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

Product identifier
Product Name 2-Butoxyethyl acetate
Product Code SC-237961

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 - Dermal  Category 4
Acute toxicity - Inhalation (Dusts/Mists)  Category 4
Flammable liquids  Category 4

Label elements
Signal word Warning
Hazard statements Harmful in contact with skin
Combustible liquid

Symbols/Pictograms

Precautionary Statements - Prevention
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. — No smoking

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
Call a POISON CENTER or doctor/physician if you feel unwell
Wash contaminated clothing before reuse
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
IF INGESTED: Rinse mouth out with water
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)  
Hazards not otherwise classified (HNOC)  
Not applicable  

Other Information  

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>1 2</th>
<th>HMIS</th>
<th>Health hazards</th>
<th>1 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>2</td>
<td></td>
<td>Flammability</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Stability</td>
<td>0</td>
<td></td>
<td>Physical hazards</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Physical and chemical properties</td>
<td>-</td>
<td></td>
<td>Personal protection</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

3. COMPOSITION/INFORMATION ON INGREDIENTS  

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight %</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Butoxyethyl acetate</td>
<td>112-07-2</td>
<td>&gt;98</td>
<td>= 2400 mg/kg (Rat)</td>
<td>= 1480 mg/kg (Rabbit)</td>
<td>-</td>
</tr>
</tbody>
</table>

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.  
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.  
Ingestion  
Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting.  
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  
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
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
Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. 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
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.

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.

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Butoxyethyl acetate</td>
<td>TWA: 20 ppm</td>
<td>-</td>
<td>TWA: 5 ppm TWA: 33 mg/m³</td>
</tr>
</tbody>
</table>

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
- 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
- Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>-64 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>192 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>76 °C CC (closed cup)</td>
</tr>
<tr>
<td>Density</td>
<td>0.942 g/cm³</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Upper flammability limits</td>
<td>8.54%</td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>0.88%</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>0.29 mmHg</td>
</tr>
<tr>
<td>Vapor density</td>
<td>5.53</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>No information available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>1.51</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>340 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Information on likely routes of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
</tr>
<tr>
<td>Eye contact</td>
</tr>
<tr>
<td>Skin Contact</td>
</tr>
<tr>
<td>Ingestion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Information on toxicological effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms</td>
</tr>
</tbody>
</table>
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. May cause adverse liver effects.

Target Organ Effects
Blood, Central nervous system, Eyes, Respiratory system, Kidney, Liver, Hematopoietic System, Skin.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Butoxyethyl acetate</td>
<td>A3</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)  A3 - Animal 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

<table>
<thead>
<tr>
<th>ATEmix (oral)</th>
<th>2400 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEmix (dermal)</td>
<td>1480 mg/kg</td>
</tr>
<tr>
<td>ATEmix (inhalation-dust/mist)</td>
<td>1.5 mg/l</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

Ecotoxicity
May cause long lasting harmful effects to aquatic life

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Butoxyethyl acetate</td>
<td>500: 72 h Desmodesmus subspicatus mg/L EC50</td>
<td>-</td>
<td>-</td>
<td>37: 48 h Daphnia magna mg/L EC50</td>
</tr>
<tr>
<td>112-07-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Butoxyethyl acetate</td>
<td></td>
</tr>
<tr>
<td>112-07-2</td>
<td>1.51</td>
</tr>
</tbody>
</table>

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.

14. TRANSPORT INFORMATION

DOT
UN/ID no NA1993
Hazard Class Combustible liquid
Packing Group III
Proper shipping name Combustible liquid, n.o.s.*
Description NA1993, Combustible liquid, n.o.s.* (2-Butoxyethyl acetate), Combustible liquid, III
Emergency Response Guide Number 128
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)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Butoxyethl acetate</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Butoxyethl acetate</td>
<td>X</td>
<td>Not Listed</td>
<td>X</td>
</tr>
</tbody>
</table>

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