### SECTION 1: Identification of the substance/mixture and of the company/undertaking

<table>
<thead>
<tr>
<th>1.1. Product identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product form</strong></td>
</tr>
<tr>
<td><strong>Physical state</strong></td>
</tr>
<tr>
<td><strong>Substance name</strong></td>
</tr>
<tr>
<td><strong>Product code</strong></td>
</tr>
<tr>
<td><strong>Formula</strong></td>
</tr>
<tr>
<td><strong>Synonyms</strong></td>
</tr>
<tr>
<td><strong>Chemical family</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.2. Relevant identified uses of the substance or mixture and uses advised against</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use of the substance/mixture</strong></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.3. Details of the supplier of the safety data sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GELEST, INC.</strong></td>
</tr>
<tr>
<td>11 East Steel Road</td>
</tr>
<tr>
<td>Morrisville, PA 19067</td>
</tr>
<tr>
<td>USA</td>
</tr>
<tr>
<td>T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST</td>
</tr>
<tr>
<td><a href="mailto:info@gelest.com">info@gelest.com</a> - <a href="http://www.gelest.com">www.gelest.com</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.4. Emergency telephone number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emergency number</strong></td>
</tr>
</tbody>
</table>

### SECTION 2: Hazards identification

<table>
<thead>
<tr>
<th>2.1. Classification of the substance or mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Classification (GHS-US)</strong></td>
</tr>
<tr>
<td>Flam. Sol. 2 H228</td>
</tr>
<tr>
<td>Eye Irrit. 2A H319</td>
</tr>
<tr>
<td><strong>Full text of H-phrases: see section 16</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.2. Label elements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GHS-US labelling</strong></td>
</tr>
<tr>
<td><strong>Hazard pictograms (GHS-US)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.3. Other hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>No additional information available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.4. Unknown acute toxicity (GHS US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No data available</td>
</tr>
</tbody>
</table>

### SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>3.1. Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Substance type</strong></td>
</tr>
</tbody>
</table>
ALUMINUM ISOPROPOXIDE
Safety Data Sheet

Name: ALUMINUM ISOPROPOXIDE
CAS No: 555-31-7
EC no: 209-090-8

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanol, aluminum salt</td>
<td>(CAS No) 555-31-7</td>
<td>&gt; 95</td>
<td>Flam. Sol. 2, H228</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A, H319</td>
</tr>
</tbody>
</table>

3.2. Mixture
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures general: Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact: Wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion: Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/injuries after inhalation: May cause irritation to the respiratory tract.
Symptoms/injuries after skin contact: May cause skin irritation.
Symptoms/injuries after eye contact: Causes serious eye irritation.
Symptoms/injuries after ingestion: May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media
Unsuitable extinguishing media: Water.

5.2. Special hazards arising from the substance or mixture
Fire hazard: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Advice for firefighters
Firefighting instructions: Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire.
Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
General measures: Remove ignition sources. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel
Protective equipment: Wear protective equipment as described in Section 8.
Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: “Exposure controls/personal protection”.

6.2. Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up
For containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up: Sweep or shovel spills into appropriate container for disposal.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.
ALUMINUM ISOPROPOXIDE
Safety Data Sheet

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Precautions for safe handling: Avoid contact with skin and eyes. Do not breathe dust. Provide local exhaust or general room ventilation to minimize exposure to dust. Do not allow dust to accumulate in work areas. Avoid contact with water. Ground/bond container and receiving equipment.
- Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures: Use explosion-proof electrical equipment.
- Storage conditions: Keep container tightly closed.
- Incompatible materials: Water.
- Storage area: Store in a well-ventilated place. Store away from heat.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>USA ACGIH</th>
<th>ACGIH TWA (mg/m³)</th>
<th>10 mg/m³ total dust</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanol, aluminum salt (555-31-7)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2. Exposure controls

- Appropriate engineering controls: Provide local exhaust or general room ventilation.
- Personal protective equipment: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Avoid all unnecessary exposure.
- Hand protection: Neoprene or nitrile rubber gloves.
- Eye protection: Chemical goggles. Contact lenses should not be worn.
- Skin and body protection: Wear suitable protective clothing.
- Respiratory protection: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified dust and mist (orange cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state: Solid
- Appearance: Powder.
- Molecular mass: 204.25 g/mol
- Color: White.
- Odor: Characteristic. Isopropanol
- Odor threshold: No data available
- Refractive index: No data available
- pH: No data available
- Relative evaporation rate (butyl acetate=1): No data available
- Melting point: 118.5 °C
- Freezing point: No data available
- Boiling point: 135 - 138 °C @10 mm Hg
- Flash point: No data available
- Auto-ignition temperature: No data available
- Decomposition temperature: No data available
- Flammability (solid, gas): No data available
- Vapor pressure: < 1 mm Hg @ 25°C
- Relative vapor density at 20 °C: > 1
- Relative density: 1.035
- Solubility: Reacts with water. Organic solvent: Soluble: hot isopropanol, toluene
- Log Pow: No data available
- Log Kow: No data available
- Viscosity, kinematic: No data available
- Viscosity, dynamic: No data available
ALUMINUM ISOPROPOXIDE
Safety Data Sheet

