



## MATERIAL SAFETY DATA SHEET

### Unsealed Chiral Nematic Liquid Crystal Mixture

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MSDS038 Revision 2  
Revision Date 12/8/2009

#### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** Unsealed Chiral Nematic Liquid Crystal Mixture  
**Description** A mixture of unsealed liquid crystal materials.  
**Company** LCR Hallcrest  
1911 Pickwick Lane  
Glenview  
IL 60026  
**Telephone** +1 847 998 8580  
**Fax** +1 847 998 6866  
**Emergency telephone number** +1 847 998 8580  
**Intended use** Manufacture of temperature-indicating products and temperature-sensitive decorative effects.

#### 2. HAZARDOUS IDENTIFICATION.

##### Statement of Hazard

**Properties** Color Colorless  
State Viscous liquid.

#### 3. COMPOSITION / INFORMATION ON INGREDIENTS.

#### 4. FIRST AID MEASURES

**Skin contact** May cause irritation to skin. Wash off immediately with plenty of soap and water. Remove contaminated clothing. Seek medical attention if irritation or symptoms persist.

**Eye contact** May cause irritation to eyes. Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist.

**Inhalation** May cause irritation to mucous membranes. Move the exposed person to fresh air.

**Ingestion** May cause irritation to mucous membranes. DO NOT INDUCE VOMITING. Seek medical attention if irritation or symptoms persist.

#### 5. FIRE FIGHTING MEASURES

- Extinguishing media** Use extinguishing media appropriate to the surrounding fire conditions.
- Fire hazards** Burning produces irritating, toxic and obnoxious fumes.
- Protective equipment** Wear suitable respiratory equipment when necessary.

#### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** Ensure adequate ventilation of the working area.
- Environmental precautions** Do not allow product to enter drains. Prevent further spillage if safe.
- Clean up methods** Absorb with inert, absorbent material. Sweep up. Transfer to suitable, labeled containers for disposal. Clean spillage area thoroughly with plenty of water.

#### 7. HANDLING AND STORAGE

- Handling** Avoid contact with eyes and skin. Ensure adequate ventilation of the working area. Adopt best Manual Handling considerations when handling, carrying and dispensing.
- Storage** Keep in a cool, dry, well ventilated area. Keep containers tightly closed. Store in correctly labeled containers.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Engineering measures** Ensure adequate ventilation of the working area.
- Hand protection** Chemical resistant gloves (PVC)
- Eye protection** In case of splashing, wear: Approved safety goggles.
- Protective equipment** Wear protective clothing.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

- Description** Viscous liquid.
- Color** Colorless

#### 10. STABILITY AND REACTIVITY

- Stability** Stable under normal conditions.

#### 11. TOXICOLOGICAL INFORMATION

#### 12. ECOLOGICAL INFORMATION

#### 13. DISPOSAL CONSIDERATIONS

- General information** Dispose of in compliance with all local and national regulations.

#### 14. TRANSPORT INFORMATION

- Further information** The product is not classified as dangerous for carriage.

## 15. REGULATORY INFORMATION

## 16. OTHER INFORMATION

### Statement of Hazard

### Further information

The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.

### TSCA

All components are TSCA compliant.

### HMIS LABELLING

HEALTH 0, FLAMMABILITY 0, PHYSICAL HAZARD 0, PERSONAL PROTECTION: B.



# MATERIAL SAFETY DATA SHEET

## Unsealed Cholesteric Liquid Crystal Mixtures

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MSDS039 Revision 2  
Revision Date 12/8/2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	Unsealed Cholesteric Liquid Crystal Mixture
<b>Description</b>	A mixture of unsealed liquid crystal materials.
<b>Company</b>	LCR Hallcrest 1911 Pickwick Lane Glenview IL 60026
<b>Telephone</b>	+1 847 998 8580
<b>Fax</b>	+1 847 998 6866
<b>Emergency telephone number</b>	+1 847 998 8580
<b>Intended use</b>	Manufacture of temperature-indicating products and temperature-sensitive decorative effects.

### 2. HAZARDOUS IDENTIFICATION.

#### Statement of Hazard

<b>Properties</b>	Color	Colorless.
	Odor	Mild.
	State	Viscous liquid.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS.

### 4. FIRST AID MEASURES

<b>Skin contact</b>	May cause irritation to skin. Wash off immediately with plenty of soap and water. Remove contaminated clothing. Seek medical attention if irritation or symptoms persist.
<b>Eye contact</b>	May cause irritation to eyes. Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist.
<b>Inhalation</b>	May cause irritation to mucous membranes. Move the exposed person to fresh air.
<b>Ingestion</b>	May cause irritation to mucous membranes. DO NOT INDUCE VOMITING. Seek medical attention if irritation or symptoms persist.

#### 5. FIRE FIGHTING MEASURES

- Extinguishing media** Use extinguishing media appropriate to the surrounding fire conditions.
- Fire hazards** Burning produces irritating, toxic and obnoxious fumes.
- Protective equipment** Wear suitable respiratory equipment when necessary.

#### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** Ensure adequate ventilation of the working area.
- Environmental precautions** Do not allow product to enter drains. Prevent further spillage if safe.
- Clean up methods** Absorb with inert, absorbent material. Sweep up. Transfer to suitable, labeled containers for disposal. Clean spillage area thoroughly with plenty of water.

#### 7. HANDLING AND STORAGE

- Handling** Avoid contact with eyes and skin. Ensure adequate ventilation of the working area. Adopt best Manual Handling considerations when handling, carrying and dispensing.
- Storage** Keep in a cool, dry, well ventilated area. Keep containers tightly closed. Store in correctly labeled containers.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Engineering measures** Ensure adequate ventilation of the working area.
- Hand protection** Chemical resistant gloves (PVC)
- Eye protection** In case of splashing, wear: Approved safety goggles.
- Protective equipment** Wear protective clothing.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

- Description** Viscous liquid.
- Color** Colorless.
- Odor** Mild.
- Water solubility** Insoluble in water.

#### 10. STABILITY AND REACTIVITY

- Stability** Stable under normal conditions.

#### 11. TOXICOLOGICAL INFORMATION

#### 12. ECOLOGICAL INFORMATION

#### 13. DISPOSAL CONSIDERATIONS

- General information** Dispose of in compliance with all local and national regulations.

#### 14. TRANSPORT INFORMATION

- Further information** The product is not classified as dangerous for carriage.

## 15. REGULATORY INFORMATION

## 16. OTHER INFORMATION

### Statement of Hazard

### Further information

The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.

### TSCA

All components are TSCA compliant.

### HMIS LABELLING

HEALTH 0, FLAMMABILITY 0, PHYSICAL HAZARD 0, PERSONAL PROTECTION: A.



## MATERIAL SAFETY DATA SHEET

### Unsealed Combination Liquid Crystal Mixture

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MSDS040 Revision 2  
Revision Date 12/8/2009

#### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** Unsealed Combination Liquid Crystal Mixture.  
**Description** A mixture of unsealed liquid crystal materials.  
**Company** LCR Hallcrest  
1911 Pickwick Lane  
Glenview  
IL 60026  
**Telephone** +1 847 998 8580  
**Fax** +1 847 998 6866  
**Emergency telephone number** +1 847 998 8580  
**Intended use** Manufacture of temperature-indicating products and temperature-sensitive decorative effects.

#### 2. HAZARDOUS IDENTIFICATION.

##### Statement of Hazard

**Properties** Color Colorless.  
Odor Mild.  
State Viscous liquid.

#### 3. COMPOSITION / INFORMATION ON INGREDIENTS.

#### 4. FIRST AID MEASURES

**Skin contact** May cause irritation to skin. Wash off immediately with plenty of soap and water. Remove contaminated clothing. Seek medical attention if irritation or symptoms persist.

**Eye contact** May cause irritation to eyes. Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist.

**Inhalation** May cause irritation to mucous membranes. Move the exposed person to fresh air.

**Ingestion** May cause irritation to mucous membranes. DO NOT INDUCE VOMITING. Seek medical attention if irritation or symptoms persist.

#### 5. FIRE FIGHTING MEASURES

<b>Extinguishing media</b>	Use extinguishing media appropriate to the surrounding fire conditions.
<b>Fire hazards</b>	Burning produces irritating, toxic and obnoxious fumes.
<b>Protective equipment</b>	Wear suitable respiratory equipment when necessary.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Ensure adequate ventilation of the working area.
<b>Environmental precautions</b>	Do not allow product to enter drains. Prevent further spillage if safe.
<b>Clean up methods</b>	Absorb with inert, absorbent material. Sweep up. Transfer to suitable, labeled containers for disposal. Clean spillage area thoroughly with plenty of water.

#### 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid contact with eyes and skin. Ensure adequate ventilation of the working area. Adopt best Manual Handling considerations when handling, carrying and dispensing.
<b>Storage</b>	Keep in a cool, dry, well ventilated area. Keep containers tightly closed. Store in correctly labeled containers.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Engineering measures</b>	Ensure adequate ventilation of the working area.
<b>Respiratory protection</b>	Wear: Suitable respiratory equipment.
<b>Hand protection</b>	Chemical resistant gloves (PVC)
<b>Eye protection</b>	In case of splashing, wear: Approved safety goggles.
<b>Protective equipment</b>	Wear chemical protective clothing.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Description</b>	Viscous liquid.
<b>Color</b>	Colorless.
<b>Odor</b>	Mild.
<b>Water solubility</b>	Insoluble in water.

#### 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal conditions.
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#### 11. TOXICOLOGICAL INFORMATION

#### 12. ECOLOGICAL INFORMATION

#### 13. DISPOSAL CONSIDERATIONS

<b>General information</b>	Dispose of in compliance with all local and national regulations.
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#### 14. TRANSPORT INFORMATION

**Further information** The product is not classified as dangerous for carriage.

#### 15. REGULATORY INFORMATION

#### 16. OTHER INFORMATION

##### Statement of Hazard

**Further information** The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.

**TSCA** All components are TSCA compliant.

**HMIS LABELLING** HEALTH 0, FLAMMABILITY 0, PHYSICAL HAZARD 0, PERSONAL PROTECTION: C.