



The Power to Question

# SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 22-Apr-2019

Version 1.1

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

### Product identifier

Product Name Manganese(IV) oxide  
Product Code SC-215289

### 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

Acute toxicity - Oral  
Acute toxicity - Inhalation (Dusts/Mists)

Category 4  
Category 4

### Label elements

Signal word  
Hazard statements

Warning  
Harmful if inhaled  
Harmful if swallowed

Symbols/Pictograms



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Call a POISON CENTER or doctor/physician if you feel unwell



Precautionary Statements - Disposal

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth  
 Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Hazards not otherwise classified (HNOC)

Not applicable

**Other Information**

<b>NFPA</b>	Health hazards	2		<b>HMIS</b>	Health hazards	2
	Flammability	0			Flammability	0
	Stability	0			Physical hazards	0
	Physical and chemical properties	-			Personal protection	-

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

CAS No 1313-13-9  
 Molecular Weight 86.94  
 Formula MnO<sub>2</sub>

Chemical name	CAS No.	Weight-%	Oral LD50	Dermal LD50	Inhalation LC50
Manganese(IV) oxide	1313-13-9	>98	= 9000 mg/kg ( Rat )	-	-

**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 No information available.

**Explosion data**

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

**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.

**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.

**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.

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

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

**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.

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

Exposure Guidelines .

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Manganese(IV) oxide 1313-13-9	TWA: 0.02 mg/m <sup>3</sup> Mn respirable particulate matter TWA: 0.1 mg/m <sup>3</sup> Mn inhalable particulate matter	(vacated) Ceiling: 5 mg/m <sup>3</sup> Ceiling: 5 mg/m <sup>3</sup> Mn	IDLH: 500 mg/m <sup>3</sup> Mn TWA: 1 mg/m <sup>3</sup> Mn STEL: 3 mg/m <sup>3</sup> Mn

NIOSH IDLH *Immediately Dangerous to Life or Health*

**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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	powder
Odor	No information available

<u>Property</u>	<u>Values</u>
pH	No information available
Melting point/freezing point	535 °C
Boiling point	No information available
Flash point	No information available
Liquid Density	5.06 g/cm <sup>3</sup>
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

## 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	None known based on information supplied.

## 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.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

Chronic Toxicity May cause adverse effects on the bone marrow and blood-forming system.

Target Organ Effects Blood, Central nervous system, Respiratory system, Kidney.

**Numerical measures of toxicity - Product Information**

Unknown acute toxicity No information available

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 500 mg/kg

ATEmix (inhalation-dust/mist) 1.5 mg/l

**12. ECOLOGICAL INFORMATION**

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.

Chemical name	Partition coefficient
Manganese(IV) oxide 1313-13-9	<0

**13. DISPOSAL CONSIDERATIONS**

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

**14. TRANSPORT INFORMATION**

DOT Not regulated

IMDG Not regulated

IATA Not regulated

**15. REGULATORY INFORMATION****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) Australia (AICS) South Korea (KECL): China (IECSC)

ENCS (Japan): Philippines (PICCS)

Chemical name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Manganese(IV) oxide	X	X	-	X	-	X	X	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  
 IECS - 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**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Manganese(IV) oxide 1313-13-9	X	Not Listed	X

**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**