SAFETY DATA SHEET

ADOL® 52 NF

SECTION 1: IDENTIFICATION

Product Identifier
Product Form: Substance
Product Name: ADOL® 52 NF
CAS No: 36653-82-4
Synonyms: Cetyl Alcohol
Intended Use of the Product Not available

Name, Address, and Telephone of the Responsible Party
Company
Peter Cremer North America, LP
3117 Southside Ave.
Cincinnati, OH 45204
1-513-471-7200
1-877-901-7262 (Toll free)

Emergency Telephone Number
Emergency Number CHEMTREC: 1-800-424-9300 US and Canada; 1-703-527-3887 for calls originating elsewhere

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture
Classification (GHS-US)
Not classified

Label Elements
GHS-US Labeling
Not applicable

Other Hazards
No hazards resulting from the material as supplied.

Unknown Acute Toxicity (GHS-US) No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances
Name : ADOL® 52 NF
CAS No : 36653-82-4

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier</th>
<th>% (w/w)</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Hexadecanol</td>
<td>(CAS No) 36653-82-4</td>
<td>&gt; 95</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Impurities include <= 2.5% 1-Tetradecanol (CAS No) 112-72-1.

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures
General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.
Inhalation: When symptoms occur: go into open air and ventilate suspected area.
Skin Contact: Remove contaminated clothing. Wash with soap and water. Obtain medical attention if irritation persists.
Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Obtain medical attention if irritation persists.
Ingestion: Do NOT induce vomiting. Consult a physician.
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SECTION 4: FIRST AID MEASURES

Most Important Symptoms and Effects Both Acute and Delayed

General: During processing, inhalation of fumes may cause dizziness and/or irritation to the eyes, nose, and throat. Hot molten product will cause thermal burns to the skin.

Inhalation: May cause respiratory irritation.

Skin Contact: May cause slight irritation to skin.

Eye Contact: May cause slight irritation to eyes.

Ingestion: Consult a physician.

Chronic Symptoms: None known.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Water spray, foam, dry chemical, carbon dioxide (CO2).

Unsuitable Extinguishing Media: None known.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Irritating or toxic gases or fumes may be released during fire.

Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters

Firefighting Instructions: Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂), soot, aldehydes, ketones.

Reference to Other Sections: Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid breathing (vapor, mist, dust). Avoid all unnecessary exposure.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).


For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.


Environmental Precautions: Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Absorb and/or contain spill with inert material.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Carefully shovel or sweep up spilled material and place in suitable container. Avoid generation of dust during clean-up of spills. Absorb with sand or other inert absorbent material.


Reference to Other Sections

See section 8, Exposure Controls and Personal Protection. For further information, refer to section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Avoid unnecessary contact. No smoking. Use care during processing to minimize generation of dust.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.
SECTION 7: HANDLING AND STORAGE

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Good housekeeping is needed during storage, transfer, handling, and use of this material to avoid excessive dust accumulation.

Storage Conditions: Keep container closed when not in use. Keep only in the original container in a cool, well ventilated place away from ignition sources. No special precautions noted.

Incompatible Materials: Strong oxidizers.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Exposure Controls

Appropriate Engineering Controls: Provide adequate general and local exhaust ventilation. Prevent dust accumulation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.


Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Chemical safety glasses.

Skin and Body Protection: Wash contaminated clothing before reuse.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Waxy white flakes, pastilles</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild, soapy</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>116.6 - 122 °F (47 - 50 °C)</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>&gt; 480 °F (248.9 °C) @ 760 mmHg (101.3 kPa)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>320 °F (160 °C)PMCC</td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower Flammable Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper Flammable Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>&lt;= 1 mm Hg @ 72 °F (22 °C)</td>
</tr>
<tr>
<td>Relative Vapor Density at 20 °C</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative Density</td>
<td>0.81 @55/25°C</td>
</tr>
<tr>
<td>Solubility</td>
<td>Not available</td>
</tr>
<tr>
<td>Partition Coefficient: N-Octanol/Water</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
</tbody>
</table>
SECTION 10: STABILITY AND REACTIVITY
Reactivity: Hazardous reactions will not occur under normal conditions.
Chemical Stability: Stable under recommended handling and storage conditions (see section 7).
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Incompatible Materials: Not available.
Hazardous Decomposition Products: No decomposition if stored normally.

SECTION 11 - TOXICOLOGICAL INFORMATION
Information on Toxicological Effects – Product
Acute Toxicity: Not classified
LD50 and LC50 Data: Not available
Skin Corrosion/Irritation: Not classified
Serious Eye Damage/Irritation: Not classified
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Teratogenicity: Not classified
Carcinogenicity: Not classified
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Aspiration Hazard: Not classified
Symptoms/Injuries After Inhalation: May cause respiratory irritation.
Symptoms/Injuries After Skin Contact: Slightly irritating to the skin.
Symptoms/Injuries After Eye Contact: Slightly irritating to eyes.
Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms: None known.

Information on Toxicological Effects - Ingredient(s)
LD50 and LC50 Data:

<table>
<thead>
<tr>
<th>1-Hexadecanol (36653-82-4)</th>
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<tbody>
<tr>
<td>Acute: LD50 Oral Rat</td>
</tr>
<tr>
<td>Acute: LC50 Inhalation Rat</td>
</tr>
<tr>
<td>Acute: LD50 Dermal Rabbit</td>
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<table>
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</thead>
<tbody>
<tr>
<td>Acute: LD50 Oral Rat</td>
</tr>
<tr>
<td>Acute: LC50 Inhalation Rat</td>
</tr>
<tr>
<td>Acute: LD50 Dermal Rabbit</td>
</tr>
</tbody>
</table>

SECTION 12: ECOLOGICAL INFORMATION
Toxicity

<table>
<thead>
<tr>
<th>1-Hexadecanol (36653-82-4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute: LC50 Fish 1</td>
</tr>
<tr>
<td>Acute: EC50 Daphnia 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1-Tetradecanol (112-72-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute: LC50 Fish 1</td>
</tr>
</tbody>
</table>
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SECTION 12: ECOLOGICAL INFORMATION

| Acute: EC50 Daphnia 1 | 3.2 mg/l, 48 hours, OECD 202 ISO 6341 15. (Species: Daphnia magna) |

Persistence and Degradability: Readily biodegradable.

Bioaccumulative Potential

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<tr>
<td>Octanol/water partition coefficient log Kow</td>
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<td>1-Tetradecanol (112-72-1)</td>
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</tr>
</tbody>
</table>

Mobility in Soil: Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Additional Information: Dispose in accordance to applicable laws.


SECTION 14: TRANSPORT INFORMATION

In Accordance with DOT: Not regulated for transport

In Accordance with IMDG: Not regulated for transport

In Accordance with IATA: Not regulated for transport

In Accordance with TDG: Not regulated for transport

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

<table>
<thead>
<tr>
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<tr>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
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US State Regulations

Neither this product nor its chemical components appear on any US state lists.

Canadian Regulations

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<tr>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 05/13/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Party Responsible for the Preparation of This Document

Peter Cremer North America, LP
SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

1-513-471-7200
1-877-901-7262 (Toll Free)

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SDS NA Peter Cremer