

SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc. Revision date 26-Feb-2024 Version 2.3

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

Product identifier

Product Name Product Code

Dimethyl Sulfoxide (DMSO) SC-202581

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 Flammable liquids | | Category 4 | | | | |
|--|--|--|---|------|---|------------------|
| Label elements Signal word Hazard statements Symbols/Pictograms | | Warning | | | | |
| | | | Combustible liquid | | | |
| Precautionary Statements - Prevention | | Keep away from heat/sparks/open flames/hot surfaces. — No smoking Wear protective gloves/protective clothing/eye protection/face | | | | |
| Precautionary Statements - Response | | protection IF exposed or concerned: Get medical advice/attention In case of fire: Use CO2, dry chemical, or foam for extinction | | | | |
| Precautionary Statements - Storage Precautionary Statements - Disposal | | | Store in a well-ventilated place. Keep cool Dispose of contents/container to an approved waste disposal plant | | | |
| Hazards not otherwise classified (HNOC)Hazards not otherwise classified (HNOC)Not applicable | | | | | | |
| Other Info | ormation | | | | | |
| NFPA | Health hazards Flammability Stability Physical and chemical | 0 2 0 | 0 0 | HMIS | Health hazards Flammability Physical hazards Personal protection | 0 2 0 - |

3. COMPOSITION/INFORMATION ON INGREDIENTS

properties

| ſ | CAS No Molecular Weight Formula | | 67-68-5 78.13 C2H6OS | | | |
|---|---------------------------------------|---------|----------------------------|--|-----------------|----------------------|
| ſ | Chemical name | CAS No. | Weight-% | Oral LD50 | Dermal LD50 | Inhalation LC50 |
| ſ | Methane, 1,1'-sulfinylbis- | 67-68-5 | >98 | = 14500 mg/kg (Rat) = 28300 mg/kg (Rat) | = 40 g/kg (Rat) | > 5.33 mg/L (Rat)4 h |

4. FIRST AID MEASURES

| First Aid Measures | | | |
|---|---|--|--|
| General advice | If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. | | |
| 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. If symptoms persist, call a physician. | | |
| Skin Contact | Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Immediate medical attention is not required. | | |
| Inhalation | Remove to fresh air Call a physician If breathing is irregular or stopped, administer artificial respiration Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation Immediate medical attention is not required Move to fresh air in case of accidental inhalation of vapors If symptoms persist, call a physician Move to fresh air in case of accidental inhalation of vapors or decomposition products | | |
| Ingestion | Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. | | |
| Self-protection of the first aider | Use personal protective equipment as required. | | |
| 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 Unsuitable Extinguishing Media | Use. Dry chemical. Carbon dioxide (CO2). Water spray (fog). Alcohol resistant foam. No information available. |
|--|---|
| Specific hazards arising from t | he chemical |
| Specific hazards arising from the chemical | Keep product and empty container away from heat and sources of ignition. Risk of ignition. |
| Hazardous combustion products | Hydrogen sulfide. Carbon oxides. |
| Explosion data Sensitivity to Mechanical Impact | No information available. |

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

Protective equipment and precautions for firefighters

Protective equipment and precautions 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 | Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. |
|--------------------------------|--|
| Environmental precautions | |
| Environmental precautions | Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. 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 conta | inment and cleaning up |
| Methods for containment | Prevent further leakage or spillage if safe to do so. |
| 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. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material. Dam up. Take precautionary measures against static discharges. |

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. Use with local exhaust ventilation. All equipment used when handling the product must be grounded. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). |
|---|---|
| Conditions for safe storage, inc | cluding any incompatibilities |
| Storage Conditions | Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers. Protect from moisture. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep away from heat. Store at room temperature. |
| Incompatible materials | None known based on information supplied. |

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 control | ls | | | |
| Engineering Controls | Showers | | | |
| | Evewash stations | | | |
| | Ventilation systems | | | |
| Individual protection measures, such as personal protective equipment | | | | |
| Eye/face protection | Tight sealing safety goggles. Face protection shield. | | | |
| 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 | | | |

General Hygiene Considerations

required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

| Physical StateliquidAppearanceNo information availableOdorSulphurous May be unpleasant |
|--|
|--|

Property

| pH |
|------------------------------|
| Melting point/freezing point |
| Boiling point |
| Flash point |
| Liquid Density |
| Evaporation rate |
| Upper flammability limits |
| Lower flammability limit |
| Vapor pressure |
| Vapor density |
| Specific gravity |
| Water solubility |
| Solubility in other solvents |
| Partition coefficient |
| Autoignition temperature |
| Decomposition temperature |
| Kinematic viscosity |
| Explosive properties |
| Oxidizing properties |
| |

Values

No information available 16 °C 189 °C 87 °C CC (closed cup) 1.10 g/mL No information available 42% 3.5% 0.41 mmHg 2.70 No information available No information available No information available -1.35 301 °C No information available No information available No information available 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 | Exposure to air or moisture over prolonged periods. Heat, flames and sparks. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous Decomposition Products | Hydrogen sulfide. Carbon oxides. |

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

| No data available. |
|--------------------|
| No data available. |
| No data available. |
| 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 | Avoid repeated exposure. |
|------------------|--------------------------|
|------------------|--------------------------|

Numerical measures of toxicity - Product Information

Unknown acute toxicityNo information availableThe following values are calculated based on chapter 3.1 of the GHS documentATEmix (oral)14500ATEmix (dermal)40000 mg/kgATEmix (inhalation-vapor)5.3

12. ECOLOGICAL INFORMATION

Ecotoxicity

May cause long lasting harmful effects to aquatic life

| Chemical name | Algae/aquatic plants | Fish | Toxicity to Microorganisms | Crustacea |
|---------------------------------------|--|--|-------------------------------|---|
| Methane, 1,1'-sulfinylbis- 67-68-5 | 12350 - 25500: 96 h Skeletonema costatum mg/L EC50 | 34000: 96 h Pimephales promelas mg/L LC50 41.7: 96 h Cyprinus carpio g/L LC50 40: 96 h Lepomis macrochirus g/L LC50 static 33 - 37: 96 h Oncorhynchus mykiss g/L LC50 static | | 7000: 24 h Daphnia species mg/L EC50 |

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Persistence and degradability Bioaccumulation Mobility No information available. No information available. No information available.

| Chemical name | Partition coefficient | | |
|----------------------------|-----------------------|--|--|
| Methane, 1,1'-sulfinylbis- | -2.03 | | |
| 67-68-5 | | | |

13. DISPOSAL CONSIDERATIONS

Disposal of wastesDisposal should be in accordance with applicable regional, national and local laws and
regulations.Contaminated packagingDo not reuse container.Other InformationWaste codes should be assigned by the user based on the application for which the product
was used.

14. TRANSPORT INFORMATION

| DOT | Not regulated |
|------|---------------|
| IMDG | Not regulated |
| ΙΑΤΑ | 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 |
|----------------------------|------|-----|------|--------|--------|------|-------|------|-------|------|
| Methane, 1,1'-sulfinylbis- | Х | Х | - | Х | - | Х | Х | Х | Х | Х |

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 | Yes |
| 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 |
|----------------------------|------------|---------------|--------------|
| Methane, 1,1'-sulfinylbis- | Х | Not Listed | Not Listed |
| 67-68-5 | | | |

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