Material Safety Data Sheet

Cepro 100

1. Product and company identification

Product name: Cepro 100
Material uses: Not available.
Supplier/Manufacturer: Dorf Ketal Chemicals LLC
3727 Greenbriar, Suite 114
Stafford, TX 77477
U.S.A.
Phone 281-491-3700
Fax: 281-491-3733

Validation date: 03/15/2009
Responsible name: Atrion Regulatory Services, Inc.
In case of emergency: CHEMTREC, U.S. : (800) 424-9300 International: (703) 527-3887

2. Hazards identification

Physical state: Liquid. [Clear.]
Odor: Pungent.
OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview: WARNING!
EXPLOSIVE REACTION MAY OCCUR ON HEATING OR BURNING. COMBUSTIBLE LIQUID AND VAPOR. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE EYE AND SKIN IRRITATION.
Keep away from heat, sparks and flame. Do not breathe vapor or mist. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry: Eye contact. Inhalation.

Potential acute health effects
Inhalation: Harmful by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion: No known significant effects or critical hazards.
Skin: Harmful in contact with skin. Moderately irritating to the skin.
Eyes: Moderately irritating to eyes.

Potential chronic health effects
Chronic effects: No known significant effects or critical hazards.
Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.
Teratogenicity: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: No known significant effects or critical hazards.

Over-exposure signs/symptoms
Inhalation: Adverse symptoms may include the following: respiratory tract irritation coughing
Ingestion: No specific data.
2. Hazards identification

**Skin**
- Adverse symptoms may include the following:
  - irritation
  - redness

**Eyes**
- Adverse symptoms may include the following:
  - pain or irritation
  - watering
  - redness

**Medical conditions aggravated by over-exposure**
- None known.

See toxicological information (section 11)

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
</tr>
<tr>
<td>2-Ethylhexyl nitrate</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

**Eye contact**
- Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention.

**Skin contact**
- In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention.

**Inhalation**
- If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

**Ingestion**
- Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

**Protection of first-aiders**
- No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**Notes to physician**
- 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.

5. Fire-fighting measures

**Flammability of the product**
- Combustible

**Extinguishing media**
- Suitable: Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable: Do not use water jet.

**Hazardous thermal decomposition products**
- Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
  - nitrogen oxides
  - aldehydes

**Special protective equipment for fire-fighters**
- Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
5. Fire-fighting measures

Special remarks on explosion hazards: Heating material under confinement may cause an explosion. Vapors are heavier than air and may travel along the ground to a distant ignition source and flash back. Container may rupture on heating. Toxic nitrogen oxides may evolve when burning. The alkyl nitrate contained in this product may undergo a self-accelerating exothermic reaction if heated above 212° F (100° C).

6. Accidental release measures

Personal precautions: 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods for cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Large spill: 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 container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

Handling: Put on appropriate personal protective equipment (see section 8). 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. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Maximum storage temperature: 45°C
8. Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

**Recommended monitoring procedures**: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

**Engineering measures**: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Hygiene measures**: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal protection**

- **Eyes**: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- **Skin**: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- **Respiratory**: Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- **Hands**: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Environmental exposure controls**: 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.

9. Physical and chemical properties

**Physical state**: Liquid. [Clear.]

**Flash point**: Closed cup: >65°C (>149°F) [Pensky-Martens.]

**Flammable limits**
- Lower: 0.9%
- Upper: 7%

**Color**: Colorless to light yellow.

**Odor**: Pungent.

**Melting/freezing point**: <-40°C (<-40°F)

**Specific gravity**: 0.97 @ 15.6°C

**Vapor pressure**: 0.03 kPa (0.225 mm Hg)

**Vapor density**: >1 [Air = 1]

**Volatile**: 100% (v/v)

**Viscosity**: Kinematic (40°C (104°F)): 0.012 cm²/s (1.2 cSt)

**Solubility**: Insoluble in the following materials: cold water and hot water.
10. Stability and reactivity

Stability: Material can become unstable at elevated temperatures and pressures.

Hazardous polymerization: Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.

Materials to avoid: Reactive or incompatible with the following materials: oxidizing materials, nitriles.

