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

Material Name: Acetylcysteine Effervescent Tablets

<table>
<thead>
<tr>
<th>Trade Name:</th>
<th>Mucoporetta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Family:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Intended Use:</td>
<td>Treatment of chronic bronchitis</td>
</tr>
</tbody>
</table>

Emergency telephone number: CHEMTREC (24 hours): 1-800-262-8200

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>EU EINECS List</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetylcysteine</td>
<td>616-91-1</td>
<td>210-498-3</td>
<td>200 mg***</td>
</tr>
<tr>
<td>Citric acid</td>
<td>77-92-9</td>
<td>201-069-1</td>
<td>*</td>
</tr>
<tr>
<td>Sodium carbonate</td>
<td>497-19-8</td>
<td>207-838-8</td>
<td>*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>EU EINECS List</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium bicarbonate</td>
<td>144-55-8</td>
<td>205-633-8</td>
<td>*</td>
</tr>
<tr>
<td>Mannitol</td>
<td>69-65-8</td>
<td>200-711-8</td>
<td>*</td>
</tr>
<tr>
<td>Sodium saccharin</td>
<td>128-44-9</td>
<td>204-886-1</td>
<td>*</td>
</tr>
<tr>
<td>Lactose Monohydrate</td>
<td>64044-51-5</td>
<td>Not listed</td>
<td>*</td>
</tr>
</tbody>
</table>

Additional Information: * Proprietary
*** per tablet/capsule/lozenge/suppository
Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety.

3. HAZARDS IDENTIFICATION

Appearance: Tablet
Signal Word: None required

Statement of Hazard: Non-hazardous in accordance with international standards for workplace safety.

Eye Contact: May cause eye irritation (based on components)
Skin Contact: May cause skin irritation (based on components)
Ingestion: Not acutely toxic (based on components)

Known Clinical Effects: Adverse effects seen in clinical use include gastrointestinal discomfort, dizziness, and headache. Clinical use has caused symptoms of asthma.

Potential Health Effects: Individuals sensitive to this material or other materials in its chemical class may develop allergic reactions.

EU Indication of danger: Not classified
4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with water for at least 15 minutes. If irritation occurs or persists, get medical attention.

Skin Contact: Remove clothing and wash affected skin with soap and water. This material may not be completely removed by conventional laundering. Consult professional laundry service. Do not home launder. If irritation occurs or persists, get medical attention.

Ingestion: Get medical attention. Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use carbon dioxide, dry chemical, or water spray.

Hazardous Combustion Products: Formation of toxic gases is possible during heating or fire.

Fire Fighting Procedures: During all fire fighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.

Fire / Explosion Hazards: Fine particles (such as dust and mists) may fuel fires/explosions.

6. ACCIDENTAL RELEASE MEASURES

Health and Safety Precautions: Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

Measures for Cleaning / Collecting: Wipe up with a damp cloth and place in container for disposal. Clean spill area thoroughly.

Measures for Environmental Protections: Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

Additional Consideration for Large Spills: Contain the source of the spill or leak if it is safe to do so. Vacuum or sweep material into appropriate container for disposal.

7. HANDLING AND STORAGE

General Handling: If tablets or capsules are crushed and/or broken, avoid breathing dust and avoid contact with eyes, skin, and clothing. Minimize dust generation and accumulation. Use with adequate ventilation.

Storage Conditions: Store at room temperature in properly labeled containers. Keep away from heat, sparks and flames.
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

No Occupational Exposure Limit (OEL) or Short Term Exposure Limit (STEL) has been identified.

Engineering Controls: Engineering controls should be used as the primary means to control exposures. Local exhaust ventilation is required unless used in a closed system. For laboratory use, handle in a lab fume hood.

Personal Protective Equipment:

<table>
<thead>
<tr>
<th>Hands:</th>
<th>Wear impervious gloves if skin contact is possible.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes:</td>
<td>Safety glasses or goggles</td>
</tr>
<tr>
<td>Skin:</td>
<td>Use protective clothing (uniforms, lab coats, disposable coveralls, etc.) in both production and laboratory areas.</td>
</tr>
<tr>
<td>Respiratory protection:</td>
<td>Respiratory protection is recommended as a precaution to minimize exposure when handling this material in bulk.</td>
</tr>
</tbody>
</table>

9. PHYSICAL AND CHEMICAL PROPERTIES:

<table>
<thead>
<tr>
<th>Physical State:</th>
<th>Tablet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Formula:</td>
<td>Mixture</td>
</tr>
<tr>
<td>Color:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Molecular Weight:</td>
<td>Mixture</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of use.

Conditions to Avoid: Fine particles (such as dust and mists) may fuel fires/explosions.

Incompatible Materials: As a precautionary measure, keep away from strong oxidizers.

11. TOXICOLOGICAL INFORMATION

General Information: There are no data for this formulation. The information included in this section describes the potential hazards of the individual ingredients.

