SAFETY DATA SHEET

Section 1. Identification

Product name: Amine C6

Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Manufacture of Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine residues. The use of Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine residues as an intermediate.

Creation date: 05/19/2015

Print date: 05/19/2015

Version: 1.0

Supplier's details: Deep South Chemical, Inc. 229 Millstone Road, Broussard LA 70518
For Product Information/MSDSs Call: 337-837-9931

Emergency telephone number (with hours of operation):
CHEMTREC 800-424-9300 (U.S. 24 hour)
(001)281-276-5400
CANUTEC 613-996-6666 (Canada 24 hours)
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

2.1 Classification of the substance or mixture
Ser. Eye Irritation 2A H319 Causes serious eye irritation
Aquatic hazard 3 H412 Harmful to aquatic life with long-lasting effects

2.2 GHS label elements

Hazard pictograms:

Signal Word: Warning

Hazard statements:
H319 Causes serious eye irritation
H412 Harmful to aquatic life with long-lasting effects

Precautionary statements:
P234 Wear eye or face protection
P264 Wash hands thoroughly after handling
P273 Avoid release to the environment
P305+P351+P338 IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337+313 If eye irritation persists: get medical attention

DSC-GHS-1-152
Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system
NFPA ratings: Health (2) Fire (1) Reactivity (0) Special ()
HMIS ratings: Health (2) Fire (1) Reactivity (0)

Hazards not otherwise classified: No additional information.

Section 3. Composition/information on ingredients
Substance/mixture: Substance

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivs. residues</td>
<td>60-100</td>
<td>68909-77-3</td>
</tr>
</tbody>
</table>

Section 4. First aid measures

### 4.1 Description of necessary first aid measures

#### Eye contact
Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 10 minutes. Check for and remove any contact lenses. Immediately call a Poison Center or doctor/physician.

#### Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. Immediately call a poison center or physician. If unconscious, place in a recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt, or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

#### Skin contact
Flush contaminated skin with water for 15 minutes. Do not apply chemical neutralizing agents. Remove contaminated clothing and shoes while washing. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

#### Ingestion
Drink plenty of water. If victim is drowsy or unconscious, place on left side with head down. Seek medical attention. DO NOT INDUCE VOMITING.

### 4.2 Most important symptoms/effects, acute and delayed

#### Potential acute health effects

<table>
<thead>
<tr>
<th>Symptoms/injuries</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Irritating to mouth, throat and stomach.</td>
</tr>
</tbody>
</table>

#### Chronic symptoms
Pain or irritation, watering, and redness of eyes.

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary
No additional information available

Section 5. Fire-fighting measures

DSC-GHS-1-152
5.1 Extinguishing media

Suitable extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media
No unsuitable extinguishing media known.

5.2 Specific hazards arising from the chemical

Fire Hazard
Decomposition products may include carbon dioxide, carbon monoxide, and nitrogen oxides.

Explosion Hazard
Pressure increase may burst container.

5.3 Advice for firefighters

Precautionary measures
Keep upwind. Consider evacuation. Have neighborhood close doors and windows.

Firefighting instructions
Cool tanks/drums with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

Special protective equipment for fire-fighters
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus with a full face-plate operated in positive pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders
Equip cleanup crew with proper protection. Ventilate area.

6.2 Environmental precautions
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up
Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in containers for disposal according to local regulations.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures
Keep container tightly closed when not in use. Ensure good ventilation/exhaustion at the workplace. Keep ignition sources away. Protect against electrostatic charges.
Advice on general occupational hygiene
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including incompatibilities
Comply with applicable regulations. Keep only in the original container in a cool, well ventilated area away from direct sunlight. Separate from acids. Keep container tightly closed and sealed until ready for use.

Section 8. Exposure controls/personal protection
8.1 Control parameters
Appropriate engineering controls
Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters, or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

8.2 Exposure controls
Eye/face protection
Wear chemical safety goggles. When transferring material, wear face-shield in addition to chemical safety goggles.

Hand protection
Chemical-resistant gloves: rubber gloves/Neoprene gloves.

Skin protection
Splash proof clothing.

Respiratory protection
Wear a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties
Physical state: Liquid
Color: Brown
Odor: Ammonia
pH: 12
Melting/freezing point: < -4 °F
Boiling point: 449.6 to 719.6 °F
Flash point: Closed cup: 314.6°F
Evaporation rate: No data available (butyl acetate = 1)
Flammability: No data available
Lower and upper explosive limits: No data available
Vapor pressure: No data available
Vapor density: > 1 (Air = 1.0)
Relative density: 1.09
Density: 9.09 lbs/gal
Solubility in water: No data available
Partition coefficient n-octanol/water: 0.565
Auto-ignition temp.: 536°F
Decomposition temp.: Not determined
Viscosity: Kinematic: 0.36458 cm²/s (36.458 cSt)
VOC: Not applicable

Section 10. Stability and reactivity
10.1 Reactivity
DSC-GHS-1-152
No specific test data related to reactivity available for this product.

**10.2 Chemical stability**
Stable under normal conditions.

**10.3 Possibility of hazardous reactions**
Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid**
No specific data.

**10.5 Incompatible materials**
Strong acids.

**10.6 Hazardous decomposition products**
Under normal conditions of storage and use, hazardous decomposition products will not be produced.