Explosive properties : No data available
Oxidizing properties : No data available
Explosion limits : No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Material decomposes slowly in contact with air by reaction with moisture, liberating s-butanol and aluminum hydroxide.

10.4. Conditions to avoid
Heat. Open flame. Sparks.

10.5. Incompatible materials
Water.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Not classified

<table>
<thead>
<tr>
<th>2-Propanol, aluminum salt (555-31-7)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>11300 mg/kg</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>11300.000 mg/kg body weight</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitization : 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
Symptoms/injuries after inhalation : May cause irritation to the respiratory tract.
Symptoms/injuries after skin contact : May cause skin irritation.
Symptoms/injuries after eye contact : Causes serious eye irritation.
Symptoms/injuries after ingestion : May be harmful if swallowed.
Reason for classification : Expert judgment

SECTION 12: Ecological information

12.1. Toxicity
No additional information available

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
Effect on ozone layer : No additional information available
Effect on the global warming : No known ecological damage caused by this product.
ALUMINUM ISOPROPOXIDE
Safety Data Sheet

SECTION 13: Disposal considerations
13.1. Waste treatment methods
Sewage disposal recommendations: Do not dispose of waste into sewer.
Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information
14.1. UN number
UN-No.(DOT): 3181
DOT NA no.: UN3181

14.2. UN proper shipping name
Proper Shipping Name (DOT): Metal salts of organic compounds, flammable, n.o.s.
Department of Transportation (DOT) Hazard Classes: 4.1 - Class 4.1 - Flammable Solid 49 CFR 173.124
Hazard labels (DOT): 4.1 - Flammable solid

DOT Symbols: G - Identifies PSN requiring a technical name
Packing group (DOT): III - Minor Danger
DOT Packaging Exceptions (49 CFR 173.xxx): 151
DOT Packaging Non Bulk (49 CFR 173.xxx): 213
DOT Packaging Bulk (49 CFR 173.xxx): 240

14.3. Additional information
Other information: No supplementary information available.

Transport by sea
DOT Vessel Stowage Location: B - (i) The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
DOT Vessel Stowage Other: 40 - Stow “clear of living quarters”

Air transport
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): 25 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): 100 kg

SECTION 15: Regulatory information
15.1. US Federal regulations
2-Propanol, aluminum salt (555-31-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations
2-Propanol, aluminum salt (555-31-7)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican national Inventory of Chemical Substances)
ALUMINUM ISOPROPOXIDE
Safety Data Sheet

15.3. US State regulations

<table>
<thead>
<tr>
<th>ALUMINUM ISOPROPOXIDE(555-31-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>U.S. - California - Proposition 65 - Carcinogens List</strong></td>
</tr>
<tr>
<td><strong>U.S. - California - Proposition 65 - Developmental Toxicity</strong></td>
</tr>
<tr>
<td><strong>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</strong></td>
</tr>
<tr>
<td><strong>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2-Propanol, aluminum salt (555-31-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>U.S. - California - Proposition 65 - Carcinogens List</strong></td>
</tr>
<tr>
<td><strong>U.S. - California - Proposition 65 - Developmental Toxicity</strong></td>
</tr>
<tr>
<td><strong>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</strong></td>
</tr>
<tr>
<td><strong>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</strong></td>
</tr>
<tr>
<td><strong>No significance risk level (NSRL)</strong></td>
</tr>
</tbody>
</table>

**SECTION 16: Other information**

**Abbreviations and acronyms**

- Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development.

**Full text of H-phrases:**

- **Eye Irrit. 2A**
- **Flam. Sol. 2**
- **H228**
- **H319**

**Serious eye damage/eye irritation Category 2A**

**Flammable solids Category 2**

**Flammable solid**

**Causes serious eye irritation**

**HMIS III Rating**

- **Health**: 2 Moderate Hazard - Temporary or minor injury may occur
- **Flammability**: 2 Moderate Hazard
- **Physical**: 1 Slight Hazard

Prepared by safety and environmental affairs.

Date of issue: 08/21/2015 Version: 1.0

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

© 2015 Gelest Inc. Morrisville, PA 19067