



# MATERIAL SAFETY DATA SHEET

## THERMOCHROMIC DISPERSION

Page 1 of 3  
MSDS005 Revision 1  
Revision date 3/17/2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** THERMOCHROMIC DISPERSION  
**Description** Aqueous temperature sensitive color change pigment dispersion.  
**Company** LCR Hallcrest  
1820 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 color change inks and coatings.

### 2 HAZARDS IDENTIFICATION.

#### Statement of Hazard

#### Properties

Odor Characteristic

**Main hazards** May cause sensitization by skin contact.

### 3 . COMPOSITION / INFORMATION ON INGREDIENTS.

#### Hazardous ingredients

	<b>Conc.</b>	<b>CAS</b>
Formaldehyde... % (Formaldehyde)	0-0.5%	50-00-0
4,4'-Isopropylidenediphenol	1-10%	80-05-7

### 4. FIRST AID MEASURES

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

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

**Inhalation** Irritating to respiratory system. Inhalation may cause coughing, tightness of the chest and irritation of the respiratory system. Move the exposed person to fresh air. Seek medical attention.

**Ingestion** Ingestion may cause nausea and vomiting. Seek medical attention if irritation or symptoms persist. DO NOT INDUCE VOMITING.

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## 5. FIRE FIGHTING MEASURES

<b>Extinguishing media</b>	Carbon oxides.
<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. Wear suitable protective equipment.
<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

### Exposure limits

Formaldehyde...% (Formaldehyde)	ACGIH TLV TWA: - Notations: SEN; A2 OSHA PEL 8hr TWA mg m3: -	ACGIH TLV STEL: C 0.3 ppm OSHA PEL 8hr TWA ppm: - Skin Designation: -
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<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>	Approved safety goggles.
<b>Protective equipment</b>	Wear chemical protective clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Description</b>	Liquid.
<b>Color</b>	Various colors according to type.
<b>Odor</b>	Characteristic.
<b>pH</b>	5.0 -5.5
<b>Boiling point</b>	100°C
<b>Flammability limits</b>	n/a
<b>Relative density</b>	0.8 - 1.1
<b>Water solubility</b>	Miscible in water.
<b>Viscosity</b>	300-1500 cps

## 10. STABILITY AND REACTIVITY

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

<b>Acute toxicity</b>	May cause sensitization by skin contact.
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## 12. ECOLOGICAL INFORMATION

<b>Further information</b>	No data is available on this product.
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## 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

### Inventories

Ingredient	TSCA	MA	SARA313	CALPROP65	CWA307	CAA112	CWA311	SARA302	SARA304
Formaldehyde...%	Y	Y	Y 0.1	Y	N	Y	Y	Y 500	Y 100
4,4'-Isopropylidenediphenol	Y	Y	Y 1.0	N	N	N	N	N	N

## 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.

**Revision** This document differs from the previous version in the following areas:

16 - hMIS LABELLING.

**HMIS LABELLING** HEALTH 1, FLAMMABILITY 0, PHYSICAL HAZARD 0



## MATERIAL SAFETY DATA SHEET

### Thermochromic Dispersion – Bis A Free

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MSDS111 Revision 1  
Revision Date 6/16/2011

#### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** Thermochromic Dispersion – Bis A Free  
**Description** Aqueous temperature sensitive color change pigment dispersion.  
**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 sensitive inks and coatings.

#### 2. HAZARDS IDENTIFICATION

**Color** Various colors  
**Odor** Characteristic  
**State** Liquid  
**Main Hazards** May cause sensitization by skin contact.

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

##### Hazardous ingredients

	Conc.	CAS#
Formaldehyde...% (Formaldehyde)	0-0.5%	50-00-0

#### 4. FIRST AID MEASURES

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

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

**Inhalation** Irritating to the respiratory system. Inhalation may cause coughing, tightness of the chest and irritation of the respiratory system. Move the exposed person to fresh air. Seek medical attention.

**Ingestion** Ingestion may cause nausea and vomiting. DO NOT INDUCE VOMITING. Seek medical attention if irritation or symptoms persist.

**5. FIRE FIGHTING MEASURES**

**Extinguishing media** Carbon oxides.  
**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. Wear suitable protective equipment.  
**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**

**Exposure Limit Values**

Formaldehyde...%	ACGIH TLV TWA: -	ACGIH TLV STEL: C 0.3 ppm
(Formaldehyde)	Notations: SEN; A2	OSHA PEL 8hr TWA ppm: -
	OSHA PEL 8hr TWA	
	mg m3: -	Skin Designation: -

**Appropriate engineering controls** Ensure adequate ventilation of the working area.  
**Individual protection measures** Wear chemical protective clothing.  
**Eye / face protection** Approved safety goggles.  
**Skin protection – Hand protection** Chemical resistant gloves (PVC)  
**Respiratory protection** Wear: Suitable respiratory equipment.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Description** Liquid  
**Color** Various colors  
**Odor** Characteristic  
**Boiling point** 100C  
**Viscosity** 300-1500 cps

**10. STABILITY AND REACTIVITY**

**Stability** Stable under normal conditions.

**11. TOXICOLOGICAL INFORMATION**

**Acute toxicity** May cause sensitization by skin contact.

**12. ECOLOGICAL INFORMATION**

**Further information** No data is available on this product.

**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**

**Inventories**

Ingredient	TSCA	MA	SARA313	CALPROP65	CWA307	CAA112	CWA311	SARA302	SARA304
Formaldehyde...%	Y	Y	Y 0.1	Y	N	Y	Y	Y 500	Y 100

**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 1, FLAMMABILITY 0, PHYSICAL HAZARD 0 PERSONAL PROTECTION: B .