



The Power to Question

SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 18-Apr-2019

Version 1.3

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

Product identifier

Product Name Acrylic acid
Product Code SC-358655

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 Category 4
Acute toxicity - Dermal Category 4
Acute toxicity - Inhalation (Dusts/Mists) Category 4
Skin corrosion/irritation Category 1 Sub-category A
Serious eye damage/eye irritation Category 1
Flammable liquids Category 3

Label elements

Signal word Danger
Hazard statements Causes severe skin burns and eye damage

Symbols/Pictograms

Harmful in contact with skin
Harmful if inhaled
Harmful if swallowed
Flammable liquid and vapor



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use only non-sparking tools
Take precautionary measures against static discharge



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
 Call a POISON CENTER or doctor/physician if you feel unwell
 Wash contaminated clothing before reuse
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 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
 Immediately call a POISON CENTER or doctor/physician
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth
 Do NOT induce vomiting
 In case of fire: Use CO2, dry chemical, or foam for extinction
 Store locked up Store in a well-ventilated place. Keep cool
 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

Other hazards Very toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

| | | | | | | |
|-------------|----------------------------------|---|--|-------------|---------------------|---|
| NFPA | Health hazards | 3 | | HMIS | Health hazards | 3 |
| | Flammability | 2 | | | Flammability | 2 |
| | Stability | 0 | | | Physical hazards | 0 |
| | Physical and chemical properties | - | | | Personal protection | - |

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No 79-10-7
 Molecular Weight 72.06
 Formula C₃H₄O₂

| Chemical name | CAS No. | Weight-% | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|------------------|----------|----------|---|---|--|
| Acrylic acid | 79-10-7 | >98 | = 33500 µg/kg (Rat) = 193 mg/kg (Rat) | = 295 mg/kg (Rabbit) = 280 µL/kg (Rabbit) | = 3.6 mg/L (Rat) 4 h = 11.1 mg/L (Rat) 1 h |
| Monomethyl ether | 150-76-5 | <0.1 | = 1600 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | - |

4. FIRST AID MEASURES

First Aid Measures

General advice Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
 Eye contact Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.
 Skin Contact Wash off immediately with plenty of water. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.



| | |
|------------------------------------|--|
| Inhalation | Remove to fresh air Call a physician or poison control center immediately If not breathing, give artificial respiration If breathing is difficult, give oxygen |
| Ingestion | Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Remove from exposure, lie down. Clean mouth with water and drink afterwards plenty of water. Call a physician or poison control center immediately. |
| Self-protection of the first aider | Remove all sources of ignition. |

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 Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. 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 The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes. flammable.

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 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 Evacuate personnel to safe areas. Remove all sources of ignition. Ensure adequate ventilation, especially in confined areas. Keep people away from and upwind of spill/leak. Use personal protective equipment as required.

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. Do not flush into surface water or sanitary sewer system.

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 Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Take up mechanically, placing in appropriate containers for disposal. After cleaning, flush away



traces with water. Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Avoid contact with skin and eyes. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems. Noxious vapor/odor.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Store at room temperature.

Incompatible materials

Incompatible with strong acids and bases. Incompatible with oxidizing agents.

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 |
|------------------------------|--------------------------|--|--|
| Acrylic acid 79-10-7 | TWA: 2 ppm S* | (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m ³ (vacated) S* | TWA: 2 ppm TWA: 6 mg/m ³ |
| Monomethyl ether 150-76-5 | TWA: 5 mg/m ³ | (vacated) TWA: 5 mg/m ³ | TWA: 5 mg/m ³ |

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. 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 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. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin, eyes or clothing. Take off all contaminated clothing and wash it before reuse. Wear suitable gloves and eye/face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES