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**Section 11. Toxicological Information**

**Information on toxicological effects**

**Toxicological Data:**

### Acute Toxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Test</th>
<th>Endpoint</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol, 2,2’-oxybis-, reaction products with ammonia, morpholine derivs. residues</td>
<td>OECD 402 Acute Dermal Toxicity</td>
<td>LD50 Dermal</td>
<td>Rat-Male, female</td>
<td>&gt;2000 mg/kg</td>
</tr>
<tr>
<td>Ethanol, 2,2’-oxybis-, reaction products with ammonia, morpholine derivs. residues</td>
<td>OECD 420 Acute Oral Toxicity-Fixed Dose Method</td>
<td>LD50 Oral</td>
<td>Rat-Male, Female</td>
<td>5000 mg/kg</td>
</tr>
</tbody>
</table>

### Irritation/Corrosion

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Test</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol, 2,2’-oxybis-, reaction products with ammonia, morpholine derivs. residues</td>
<td>OECD 404 Acute Dermal Irritation/Corrosion</td>
<td>Rabbit</td>
<td>Skin- mild irritant</td>
</tr>
<tr>
<td>Ethanol, 2,2’-oxybis-, reaction products with ammonia, morpholine derivs. residues</td>
<td>EPA OPPTS</td>
<td>Rabbit</td>
<td>Eyes- irritant</td>
</tr>
</tbody>
</table>

### Sensitization

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Test</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol, 2,2’-oxybis-, reaction products with ammonia, morpholine derivs. residues</td>
<td>OECD 406 Skin Sensitization</td>
<td>Skin</td>
<td>Guinea pig</td>
<td>Not sensitizing</td>
</tr>
</tbody>
</table>

### Mutagenicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol, 2,2’-oxybis-, reaction products with ammonia, morpholine derivs. residues</td>
<td>Experiment: In vitro Subject: Bacteria Metabolic activation: +/-</td>
<td>Negative</td>
</tr>
<tr>
<td>Ethanol, 2,2’-oxybis-, reaction products</td>
<td>Experiment: In vitro Subject: Mammalian-animal</td>
<td>Negative</td>
</tr>
</tbody>
</table>
with ammonia, morpholine derivs. residues | Metabolic activation: +/-

Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivs. residues | Experiment: In vivo Subject: Mammilian-animal Cell: Somatic | Negative

### Reproductive toxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Test</th>
<th>Species</th>
<th>Maternal toxicity</th>
<th>Fertility</th>
<th>Developmental effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivs. residues</td>
<td>OECD 421 Reproduction/Developmental Toxicity Screening Test</td>
<td>Rat- Male, Female</td>
<td>Negative</td>
<td>Negative</td>
<td>Negative</td>
</tr>
</tbody>
</table>

### Teratogenicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Test</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivs. residues</td>
<td>OECD 421 Reproduction/Developmental Toxicity Screening Test</td>
<td>Rat- Male, Female</td>
<td>Negative- Oral</td>
</tr>
</tbody>
</table>

### Potential chronic health effects

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Test</th>
<th>Endpoint</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivs. residues</td>
<td>OECD 407 Repeated Dose 28-day Oral Toxicity Study in Rodents</td>
<td>Sub-acute NOAEL Oral</td>
<td>Rat- Male, female</td>
<td>1000 mg/kg</td>
</tr>
</tbody>
</table>

### Section 12. Ecological information

#### Toxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Test</th>
<th>Endpoint</th>
<th>Exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivs. residues</td>
<td>OECD 209 Activated Sludge</td>
<td>Acute EC50</td>
<td>3 hr static</td>
<td>Bacteria</td>
<td>&gt;1000 g/L</td>
</tr>
<tr>
<td>OECD</td>
<td>Acute EC50</td>
<td>48 hr static</td>
<td>Daphnia</td>
<td>&gt;100 g/L</td>
<td></td>
</tr>
<tr>
<td>OECD</td>
<td>Acute ErC50</td>
<td>72 hr static</td>
<td>Algae</td>
<td>45 mg/kg</td>
<td></td>
</tr>
<tr>
<td>OECD</td>
<td>Acute LC50</td>
<td>96 hr semi-static</td>
<td>Fish</td>
<td>&gt;45 g/L</td>
<td></td>
</tr>
<tr>
<td>OECD 209 Activated Sludge</td>
<td>Chronic NOEC</td>
<td>3 hr static</td>
<td>Bacteria</td>
<td>1000 g/L</td>
<td></td>
</tr>
<tr>
<td>Ingredient</td>
<td>Test</td>
<td>Period</td>
<td>Result</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>------</td>
<td>--------</td>
<td>--------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivs. residues</td>
<td>OECD 301B Ready Biodegradability CO₂ Evolution Test</td>
<td>28 days</td>
<td>21%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivs. residues</td>
<td></td>
<td>48 days</td>
<td>18%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Bioaccumulative potential

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Log Pow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivs. residues</td>
<td>0.565</td>
<td>-</td>
<td>Low</td>
</tr>
</tbody>
</table>

### Section 13. Disposal considerations

**Disposal methods**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### Section 14. Transport information

**DOT Transport Information:** Not regulated

### Section 15. Regulatory information

**Toxic Substances Control Act (TCSA):** All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

**CERCLA RQ-40 CFR 302.4(a)**

<table>
<thead>
<tr>
<th>Component</th>
<th>CERCLA RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

**SARA 302 Components-40 CFR 355 Appendix A**

<table>
<thead>
<tr>
<th>Component</th>
<th>TPQ(Threshold Planning Quantity) (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>
Section 311/312 Hazard Class-40 CFR 370.2
Immediate (X)
Delayed ( )
Fire ( )
Reactive ( )
Sudden Release of Pressure ( )

SARA 313-40 CFR 372.65

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
<th>% (by weight)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 16. Other information

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