MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION
Product Name: Nomifensine maleate salt
Product Number: sc-253197
Supplier: Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, CA  95060
800.457.3801 or 831.457.3800
Emergency: ChemWatch
Within the US & Canada: 877–715–9305
Outside the US & Canada: +800 2436 2255 (1–800-CHEMCALL) or call +613 9573 3112

2. HAZARDS IDENTIFICATION
Emergency Overview
OSHA Hazards
Target Organ Effect, Toxic by ingestion, Irritant
Target Organs
Blood, Kidney, Liver, Heart, Brain.
GHS Label elements, including precautionary statements
Pictogram

Signal word Warning
Hazard statement(s)
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
Precautionary statement(s)
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/eye protection/face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P321 Specific treatment (see supplemental first aid instructions on this label).
P330 Rinse mouth.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container to an approved waste disposal plant.
HMIS Classification
Health hazard: 2
Chronic Health Hazard: *
Flammability: 0
Physical hazards: 0
NFPA Rating
Health hazard: 2
Fire: 0
Reactivity Hazard: 0
Potential Health Effects
Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
Skin: May be harmful if absorbed through skin. Causes skin irritation.
Eyes: Causes eye irritation.
Ingestion: Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS
Synonyms: 1,2,3,4-Tetrahydro-2-methyl-4-phenyl-8-isoquinolinaminemaleate salt
Formula: C16H18N2 · C4H4O4
Molecular Weight: 354.4 g/mol

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>32795–47–4</td>
<td>251–223–7</td>
<td>–</td>
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</tbody>
</table>

4. FIRST AID MEASURES
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled
If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.
In case of skin contact
Wash off with soap and plenty of water. Consult a physician.
In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special protective equipment for fire-fighters
Wear self-contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES
Personal precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.
Environmental precautions
Do not let product enter drains.
Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE
Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.
Conditions for safe storage
Store at room temperature. Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves.

Eye protection
Face shield and safety glasses

Skin and body protection
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
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<tr>
<td>pH</td>
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<tr>
<td>Melting point</td>
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<tr>
<td>Boiling point</td>
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<tr>
<td>Flash point</td>
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<tr>
<td>Ignition temperature</td>
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<tr>
<td>Lower explosion limit</td>
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<tr>
<td>Upper explosion limit</td>
<td>no data available</td>
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<tr>
<td>Water solubility</td>
<td>no data available</td>
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10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Conditions to avoid
no data available

Materials to avoid
Oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. – Nature of decomposition products not known.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 Oral – rat – 430 mg/kg
Remarks:
Behavioral: Tremor.
Behavioral: Convulsions or effect on seizure threshold.
Behavioral: Change in motor activity (specific assay).

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available
Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
Reproductive toxicity – mouse – Oral
Effects on Newborn: Weaning or lactation index (e.g., # alive at weaning per # alive at day 4).

Specific target organ toxicity – single exposure (GHS)
Inhalation – May cause respiratory irritation.

Specific target organ toxicity – repeated exposure (GHS)
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.

Ingestion Toxic if swallowed.

Skin May be harmful if absorbed through skin. Causes skin irritation.

Eyes Causes eye irritation.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information
RTECS: NX4912800

12. ECOLOGICAL INFORMATION

Toxicity Persistence and degradability Bioaccumulative potential
no data available no data available no data available

Mobility in soil PBT and vPvB assessment Other adverse effects
no data available no data available no data available

13. DISPOSAL CONSIDERATIONS

Product
Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US) IMDG IATA
Not dangerous goods Not dangerous goods Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards
Target Organ Effect, Toxic by ingestion, Irritant

DSL Status
This product contains the following components that are not on the Canadian DSL nor NDSL lists.
Nomifensine maleate salt CAS-No.
32795–47–4
SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components
Nomifensine maleate salt
   CAS-No.
   32795–47–4

New Jersey Right To Know Components
Nomifensine maleate salt
   CAS-No.
   32795–47–4

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION
The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.

06/15/2011