



The Power to Question

# SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 23-Apr-2020

Version 1

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

Product Name Ruthenium(III) nitrosyl chloride hydrate  
Product Code SC-236682

### Recommended use of the chemical and restrictions on use

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

### 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

### Emergency telephone number

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

## 2. HAZARDS IDENTIFICATION

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification

Skin corrosion/irritation  
Serious eye damage/eye irritation

Category 1 Sub-category B  
Category 1

### Label elements

Signal word  
Hazard statements  
Symbols/Pictograms

Danger  
Causes severe skin burns and eye damage



Precautionary Statements - Prevention

Do not breathe dust/fume/gas/mist/vapors/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Immediately call a POISON CENTER or doctor/physician  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Precautionary Statements - Storage  
Precautionary Statements - Disposal

Immediately call a POISON CENTER or doctor/physician  
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting  
Store locked up  
Dispose of contents/container to an approved waste disposal plant



**Hazards not otherwise classified (HNOC)**

Hazards not otherwise classified (HNOC) Not applicable

**Other Information**

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

<b>NFPA</b>	Health hazards	-		<b>HMIS</b>	Health hazards	-
	Flammability	-			Flammability	-
	Stability	-			Physical hazards	-
	Physical and chemical properties	-			Personal protection	-

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

CAS No 32535-76-5  
 Molecular Weight 237.44 (anhydrous basis)  
 Formula Ru(NO)Cl<sub>3</sub>·xH<sub>2</sub>O

Chemical name	CAS No.	Weight-%	Oral LD50	Dermal LD50	Inhalation LC50
Ruthenium(III) nitrosyl chloride hydrate	32535-76-5	>98	-	-	-

**4. FIRST AID MEASURES**

**First Aid Measures**

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

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

Symptoms No information available.

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

Note to physicians Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media**

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
 Unsuitable Extinguishing Media No information available.

**Specific hazards arising from the chemical**

Specific hazards arising from the chemical No information available.  
 Hazardous combustion products Nitrogen oxides (NOx).

**Explosion data**

Sensitivity to Mechanical Impact No information available.  
 Sensitivity to Static Discharge No information available.



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**Protective equipment and precautions for firefighters**

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

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

Personal precautions Ensure adequate ventilation, especially in confined areas.

**Environmental precautions**

Environmental precautions See Section 12 for additional Ecological Information. Prevent product from entering drains. Should not be released into the environment.

**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.

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**7. HANDLING AND STORAGE****Precautions for safe handling**

Advice on safe handling May cause damage to organs through prolonged or repeated exposure.

**Conditions for safe storage, including any incompatibilities**

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store at room temperature.

Incompatible materials None known based on information supplied.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

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

**Appropriate engineering controls**

Engineering Controls  
Showers  
Eyewash stations  
Ventilation systems

**Individual protection measures, such as personal protective equipment**

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.

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

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**9. PHYSICAL AND CHEMICAL PROPERTIES**



Physical State	Solid
Appearance	powder
Odor	No information available

<b><u>Property</u></b>	<b><u>Values</u></b>
pH	No information available
Melting point/freezing point	180 °C
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	180 °C
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

## 10. STABILITY AND REACTIVITY

Reactivity	Not applicable
Chemical stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	No information available.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	Strong oxidizing agents.
Hazardous Decomposition Products	Nitrogen oxides (NOx).

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

Inhalation	No data available.
Eye contact	No data available.
Skin Contact	No data available.
Ingestion	No data available.

### Information on toxicological effects

Symptoms	No information available.
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### Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity	No information available.
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### Numerical measures of toxicity - Product Information

Unknown acute toxicity	100% of the mixture consists of ingredient(s) of unknown toxicity
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## 12. ECOLOGICAL INFORMATION

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Ecotoxicity	May cause long lasting harmful effects to aquatic life
100% of the mixture consists of component(s) of unknown hazards to the aquatic environment.	
Persistence and degradability	No information available.
Bioaccumulation	No information available.
Mobility	No information available.

## 13. DISPOSAL CONSIDERATIONS

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Disposal of wastes	Should not be released into the environment. Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Do not reuse container.
US EPA Waste Number	D002

## 14. TRANSPORT INFORMATION

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### DOT

UN/ID no	UN3260
Hazard Class	8
Packing Group	II
Proper shipping name	Corrosive solid, acidic, inorganic, n.o.s.
Description	UN3260, Corrosive solid, acidic, inorganic, n.o.s., 8, II
Emergency Response Guide Number	154

### IMDG

UN/ID no	UN3260
Hazard Class	8
Packing Group	II
Proper shipping name	Corrosive solid, acidic, inorganic, n.o.s.
Description	UN3260, Corrosive solid, acidic, inorganic, n.o.s., 8, II
Special Provisions	274
EmS-No	F-A, S-B

### IATA

UN/ID no	UN3260
Hazard Class	8
Packing Group	II
Proper shipping name	Corrosive solid, acidic, inorganic, n.o.s.
Description	UN3260, Corrosive solid, acidic, inorganic, n.o.s., 8, II
ERG Code	8L

## 15. REGULATORY INFORMATION

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### International Inventories

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

No information available



*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*

## **US Federal Regulations**

### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

### **SARA 311/312 Hazard Categories**

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive hazard	No

### **CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

## **US State Regulations**

### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

### **U.S. State Right-to-Know Regulations**

This product does not contain any substances regulated by state right-to-know regulations

## **16. OTHER INFORMATION**

Revision note

No information available

### **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**