



The Power to Question

SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 17-May-2022

Version 1

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product Identifier

Product Name	Ruthenium(III) bromide hydrate
Product Code	SC-280072
EC No	237-829-4
CAS No	14014-88-1
Pure substance/mixture	Substance
Contains Ruthenium(III) bromide hydrate	

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

For research use only. Not intended for diagnostic or therapeutic use.

1.3. Details of the supplier of the safety data sheet

Santa Cruz Biotechnology, Inc.
10410 Finnell Street
Dallas, TX 75220
831.457.3800
800.457.3801
scbt@scbt.com

Santa Cruz Biotechnology, Inc.
Bergheimer Str. 89-2
69115 Heidelberg, Germany
+49.6221.4503 0
+1.800.457.3801
europe@scbt.com

1.4. Emergency telephone number

Chemtrec
1.800.424.9300 (Within USA)
+1.703.527.3887 (Outside USA)

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin corrosion/irritation
Serious eye damage/eye irritation
Specific target organ toxicity (single exposure)

Category 1 Sub-category B - (H314)
Category 1 - (H318)
Category 3 - (H335)

2.2. Label Elements

Contains Ruthenium(III) bromide hydrate
Signal word

Danger

Symbols/Pictograms



Hazard statements

H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation

Precautionary Statements - EU (§28, 1272/2008)

P260 - Do not breathe dusts or mists
P264 - Wash face, hands and any exposed skin thoroughly after handling
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
 P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position 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 or doctor
 P321 - Specific treatment (see Emergency Phone Number on this label)
 P363 - Wash contaminated clothing before reuse
 P405 - Store locked up
 P501 - Dispose of contents/ container to an approved waste disposal plant
 P280 - Wear protective gloves
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P332 + P313 - If skin irritation occurs: Get medical advice/attention
 P362 - Take off contaminated clothing and wash before reuse
 P280 - Wear eye protection/ face protection
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
 P271 - Use only outdoors or in a well-ventilated area
 P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
 P312 - Call a POISON CENTER or doctor if you feel unwell
 P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

2.3. Other Hazards

General Hazards

Not applicable

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Weight 340.78
 Formula RuBr₃

3.1 Substances

Chemical name	EC No	CAS No.	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Ruthenium(III) bromide hydrate	Present	14014-88-1	100	Skin Corr. 1B (H314) STOT SE 3 (H335)

Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice Consult a physician if necessary.
 Inhalation Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.
 Skin Contact Wash skin with soap and water.
 Eye contact Wash with plenty of water.
 Ingestion Never give anything by mouth to an unconscious person. Clean mouth with water.

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

Symptoms No information available.

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

Note to physicians
Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES**5.1. Extinguishing media**

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available

Hazardous combustion products No information available.

5.3. Advice for firefighters

Special protective equipment for fire-fighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions Ensure adequate ventilation, especially in confined areas.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly.

6.4. Reference to other sections

See Section 12: ECOLOGICAL INFORMATION.

Section 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Protect from moisture.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters**

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available.



8.2. Exposure controls

Engineering Controls	Showers Eyewash stations Ventilation systems
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin and Body Protection	Wear protective gloves and protective clothing.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Environmental exposure controls	No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	crystalline
Odor	No information available

<u>Property</u>	<u>Values</u>
pH	No information available
Melting point/freezing point	No information available
Boiling point	No information available
Flash point	No information available
Liquid Density	No information available
Evaporation rate	No information available
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity	Not applicable
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10.2. Chemical stability

Stability	Stable under recommended storage conditions.
Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.

10.3. Possibility of hazardous reactions

Hazardous polymerization	No information available.
Possibility of Hazardous Reactions	None under normal processing.

10.4. Conditions to avoid

Conditions to avoid	Exposure to air or moisture over prolonged periods.
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10.5. Incompatible materials

Incompatible materials	Strong oxidizing agents.
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10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information

Product does not present an acute toxicity hazard based on known or supplied information.

Unknown acute toxicity

100% of the mixture consists of ingredient(s) of unknown toxicity.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity

May cause long lasting harmful effects to aquatic life.

Unknown aquatic toxicity

100% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Persistence and degradability

No information available.

12.3. Bioaccumulative potential

Bioaccumulation

No information available.

12.4. Mobility in soil

Mobility

No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment

No information available.

12.6. Other adverse effects

Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Do not reuse container.

Section 14: TRANSPORT INFORMATION

	<u>RID / ADR</u>	<u>IMDG</u>	<u>ICAO (air) / IATA</u>
14.1 UN/ID no	UN3260	UN3260	UN3260
14.2 Proper shipping name	Corrosive solid, acidic, inorganic, n.o.s.	Corrosive solid, acidic, inorganic, n.o.s.	Corrosive solid, acidic, inorganic, n.o.s.
14.3 Hazard Class	8	8	8

**Subsidiary hazard class / Labels****14.4 Packing Group****14.5 14.5 Environmental Hazard****14.6 14.6 Special Provisions**

-	-	-
III	III	III
-	-	-
274	223, 274	A3, A803
Classification code C2	EmS-No F-A, S-B	ERG Code 8L
Tunnel restriction code (E)		

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National Regulations****European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

International Inventories

All of the components in the product are on the following Inventory lists

TSCA (United States): Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP)

Chemical name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Ruthenium(III) bromide hydrate	X	-	X	X	-	-	-	-	-	-

X - Listed

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report No information available

Section 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H314 - Causes severe skin burns and eye damage

H335 - May cause respiratory irritation

Revision note

No information available.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet