SECTION 1: Identification

1.1. Identification
Product form: Mixture
Product name: Zerust® ActivCapsule™ FAC1-1(s)
Other means of identification: EU SDS: 10-058

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: Corrosion inhibitors

1.3. Details of the supplier of the safety data sheet
Northern Technologies International Corporation
4201 Woodland Road
P.O. Box 69
Circle Pines, MN 55014 - United States
T +1 763-225-6600 - F +1 763-225-6645
msds@ntic.com - www.zerust.com

1.4. Emergency telephone number
Emergency number: Carechem +1 202 464 2554; Outside US/Canada +44 1865 407333 (24 hours; 7 days/week)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS-US classification
Skin corrosion/irritation, Category 2: H315
Serious eye damage/eye irritation, Category 2: H319
Full text of H statements: see section 16

2.2. Label elements
GHS-US labelling
Hazard pictograms (GHS-US):
![Hazard Pictogram]

Signal word (GHS-US): Warning
Hazard statements (GHS-US):
H315 - Causes skin irritation
H319 - Causes serious eye irritation
Precautionary statements (GHS-US):
P264 - Wash face thoroughly after handling
P280 - Wear eye protection, protective gloves
P302+P352 - If on skin: Wash with plenty of soap and water
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse

2.3. Other hazards
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures
Not applicable
Zerust® ActivCapsule™ FAC1-1(s)  
Safety Data Sheet  
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium benzoate</td>
<td>(CAS-No.) 1863-63-4</td>
<td>4 - 24</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td>Sodium benzoate</td>
<td>(CAS-No.) 532-32-1</td>
<td>&lt; 10</td>
<td>Skin Irrit. 2, H315</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation: Assure fresh air breathing. Allow the victim to rest.
- First-aid measures after skin contact: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Wash with plenty of soap and water, Get medical advice/attention.
- First-aid measures after eye contact: Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion: Rinse mouth. Do not induce vomiting. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/effects: Not expected to present a significant hazard under anticipated conditions of normal use.
- Symptoms/effects after skin contact: Causes skin irritation.
- Symptoms/effects after eye contact: Eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media


5.2. Special hazards arising from the substance or mixture

- Fire hazard: Risk of thermal burns on contact with molten product.
- Reactivity: The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

- Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
- Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment: Refer to protective measures listed in Sections 7 and 8.
- Emergency procedures: Evacuate unnecessary personnel. Avoid contact with skin and eyes.

6.1.2. For emergency responders

- Protective equipment: Equip cleanup crew with proper protection.
- Emergency procedures: Ventilate area.

6.2. Environmental precautions

- Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up: Dispose of in accordance with relevant local regulations.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.
SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Do not disassemble. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide adequate ventilation to minimize dust and/or vapour concentrations. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures: Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Keep only in the original container in a cool, well ventilated place away from incompatible materials. Keep container closed when not in use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional information: Contains no substances with occupational exposure limits

8.2. Exposure controls

Appropriate engineering controls: Provide adequate general and local exhaust ventilation.

Personal protective equipment: Gloves. Avoid all unnecessary exposure.

Hand protection: If disassembled: Wear protective gloves. protective gloves.

Eye protection: In case of dust production: protective goggles.

Skin and body protection: If disassembled: Wear suitable protective clothing.

Respiratory protection: No respiratory protection is ordinarily required under normal conditions of use.

Other information: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Solid.

Appearance: Diffuser containing pellets/tablets.

Colour: Yellow. Black.

Odour: characteristic.

Odour threshold: No data available

pH: No data available

Relative evaporation rate (butylacetate=1): No data available

Melting point: No data available

Freezing point: No data available

Boiling point: No data available

Flash point: No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Flammability (solid, gas): No data available

Vapour pressure: No data available

Relative vapour density at 20 °C: No data available

Relative density: No data available

Solubility: No data available

Log Pow: No data available

Log Kow: No data available

Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

Explosive properties: No data available
### Zerust® ActivCapsule™ FAC1-1(s)

**Safety Data Sheet**

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#### 1. Identification

- **Chemical formula**: No data available
- **Identification number**: FAC1-1
- **Manufacturer**: No data available

#### 2. Hazard classification and PPE recommendation

- **Hazard class**: No data available
- **Risk phrases**: No data available
- **Safety phrases**: No data available

#### 3. Risks for humans and the environment

- **Risk phrase**: No data available
- **Safety phrase**: No data available

#### 4. First aid measures

- **Emergency telephone number**: No data available
- **Extinguishing media**: No data available
- **Special fire-fighting measures**: No data available
- **Special hazards during fire fighting**: No data available
- **Extinguishing media**: No data available

#### 5. Material and process hygiene

- **Waste disposal**: No data available
- **Precautionary measures**: No data available
- **Personal protective equipment**: No data available

#### 6. Other information

- **Other information available**: No additional information available

#### 9. Other information

- **Other information available**: No additional information available

---

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

- The product is non-reactive under normal conditions of use, storage and transport.