Acute Toxicity: (Species, Route, End Point, Dose)

**Sodium bicarbonate**

<table>
<thead>
<tr>
<th>Species</th>
<th>Route</th>
<th>End Point</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>Oral</td>
<td>LD50</td>
<td>4220 mg/kg</td>
</tr>
<tr>
<td>Mouse</td>
<td>Oral</td>
<td>LD50</td>
<td>3360 mg/kg</td>
</tr>
<tr>
<td>Rat</td>
<td>Inhalation</td>
<td>LC50</td>
<td>&gt; 900 mg/m³</td>
</tr>
</tbody>
</table>

**Mannitol**

<table>
<thead>
<tr>
<th>Species</th>
<th>Route</th>
<th>LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>Oral</td>
<td>13500 mg/kg</td>
</tr>
<tr>
<td>Mouse</td>
<td>Oral</td>
<td>22 g/kg</td>
</tr>
</tbody>
</table>

**Sodium saccharin**

<table>
<thead>
<tr>
<th>Species</th>
<th>Route</th>
<th>LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse</td>
<td>Oral</td>
<td>17.5 g/kg</td>
</tr>
<tr>
<td>Rat</td>
<td>Oral</td>
<td>14.2 - 17 g/kg</td>
</tr>
<tr>
<td>Rat</td>
<td>Intraperitoneal</td>
<td>LD50</td>
</tr>
</tbody>
</table>

**Lactose Monohydrate**

<table>
<thead>
<tr>
<th>Species</th>
<th>Route</th>
<th>LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>Oral</td>
<td>29700 mg/kg</td>
</tr>
</tbody>
</table>
Acetylcysteine
Rat Oral LD50 > 6000 mg/kg
Rat Intravenous LD50 1140 mg/kg
Mouse Oral LD50 > 3000 mg/kg
Mouse Intravenous LD50 3800 mg/kg
Mouse Intraperitoneal LD50 400 mg/kg

Citric acid
Rat Oral LD50 3000 mg/kg

Irritation / Sensitization: (Study Type, Species, Severity)

Citric acid
Eye Irritation Rabbit Severe
Skin Irritation Rabbit Mild

Sodium saccharin
36 Week(s) Rat Oral 756 g/kg LOAEL Kidney, Ureter, Bladder
54 Day(s) Rat Oral 32400 mg/kg LOAEL Immune system

Reproduction & Developmental Toxicity: (Study Type, Species, Route, Dose, End Point, Effect(s))

Acetylcysteine
Reproductive & Fertility Rat Oral 1000 mg/kg/day NOAEL Fertility
Embryo / Fetal Development Rabbit Oral 500 mg/kg/day NOAEL Not Teratogenic

Genetic Toxicity: (Study Type, Cell Type/Organism, Result)

Acetylcysteine
Bacterial Mutagenicity (Ames) Salmonella , E. coli Negative

Carcinogenicity: (Duration, Species, Route, Dose, End Point, Effect(s))

Acetylcysteine
18 Month(s) Rat Oral 1000 mg/kg/day NOAEL Not carcinogenic

Carcinogen Status: See below

Sodium saccharin
IARC: Group 3

12. ECOLOGICAL INFORMATION

Environmental Overview: Environmental properties have not been thoroughly investigated. Releases to the environment should be avoided.

13. DISPOSAL CONSIDERATIONS
Disposal Procedures: Incineration is the recommended method of disposal for this material. Observe all local and national regulations when disposing of this material.

14. TRANSPORT INFORMATION

Not regulated for transport under USDOT, EUADR, IATA, or IMDG regulations.

15. REGULATORY INFORMATION

EU Symbol: None required
EU Indication of danger: Not classified

OSHA Label:
None required
Non-hazardous in accordance with international standards for workplace safety.

Canada - WHMIS: Classifications

WHMIS hazard class:
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Acetylcysteine
- Inventory - United States TSCA - Sect. 8(b): Present
- Australia (AICS): Present
- EU EINECS List: 210-498-3

Sodium bicarbonate
- Inventory - United States TSCA - Sect. 8(b): Present
- Australia (AICS): Present
- EU EINECS List: 205-633-8

Mannitol
- Inventory - United States TSCA - Sect. 8(b): Present
- Australia (AICS): Present
- EU EINECS List: 200-711-8

Citric acid
- Inventory - United States TSCA - Sect. 8(b): Present
- Australia (AICS): Present
- EU EINECS List: 201-069-1

Sodium saccharin
- Inventory - United States TSCA - Sect. 8(b): Present
- Australia (AICS): Present
- EU EINECS List: 204-886-1
Lactose Monohydrate
   Australia (AICS): Present

Sodium carbonate
   Inventory - United States TSCA - Sect. 8(b) Present
   Australia (AICS): Present
   EU EINECS List 207-838-8

16. OTHER INFORMATION

Prepared by: Toxicology and Hazard Communication
             Pfizer Global Environment, Health, and Safety

Pfizer Inc believes that the information contained in this Material Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied.

End of Safety Data Sheet