1. PRODUCT AND COMPANY IDENTIFICATION

Product name: CELOGEN® AZRV

Chemical name: Azodicarbonamide plus semicarbazide additive

Use of substance/preparation: No specific information

Supplier: Lion Copolymer Geismar, LLC
36191 Louisiana Highway 30
Geismar, LA 70734 USA

Emergency telephone number: CHEMTREC (24 hours) 800-424-9300

Environmental, Health and Safety Department: +1 225-673-8871 or +1 225-267-3608

Prepared by: Supply Chain
Date of Issue: 06/27/2007
(U) +1800-535-9960
Email: CustomerService@lioncopolymer.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
CAUTION!
MAY CAUSE EYE IRRITATION.
MAY CAUSE SENSITIZATION BY INHALATION.
REPEATED EXPOSURE MAY CAUSE SENSITIZATION OF THE RESPIRATORY TRACT AND THE DEVELOPMENT OF AN ASTHMATIC REACTION ON FURTHER EXPOSURE.
VAPOR GENERATED AT HIGH TEMPERATURE (THERMAL DEGRADATION) CAN BE IRRITATING.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
- AN EXISTING LUNG DISEASE
AVOID DISPERSION OF DUST IN AIR TO REDUCE POTENTIAL FOR DUST IGNITION/EXPLOSIONS.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>% BY WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azodicarbonamide</td>
<td>&gt; 85</td>
</tr>
<tr>
<td>CAS# 123-77-3</td>
<td></td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

Swallowing
Do not induce vomiting. Rinse mouth and then drink water. Obtain medical attention.

Inhalation
Remove to fresh air. Obtain medical attention.

Skin contact
Remove contaminated clothing. Wash thoroughly with warm water using a mild soap. Obtain medical attention if irritation persists.

Eye contact
Immediately flush eyes with water and continue washing for several minutes. Obtain medical attention if irritation persists.

5. FIRE-FIGHTING MEASURES

Flammable limits
Lower limit: Not available
Upper limit: Not available

Autoignition temperature: Not available

NFPA CLASSIFICATION

<table>
<thead>
<tr>
<th>Health: 2</th>
<th>Flammability: 3</th>
<th>Reactivity: 1</th>
<th>Special provisions: No data available</th>
</tr>
</thead>
</table>

Hazardous combustion products
Toxic fumes.
Ammonia.
Oxides of nitrogen.
Oxides of carbon.
Traces of incompletely burned carbon products.

Special fire fighting procedures
Evacuate all personnel from danger area.
Avoid dusting when handling and avoid all possible sources of ignition (spark or flame).
Use water spray to cool fire-exposed containers and structures.

Special protective equipment for firefighters
Self-contained breathing apparatus.
Full protective clothing

Extinguishing media
- water spray
- dry chemical

Unusual fire and explosion hazards
Heated containers may explode. Once ignited, this product will burn vigorously and with acceleration.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Avoid all contact.

Environmental precautions
Avoid discharge to sewers or natural waters.
Methods for cleaning up
Avoid dispersion of dust.
Eliminate sources of ignition.
Collect in a suitable container for disposal.
Dispose of waste material in compliance with all federal, state, and local regulations.
Sweep up using non-sparking equipment.

7. HANDLING AND STORAGE

HANDLING
Handling precautions
Avoid dispersion of dust to reduce fire and explosion potential. Take precautionary measures against static discharges.

STORAGE
Storage requirements
Keep away from heat, sparks and flame. Store in a cool, dry and well-ventilated area. Keep container tightly closed.

Further information on storage
Maximum Storage Temperature: 80° C (176° F)

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

<table>
<thead>
<tr>
<th>Component</th>
<th>Country</th>
<th>Type</th>
<th>Value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azodicarbonamide</td>
<td></td>
<td></td>
<td></td>
<td>No other exposure limits have been established</td>
</tr>
</tbody>
</table>

PERSONAL PROTECTION

Respiratory protection
In case of occurrence of dust respiratory protective equipment required.

Hand protection / protective gloves
Chemical resistant protective gloves

Eye protection
Safety glasses with side shields.

Skin protection
Wear protective clothing, such as long sleeves to minimize skin contact.

ENGINEERING CONTROLS

Ventilation
Local exhaust suggested to prevent dust buildup.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE
Physical state
Powder

Color
Orange-yellow

Odor
Characteristic

Odor threshold
Not available

OTHER PROPERTIES
Boiling point
Not available
**CELOGEN® AZRV**

- **Melting point**: Decomposition may occur at temperatures: 356-392°F (180-200°C)
- **Solidification**: Not available
- **pH**: Not available
- **Specific gravity (H2O=1)**: Not available
- **Density**: 1.67 g/cm³ at 25 °C
- **Vapor pressure**: Not available
- **Solubility in water**: Slightly soluble, Decomposes in alkaline solution.
- **Solubility in organic solvents**: No data available.
- **Partitioning coefficient**: Not available
- **Flash point**: Decomposes
- **Thermal decomposition**: Decomposes without ignition., Bulk quantities may self ignite if heated.
- **Autoignition temperature**: Not available
- **Upper explosion limits**: Not available
- **Lower explosion limits**: Not available
- **Percent volatiles**: No data available.