#### 10.2. Chemical stability

- The product is stable at normal handling and storage conditions.

#### 10.3. Possibility of hazardous reactions

- No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

- None under recommended storage and handling conditions (see section 7).

#### 10.5. Incompatible materials

- None known.

#### 10.6. Hazardous decomposition products

- Under normal conditions of storage and use, hazardous decomposition products should not be produced.

---

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

- **Acute toxicity**: Not classified

<table>
<thead>
<tr>
<th>Sodium benzoate (532-32-1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>4010 - 4100 mg/kg</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>4010 mg/kg bodyweight</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ammonium benzoate (1863-63-4)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>825 mg/kg</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>825 mg/kg bodyweight</td>
</tr>
</tbody>
</table>

- **Skin corrosion/irritation**: Causes skin irritation.
- **Serious eye damage/irritation**: Causes serious eye irritation.
- **Respiratory or skin sensitisation**: Not classified
- **Germ cell mutagenicity**: Not classified
- **Carcinogenicity**: Not classified
- **Reproductive toxicity**: Not classified
- **Specific target organ toxicity (single exposure)**: Not classified
- **Specific target organ toxicity (repeated exposure)**: Not classified
- **Aspiration hazard**: Not classified
- **Potential adverse human health effects and symptoms**: Based on available data, the classification criteria are not met.
- **Symptoms/effects after skin contact**: Causes skin irritation.
- **Symptoms/effects after eye contact**: Eye irritation.

---

### SECTION 12: Ecological information

#### 12.1. Toxicity

<table>
<thead>
<tr>
<th>Sodium benzoate (532-32-1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>420 mg/l</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>650 mg/l (Exposure time: 48 h - Species: Daphnia magna)</td>
</tr>
</tbody>
</table>
### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Zerust® ActivCapsule™ FAC1-1(s)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Zerust® ActivCapsule™ FAC1-1(s)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sodium benzoate (532-32-1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>No bioaccumulation</td>
</tr>
<tr>
<td>Log Pow</td>
<td>2.13</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other information: Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

<table>
<thead>
<tr>
<th>Product/Packaging disposal recommendations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispose in a safe manner in accordance with local/national regulations.</td>
<td></td>
</tr>
</tbody>
</table>

Additional information: Product in unopened original container prior to use does not meet criteria for hazardous waste according to 40 CFR 261 (no components listed on F, K, P or U lists; not ignitable, not corrosive, not reactive and not toxic).

Ecology - waste materials: Avoid release to the environment.

### SECTION 14: Transport information

In accordance with DOT (49 CFR 100-185): Not regulated

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Sodium benzoate (532-32-1)</th>
<th>Listed on the United States TSCA (Toxic Substances Control Act) inventory</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Ammonium benzoate (1863-63-4)</th>
<th>Listed on the United States TSCA (Toxic Substances Control Act) inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>CERCLA RQ</td>
<td>5000 lb</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Zerust® ActivCapsule™ FAC1-1(s)</th>
<th>All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory</th>
</tr>
</thead>
</table>

#### 15.2. International regulations

<table>
<thead>
<tr>
<th>CANADA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium benzoate (532-32-1)</td>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
<tr>
<td>WHMIS Classification</td>
<td>Class D Division 2 Subdivision B - Toxic material causing other toxic effects</td>
</tr>
</tbody>
</table>
Zerust® ActivCapsule™ FAC1-1(s)

Safety Data Sheet

Ammonium benzoate (1863-63-4)
Listed on the Canadian DSL (Domestic Substances List)
PHMIS Classification Uncontrolled product according to WHMIS classification criteria

EU-Regulations

Sodium benzoate (532-32-1)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Ammonium benzoate (1863-63-4)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.3. US State regulations

Ammonium benzoate (1863-63-4)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Revision date : 12/8/2017
Other information : None.

Full text of H-statements:

<table>
<thead>
<tr>
<th>H-number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
</tbody>
</table>

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