Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier
FT-31, Denatonium Benzoate Sensitivity Solution

Product Identification Numbers
70-0707-0965-7

1.2. Recommended use and restrictions on use

Recommended use
Sensitivity Test Solution.

1.3. Supplier’s details

MANUFACTURER: 3M
DIVISION: Personal Safety Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

2.2. Label elements

Signal word
Not applicable.

Symbols
Not applicable.

Pictograms
Not applicable.

2.3. Hazards not otherwise classified
None.
SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER</td>
<td>7732-18-5</td>
<td>90 - 100</td>
</tr>
<tr>
<td>SODIUM CHLORIDE</td>
<td>7647-14-5</td>
<td>3 - 10</td>
</tr>
<tr>
<td>DENATONIUM BENZOATE</td>
<td>3734-33-6</td>
<td>0 - 1</td>
</tr>
</tbody>
</table>

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
No need for first aid is anticipated.

Eye Contact:
No need for first aid is anticipated.

If Swallowed:
No need for first aid is anticipated.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Material will not burn. Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

5.3. Special protective actions for fire-fighters
No unusual fire or explosion hazards are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Observe precautions from other sections.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Clean up residue with water.

**SECTION 7: Handling and storage**

7.1. Precautions for safe handling
For industrial or professional use only. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage including any incompatibilities
No special storage requirements.

**SECTION 8: Exposure controls/personal protection**

8.1. Control parameters

Occupational exposure limits
No occupational exposure limit values exist for any of the components listed in Section 3 of this SDS.

8.2. Exposure controls

8.2.1. Engineering controls
No engineering controls required.

8.2.2. Personal protective equipment (PPE)

Eye/face protection
None required.

Skin/hand protection
No chemical protective gloves are required.

Respiratory protection
None required.

**SECTION 9: Physical and chemical properties**

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>General Physical Form:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor, Color, Grade:</td>
<td>Clear, odorless solution with a bitter taste. Freezing point = -4 degrees Centigrade</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No Data Available</td>
</tr>
<tr>
<td>pH</td>
<td>Approximately 6.52 Units not avail. or not appl.</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>&gt;=212 °F</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No flash point</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flammable Limits(LEL)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flammable Limits(UEL)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>18 mmHg [@ 20 °C]</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
Density: 1.034 g/ml
Specific Gravity: 1.034 [Ref Std: WATER=1]

Solubility in Water: Complete
Solubility- non-water: No Data Available

Partition coefficient: n-octanol/ water: No Data Available
Autoignition temperature: Not Applicable
Decomposition temperature: No Data Available

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>None known.</td>
<td>Not Specified</td>
</tr>
</tbody>
</table>

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
Skin Contact:
Contact with the skin during product use is not expected to result in significant irritation.

Eye Contact:
Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion:
No health effects are expected.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall product</td>
<td>Ingestion</td>
<td></td>
<td>No data available; calculated ATE &gt; 5,000 mg/kg</td>
</tr>
<tr>
<td>SODIUM CHLORIDE</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 &gt; 10,000 mg/kg</td>
</tr>
<tr>
<td>SODIUM CHLORIDE</td>
<td>Inhalation-Dust/Mist (4 hours)</td>
<td>Rat</td>
<td>LC50 &gt; 10.5 mg/l</td>
</tr>
<tr>
<td>SODIUM CHLORIDE</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 3,000 mg/kg</td>
</tr>
<tr>
<td>DENATONIUM BENZOATE</td>
<td>Inhalation-Dust/Mist</td>
<td>Rat</td>
<td>LC50 estimated to be 1 - 5 mg/l</td>
</tr>
<tr>
<td>DENATONIUM BENZOATE</td>
<td>Dermal</td>
<td>Rat</td>
<td>LD50 &gt; 2,000 mg/kg</td>
</tr>
<tr>
<td>DENATONIUM BENZOATE</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 584 mg/kg</td>
</tr>
</tbody>
</table>

ATE = acute toxicity estimate

Skin Corrosion/Irritation

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENATONIUM BENZOATE</td>
<td>Rabbit</td>
<td>Mild irritant</td>
</tr>
</tbody>
</table>

Serious Eye Damage/Irritation

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENATONIUM BENZOATE</td>
<td>Rabbit</td>
<td>Corrosive</td>
</tr>
</tbody>
</table>

Skin Sensitization

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall product</td>
<td>Guinea pig</td>
<td>Not sensitizing</td>
</tr>
<tr>
<td>DENATONIUM BENZOATE</td>
<td>Human</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
</tbody>
</table>

Respiratory Sensitization

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENATONIUM BENZOATE</td>
<td>Human</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
</tbody>
</table>

Germ Cell Mutagenicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENATONIUM BENZOATE</td>
<td>In Vitro</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>DENATONIUM BENZOATE</td>
<td>In vivo</td>
<td>Not mutagenic</td>
</tr>
</tbody>
</table>

Carcinogenicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENATONIUM BENZOATE</td>
<td>Ingestion</td>
<td>Rat</td>
<td>Not carcinogenic</td>
</tr>
</tbody>
</table>

Reproductive Toxicity

Reproductive and/or Developmental Effects

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Value</th>
</tr>
</thead>
</table>
Denatonium Benzoate Sensitivity Solution

<table>
<thead>
<tr>
<th>Duration</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure</th>
<th>Name</th>
<th>Route</th>
<th>Target Organ(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 years</td>
<td>NOAEL 16 mg/kg/day</td>
<td>Rat</td>
<td></td>
<td></td>
<td>DENATONIUM</td>
<td>Ingestion</td>
<td>Not toxic to female reproduction</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BENZOATE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DENATONIUM</td>
<td>Ingestion</td>
<td>Not toxic to male reproduction</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BENZOATE</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Target Organ(s)</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Specific Target Organ Toxicity - repeated exposure**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Target Organ(s)</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Aspiration Hazard**

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

**SECTION 12: Ecological information**

**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

**Chemical fate information**

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

**SECTION 13: Disposal considerations**

**13.1. Disposal methods**

Dispose of contents/container in accordance with the local/regional/national/international regulations.

Product components have been assessed to be treatable in properly operating wastewater treatment systems (industrial, municipal, commercial) with a minimum of biological (aerobic) secondary treatment. Waste product may be directly discharged to wastewater treatment systems. Changes in the manner of which a product is used will require an evaluation to determine proper disposal. Empty and clean product containers may be disposed as non-hazardous waste. Consult your specific regulations and service providers to determine available options and requirements.
EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

311/312 Hazard Categories:
Fire Hazard - No    Pressure Hazard - No    Reactivity Hazard - No    Immediate Hazard - No    Delayed Hazard - No

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations
Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 0  Flammability: 0  Instability: 0  Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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