



The Power to Question

SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 11-Jul-2017

Version 1.1

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

Product identifier

Product Name

Methylcyclopentadienyl Manganese Tricarbonyl

Product Code

SC-228587

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 - Dermal

Acute toxicity - Inhalation (Dusts/Mists)

Skin corrosion/irritation

Specific target organ toxicity (repeated exposure)

Category 3

Category 2

Category 1

Category 2

Category 1

Label elements

Signal word

Hazard statements

Danger

Toxic if swallowed

Fatal in contact with skin

Fatal if inhaled

Causes skin irritation

Causes damage to organs through prolonged or repeated exposure

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

Do not get in eyes, on skin, or on clothing

Wear protective gloves/protective clothing/eye protection/face protection

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear respiratory protection



Precautionary Statements - Response

Get medical advice/attention if you feel unwell
 IF ON SKIN: Gently wash with plenty of soap and water
 Immediately call a POISON CENTER or doctor/physician
 Remove/Take off immediately all contaminated clothing
 Wash contaminated clothing before reuse
 If skin irritation occurs: Get medical advice/attention
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Immediately call a POISON CENTER or doctor/physician
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 Rinse mouth
 Store locked up Store in a well-ventilated place. Keep container tightly closed
 Dispose of contents/container to an approved waste disposal plant

Precautionary Statements - Storage

Precautionary Statements - Disposal

Hazards not otherwise classified (HNOC)

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

NFPA	Health hazards	4		HMIS	Health hazards	4
	Flammability	1			Flammability	1
	Stability	0			Physical hazards	0
	Physical and chemical properties	-			Personal protection	-

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No 12108-13-3
 Molecular Weight 218.09
 Formula $C_9H_7MnO_3$

Chemical Name	CAS No	Weight %	Oral LD50	Dermal LD50	Inhalation LC50
Methylcyclopentadienyl Manganese Tricarbonyl	12108-13-3	>98	= 16.8 mg/kg (Rat)	= 140 mg/kg (Rabbit)	= 76 mg/m ³ (Rat) 4 h

4. FIRST AID MEASURES**First Aid Measures**

General advice	Immediate medical attention is required.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call a physician immediately.
Skin Contact	Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	Immediate medical attention is required Remove to fresh air If not breathing, give artificial respiration Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation
Ingestion	Do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Drink plenty of water.
Self-protection of the first aider	Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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 None.

Specific hazards arising from the chemical

Specific hazards arising from the chemical No information available.

Hazardous combustion products Carbon oxides.

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 Wear self-contained breathing apparatus and protective suit.

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

Personal precautions Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. 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. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal.

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

Advice on safe handling Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Noxious vapor/odor. Ensure adequate ventilation, especially in confined areas.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. 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
Methylcyclopentadienyl Manganese Tricarbonyl 12108-13-3	TWA: 0.2 mg/m ³ Mn S*	(vacated) TWA: 0.2 mg/m ³ Mn (vacated) S* (vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ Mn	IDLH: 500 mg/m ³ Mn TWA: 0.2 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn

NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Controls

Ensure adequate ventilation, especially in confined areas

Individual protection measures, such as personal protective equipment

Eye/face protection

Tight sealing safety 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

When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

liquid

Appearance

No information available

Odor

No information available

Property

Values

pH

No information available

Melting point/freezing point

-1 °C

Boiling point

232 °C

Flash point

96 °C CC (closed cup)

Density

1.38 g/mL

Evaporation rate

No information available

Upper flammability limits

No information available

Lower flammability limit

No information available

Vapor pressure

0.05 mmHg

Vapor density

7.53

Specific gravity

No information available

Water solubility

No information available

Solubility in other solvents

No information available

Partition coefficient

3.4

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	Carbon oxides.

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	Prolonged or repeated exposure increases the risk. Possible risk of irreversible effects. May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects.
Target Organ Effects	Blood, Central nervous system, Eyes, Respiratory system, Kidney, Liver.

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)	100 mg/kg
ATEmix (dermal)	140 mg/kg
ATEmix (inhalation-dust/mist)	0 mg/l
ATEmix (inhalation-vapor)	76 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity	May cause long lasting harmful effects to aquatic life
0% of the mixture consists of components(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

Disposal of wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Do not reuse container.



Other Information Waste codes should be assigned by the user based on the application for which the product was used.

California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Methylcyclopentadienyl Manganese Tricarbonyl 12108-13-3	Toxic

14. TRANSPORT INFORMATION

DOT

UN/ID no UN3281
 Hazard Class 6.1
 Packing Group II
 Proper shipping name Metal carbonyls, liquid, n.o.s.
 Description UN3281, Metal carbonyls, liquid, n.o.s., 6.1, II, POISON
 Emergency Response Guide Number 151

IMDG

UN/ID no UN3281
 Hazard Class 6.1
 Packing Group II
 Proper shipping name Metal carbonyls, liquid, n.o.s.
 Description UN3281, Metal carbonyls, liquid, n.o.s., 6.1, II
 Special Provisions 274
 EmS-No F-A, S-A

IATA

UN/ID no UN3281
 Hazard Class 6.1
 Packing Group II
 Proper shipping name Metal carbonyls, liquid, n.o.s.
 Description UN3281, Metal carbonyls, liquid, n.o.s., 6.1, II

15. REGULATORY INFORMATION

International Inventories

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

TSCA (United States): Canada (DSL/NDL) Europe (EINECS/ELINCS/NLP) Australia (AICS) South Korea (KECL): China (IECSC)
 ENCS (Japan): Philippines (PICCS)

Chemical Name	TSCA	DSL	NDL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Methylcyclopentadienyl Manganese Tricarbonyl	X	X	-	X	-	X	X	X	X	X

X - Listed

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

DSL/NDL - 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	No
Chronic Health Hazard	Yes
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
Methylcyclopentadienyl Manganese Tricarbonyl 12108-13-3	X	X	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