contact**

There may be mild irritation at the site of contact. Blistering may occur. Progressive ulceration will occur if treatment is not immediate.

Eye contact

There may be irritation and redness. There may be pain and redness. Corneal burns may occur. May cause permanent damage.

Ingestion

There may be soreness and redness of the mouth and throat. There may be difficulty swallowing. Corrosive burns may appear around the lips. Nausea and stomach pain may occur. There may be vomiting. Blood may be vomited. There may be bleeding from the mouth or nose. There may be irritation of the throat.

Inhalation

There may be irritation of the throat with a feeling of tightness in the chest. There may be shortness of breath with a burning sensation in the throat. Exposure may cause coughing or wheezing. Drowsiness or mental confusion may occur. Absorption through the lungs can occur causing symptoms similar to those of ingestion.

Delayed / immediate effects

Immediate effects can be expected after short-term exposure.

Other information

12.0 Ecological information

12.1 Toxicity

Not applicable.

12.2 Persistence and degradability

Not biodegradable. Biodegradable.

12.3 Bioaccumulative potential

No bioaccumulation potential. Bioaccumulation potential.

12.4 Mobility in soil

Readily absorbed into soil.

12.5 Results of PBT and vPvB assessment

This substance is not identified as a PBT substance.

12.6 Endocrine disrupting properties

Negligible ecotoxicity. Toxic to aquatic organisms.

13.0 Disposal considerations

13.1 Waste treatment methods

Disposal operations

Transfer to a suitable container and arrange for collection by specialised disposal company.

NB

The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

14.0 Transport information

14.1 UN number

UN3260

14.2 UN proper shipping name

Corrosive solid, acidic, inorganic, n.o.s. (Ruthenium(III) chloride hydrate)

14.3 Transport hazard class(es)

8

14.4 Packing group

II

14.5 Environmental hazards

N/A

14.6 Special precautions for user

No special precautions.

15.0 Regulatory information

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

Not applicable.

Chemical Safety Assessment

A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

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16.0 Other information**Other information**

This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

Legal disclaimer

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.