**10. STABILITY AND REACTIVITY**

**Stability**: This product is stable only when stored at, or below, the recommended maximum temperature.

**Incompatible materials:**
Metallic compounds
Acids.
Bases.
Strong oxidizing agents.

**Hazardous reactions**: Keep away from heat.

**Hazardous combustion products:**
Toxic fumes.
Ammonia.
Oxides of nitrogen.
Oxides of carbon.
Traces of incompletely burned carbon products.

**Hazardous polymerization**: Will not occur.

**11. TOXICOLOGICAL INFORMATION**

<table>
<thead>
<tr>
<th>Component data</th>
<th>LD50 - Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azodicarbonamide</td>
<td>Result: 6,800 mg/kg</td>
</tr>
<tr>
<td>Acute toxicity - Swallowing:</td>
<td></td>
</tr>
</tbody>
</table>

{M}SDS# 0000000010600
### Component data

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 - Rat</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semicarbazide additive</td>
<td></td>
<td>&gt; 10,000 mg/kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>LC50 - Rat</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azodicarbonamide</td>
<td></td>
<td>&gt; 200 mg/l</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azodicarbonamide</td>
<td>Rabbit</td>
<td>Non irritating.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semicarbazide additive</td>
<td>Rabbit</td>
<td>Not irritating</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azodicarbonamide</td>
<td>Rabbit</td>
<td>Slight</td>
</tr>
</tbody>
</table>

### MUTAGENICITY

<table>
<thead>
<tr>
<th>Component</th>
<th>Test type</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azodicarbonamide</td>
<td>Ames bacterial assay</td>
<td>Positive</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Test type</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azodicarbonamide</td>
<td>Unscheduled DNA synthesis (UDS)</td>
<td>Negative</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Test type</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azodicarbonamide</td>
<td>Chinese Hamster Ovary (CHO)</td>
<td>Negative</td>
</tr>
</tbody>
</table>

### 12. ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Component</th>
<th>EC50 - Fathead minnow (Pimephales promelas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azodicarbonamide</td>
<td>&gt; 50 mg/l</td>
</tr>
</tbody>
</table>
Acute toxicity fish:

<table>
<thead>
<tr>
<th>Component ecotoxicology</th>
<th>Exposure time: 48 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azodicarbonamide</td>
<td>EC50 - Water flea (Daphnia magna)</td>
</tr>
<tr>
<td>Acute toxicity to aquatic invertebrates</td>
<td>Result: 11 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 48 h</td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS

General: Dispose of in accordance with appropriate Federal, State, and local regulations. Avoid discharge to sewers and natural waters.

14. TRANSPORT INFORMATION

DOT Classification

This product is not regulated by DOT. Under certain circumstances, the material may be shipped as a hazardous material according to DOT regulations to retain the labeling and markings required for IMDG export.

IMDG Classification

- Proper shipping name: Azodicarbonamide mixture
- Class: 4.1
- UN ID #: UN 3242
- Packing group: II

ICAO Classification

FORBIDDEN BY AIR.

15. REGULATORY INFORMATION

Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of hazardous substances equal to or greater than the reportable quantities (RQ’s) in 40CFR302.4.

Components present in this product at a level which could require reporting under the statute are:

- ****  NONE  ****

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40CFR372 (for SARA 313). This information must be included in MSDS's that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:

- ****  NONE  ****

New Jersey Worker and Community Right-To-Know Act (Labeling Requirements)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS#</th>
<th>New Jersey TS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azodicarbonamide</td>
<td>123-77-3</td>
<td></td>
</tr>
<tr>
<td>Semicarbazide additive</td>
<td>Trade secret</td>
<td>CROM316</td>
</tr>
</tbody>
</table>

EPA Hazard Categories (SARA 311, 312):

- Immediate Health Hazard

California Proposition 65

- ****  NONE  ****
CHEMICAL INVENTORY

Canada: This product is on the DSL.
Europe: The ingredients of this mixture are on the EINECS inventory.
United States: This product is on the TSCA inventory.
Australia: This product is on the AICS inventory.
China: This product is on the IECSC Inventory.
Japan: This product is on the ENCS inventory.

Food additive
No data available.

Food contact
No data available.

Cosmetics
No data available.

Pharmaceuticals
No data available.

16. OTHER INFORMATION

HMIS RATING

<table>
<thead>
<tr>
<th>Health: 2</th>
<th>Flammability: 3</th>
<th>Reactivity: 1</th>
<th>PPI: X</th>
</tr>
</thead>
<tbody>
<tr>
<td>STP</td>
<td>Standard temperature and pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W/W</td>
<td>Weight/Weight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (HMIS)</td>
<td>Slight hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 (HMIS)</td>
<td>Moderate hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 (HMIS)</td>
<td>Serious hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 (HMIS)</td>
<td>Severe hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>X (HMIS)</td>
<td>Personal protection rating to be supplied by user depending on use conditions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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