Physical State liquid
 Appearance No information available
 Odor No information available

| <u>Property</u> | <u>Values</u> |
|------------------------------|--------------------------|
| pH | No information available |
| Melting point/freezing point | 13 °C |
| Boiling point | 139 °C |
| Flash point | 46 °C CC (closed cup) |
| Liquid Density | 1.05 g/cm ³ |
| Evaporation rate | No information available |
| Upper flammability limits | 13.7% |
| Lower flammability limit | 2% |
| Vapor pressure | 40 mmHg |
| Vapor density | 2.49 |
| Specific gravity | No information available |
| Water solubility | No information available |
| Solubility in other solvents | No information available |
| Partition coefficient | 0.46 |
| 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 | Heat, flames and sparks. Exposure to air or moisture over prolonged periods. |
| Incompatible materials | Incompatible with strong acids and bases. Incompatible with oxidizing agents. |
| Hazardous Decomposition Products | Thermal decomposition can lead to release of irritating and toxic gases and vapors. 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.

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

| | |
|----------------------|--|
| Chronic Toxicity | Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risk of irreversible effects. |
| Target Organ Effects | Eyes, Respiratory system, Skin. |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Chemical name | ACGIH | IARC | NTP | OSHA |
|---------------|-------|------|-----|------|
|---------------|-------|------|-----|------|



| | | | | |
|-------------------------|---|---------|---|---|
| Acrylic acid 79-10-7 | - | Group 3 | - | - |
|-------------------------|---|---------|---|---|

IARC (International Agency for Research on Cancer) Not classifiable as a human carcinogen

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 (dermal) 1100 mg/kg
 ATEmix (inhalation-dust/mist) 1.5 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic life with long lasting effects

| Chemical name | Algae/aquatic plants | Fish | Toxicity to Microorganisms | Crustacea |
|------------------------------|---|---|----------------------------|--|
| Acrylic acid 79-10-7 | 0.04: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50 0.17: 96 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50 | 222: 96 h <i>Brachydanio rerio</i> mg/L LC50 semi-static | - | 270: 24 h <i>Daphnia magna</i> mg/L LC50 Static 95: 48 h <i>Daphnia magna</i> mg/L EC50 |
| Monomethyl ether 150-76-5 | - | 28.5: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through 84.3: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through | - | - |

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.

| Chemical name | Partition coefficient |
|------------------------------|-----------------------|
| Acrylic acid 79-10-7 | 0.46 |
| Monomethyl ether 150-76-5 | 1.3 |

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.
 US EPA Waste Number U008 D002 D001

14. TRANSPORT INFORMATION

DOT

UN/ID no UN2218
 Hazard Class 8
 Subsidiary class 3



Packing Group II
 Proper shipping name Acrylic acid, stabilized
 Reportable Quantity (RQ) (Acrylic acid: RQ (kg)= 2270.00)
 Description UN2218, Acrylic acid, stabilized, 8 (3), II, Marine pollutant
 Marine pollutant This product contains a chemical which is listed as a marine pollutant according to DOT
 Emergency Response Guide Number 132P

IMDG

UN/ID no UN2218
 Hazard Class 8
 Subsidiary hazard class 3
 Packing Group II
 Proper shipping name Acrylic acid, stabilized
 Description UN2218, Acrylic acid, stabilized, 8 (3), II, (46°C c.c.), Marine pollutant
 Special Provisions 386
 EmS-No F-E, S-C
 Marine pollutant This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

IATA

UN/ID no UN2218
 Hazard Class 8
 Subsidiary hazard class 3
 Packing Group II
 Proper shipping name Acrylic acid, stabilized
 Description UN2218, Acrylic acid, stabilized, 8 (3), II
 ERG Code 8F

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 |
|------------------|------|-----|-----|--------|--------|------|-------|------|-------|------|
| Acrylic acid | X | X | - | X | - | X | X | X | X | X |
| Monomethyl ether | 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 Yes
 Chronic Health Hazard Yes
 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 |
|-------------------------|------------|---------------|--------------|
| Acrylic acid 79-10-7 | 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