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

11. Toxicological information

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Species</th>
<th>Dose</th>
<th>Result</th>
<th>Exposure</th>
</tr>
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<tbody>
<tr>
<td>2-Ethylhexyl nitrate</td>
<td>Rabbit</td>
<td>&gt;5000 mg/kg</td>
<td>LD50 Dermal</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>&gt;10000 mg/kg</td>
<td>LD50 Oral</td>
<td>-</td>
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Inhalation: Harmful by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion: No known significant effects or critical hazards.

Skin: Harmful in contact with skin. Moderately irritating to the skin.

Eyes: Moderately irritating to eyes.

12. Ecological information

Environmental effects: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Water polluting material. May be harmful to the environment if released in large quantities.

Other adverse effects: No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal: The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

AERG: 128;171

<table>
<thead>
<tr>
<th>Regulatory information</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Classes</th>
<th>PG*</th>
<th>Label</th>
<th>Additional information</th>
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<td>DOT Classification</td>
<td>NA1993</td>
<td>COMBUSTIBLE LIQUID, N.O.S. (2-Ethylhexyl nitrate), Marine pollutant (2-Ethylhexyl nitrate)</td>
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<td>III</td>
<td>Marine pollutant</td>
<td>Marine pollutant</td>
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<td>Remarks</td>
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<td>Not regulated for Non-Bulk: 207.8 L, 55 g</td>
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Date of issue: 03/15/2009
14. Transport information

<table>
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<tr>
<th>IMDG Class</th>
<th>UN3082</th>
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<th>III</th>
<th>Emergency schedules (EmS) F-A, S-F</th>
<th>Marine pollutant</th>
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<tr>
<td>IATA-DGR Class</td>
<td>UN3082</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Ethylhexyl nitrate)</td>
<td>9</td>
<td>III</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

PG*: Packing group

15. Regulatory information

United States

HCS Classification: Combustible liquid
Irritating material

U.S. Federal regulations:
- United States inventory (TSCA 8b): All components are listed or exempted.
- SARA 302/304/311/312 extremely hazardous substances: No products were found.
- SARA 302/304 emergency planning and notification: No products were found.
- SARA 302/304/311/312 hazardous chemicals: No products were found.
- SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.
- Clean Water Act (CWA) 307: No products were found.
- Clean Water Act (CWA) 311: No products were found.
- Clean Air Act (CAA) 112 accidental release prevention: No products were found.
- Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
- Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

State regulations:
- Connecticut Carcinogen Reporting: None of the components are listed.
- Connecticut Hazardous Material Survey: None of the components are listed.
- Florida substances: None of the components are listed.
- Illinois Chemical Safety Act: None of the components are listed.
- Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
- Louisiana Reporting: None of the components are listed.
- Louisiana Spill: None of the components are listed.
- Massachusetts Spill: None of the components are listed.
- Massachusetts Substances: None of the components are listed.
- Michigan Critical Material: None of the components are listed.
- Minnesota Hazardous Substances: None of the components are listed.
- New Jersey Hazardous Substances: None of the components are listed.
- New Jersey Spill: None of the components are listed.
- New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
- New York Acutely Hazardous Substances: None of the components are listed.
- New York Toxic Chemical Release Reporting: None of the components are listed.
- Pennsylvania RTK Hazardous Substances: None of the components are listed.
- Rhode Island Hazardous Substances: None of the components are listed.

California Prop. 65

International regulations:

No products were found.
15. Regulatory information

International lists: This product, (and its ingredients) is (are) listed on national inventories, or is (are) exempted from being listed, in Australia (AICS), in Europe (EINECS/ELINCS), in Korea (TCCL), in Japan (METI), in the Philippines (RA6969).

16. Other information

Label requirements: EXPLOSIVE REACTION MAY OCCUR ON HEATING OR BURNING. COMBUSTIBLE LIQUID AND VAPOR. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE EYE AND SKIN IRRITATION.

HAZARD RATINGS

<table>
<thead>
<tr>
<th>Health</th>
<th>2</th>
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</thead>
<tbody>
<tr>
<td>Fire hazard</td>
<td>2</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>1</td>
</tr>
<tr>
<td>Personal protection</td>
<td></td>
</tr>
</tbody>
</table>

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)


Date of issue: 03/15/2009
Date of previous issue: 09/19/2003
Version: 3

Notice to reader
To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.