

## SAFETY DATA SHEET THERMOCHROMIC POWDER

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MSDS007 Revision 4  
Revision Date 05/28/2015

### 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	THERMOCHROMIC POWDER	
<b>Additional Names</b>	None	
<b>Description</b>	Thermochromic powder for use in color change inks.	
<b>Intended Use</b>	May be used to prepare color change plastic masterbatch.	
<b>Company</b>	LCR Hallcrest 1911 Pickwick Lane Glenview IL 60026 USA	
<b>Web</b>	www.hallcrest.com	
<b>Telephone</b>	+1 847 998 8580	
<b>Fax</b>	+1 847 998 6866	
<b>Email</b>	<a href="mailto:sales@hallcrest.com">sales@hallcrest.com</a>	
<b>Emergency telephone number</b>	Chemtel	Domestic: 800-255-3924 Intl: +01-813-248-0585

### 2. HAZARDS IDENTIFICATION.

**GHS Classification** Skin Sens. 1: H317 - May cause an allergic skin reaction.  
Eye Dam. 1: H318 - Causes serious eye damage.

**GHS Label Elements**  
**Pictograms**



**Signal Word**  
**Hazard Statements**

Danger  
Skin Sens. 1: H317 - May cause an allergic skin reaction.  
Eye Dam. 1: H318 - Causes serious eye damage.

**Precautionary Statement**

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.  
P272 - Contaminated work clothing should not be allowed out of the workplace.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

**Classification**  
**1994/45/EC**

P302+P352 - IF ON SKIN: Wash with plenty of water/ .  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 -Immediately call a POISON CENTER/doctor/ .  
P321 - Specific treatment (see on this label).  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention  
P501 - Dispose of contents/container to  
Xn; R62 Xi; R41-43  
Symbols: Xn: Harmful.

Risk of serious damage to eyes. May cause sensitization by skin contact. Possible risk of impaired fertility.

3. COMPOSITION / INFORMATION ON INGREDIENTS.			
Hazardous ingredients	Classification	Conc.	CAS
4,4'-Isopropylidenediphenol	Repr. 2: H361f; STOT SE 3: H335; Eye Dam. 1: H318; Skin Sens. 1: H317;	10-20%	80-05-7

#### 4. FIRST AID MEASURES

##### Description of first aid measures

- Skin contact** Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist.
- Eye contact** Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist.
- Inhalation** Move the exposed person to fresh air. Seek medical attention.
- Ingestion** Seek medical attention if irritation or symptoms persist. **DO NOT INDUCE VOMITING.**

##### Most important symptoms and effect, both acute or delayed.

- Skin contact** Irritating to the skin.
- Eye contact** Irritating to the eyes.
- Inhalation** Irritating to respiratory system. Inhalation may cause coughing, tightness of the chest and irritation of the respiratory system.
- Ingestion** Ingestion may cause nausea and vomiting.

##### Indication of any immediate medical attention and special treatment needed.

- Skin contact** Itching. Wash off immediately with plenty of soap and water.
- Eye contact** May cause irritation to the eyes. Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist.
- Inhalation** Inhalation of dust may cause shortness of breath.
- Ingestion** Ingestion may cause nausea and vomiting. If you feel unwell, seek medical advice (show the label where possible).

#### 5. FIRE FIGHTING MEASURES

**Extinguishing Media** Use as appropriate: carbon dioxide (CO<sub>2</sub>), dry chemical, foam.

**Specific hazards arising from the chemical** Burning produces irritating, toxic and obnoxious fumes.

**Special protective actions for fire-fighters** Wear suitable respiratory equipment when necessary.

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions, protective equipment and emergency procedures** Avoid raising dust. 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.

**Methods and material for containment and cleaning up** Absorb with inert, absorbent material. Sweep up. Transfer to suitable, labelled containers for disposal. Clean spillage area thoroughly with plenty of water.

#### 7. HANDLING AND STORAGE

**Individual protection measures** Avoid contact with eyes and skin. Ensure adequate ventilation of the working area. Adopt best Manual Handling considerations when handling, carrying and dispensing

**Conditions for safe storage, including incompatibilities:** Keep in a cool, dry, well ventilated area. Keep containers tightly closed. Store in correctly labelled containers.

**Specific end uses:** Keep away from sources of ignition – No smoking

**Suitable Packaging:** Plastic Containers

**Further Information:** On processing FF powders for masterbatch heating may result in generation of formaldehyde. Ensure adequate ventilation of all fumes.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Limits**

4,4'-Isopropylidenediphenol	<b>WEL 8-hr limit ppm: -</b> <b>WEL 15 min limit ppm: -</b> <b>WEL 8-hr limit mg/m3 total inhalable dust:-</b> <b>WEL 8-hr limit mg/m3 total respirable dust:-</b>	<b>WEL 8-hr limit mg/m3: 10</b> <b>WEL 15 min limit mg/m3: -</b> <b>WEL 15 min limit mg/m3 total inhalable dust:-</b> <b>WEL 15 min limit mg/m3 total respirable dust:-</b>
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**Control Parameters**

**Appropriate Engineering Controls** Ensure adequate ventilation of the working area.

**Individual Protection Measures**

**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.

**Environmental Exposure Controls** Appropriate local exhaust ventilation is required.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	Powder
<b>Colors</b>	Various
<b>Odor</b>	Slight
<b>Odor threshold</b>	N/A
<b>pH</b>	N/A
<b>Melting Point/Freezing Point</b>	No testing available.
<b>Initial Boiling Point and Boiling Range</b>	100°C
<b>Flash Point</b>	No testing available.
<b>Evaporation rate</b>	No testing available.
<b>Flammability</b>	No testing available.
<b>Upper/Lower Flammability or Explosive Limits</b>	No testing available.
<b>Vapor Pressure</b>	No testing available.
<b>Solubility</b>	Insoluble in water.

**10. STABILITY AND REACTIVITY**

<b>Reactivity</b>	Avoid sparks, flames, heat and sources of ignition.
<b>Chemical Stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Heating during moulding will generate high levels of formaldehyde vapours which should be vented.
<b>Conditions to avoid</b>	No Significant Hazard.
<b>Incompatible materials</b>	Avoid contact with: Strong bases.
<b>Hazardous Decomposition Products</b>	Formaldehyde may be generated and other harmful fumes.

**11. TOXICOLOGICAL INFORMATION**

<b>Toxicological Information</b>		
<b>4,4'-Isopropylidenediphenol</b>	Oral Rat LD50: 4240 mg/kg Dermal Rabbit LD50: 3 mL/kg	Oral Mouse LD50: 2500 mg/kg
<b>Skin corrosion/irritation</b>	No test data available	
<b>Serious eye damage/irritation</b>	No test data available	
<b>Respiratory or skin sensitization</b>	No test data available	
<b>Germ cell mutagenicity</b>	No test data available	

**Carcinogenicity** No test data available  
**Reproductive toxicity** No test data available  
**STOT-single exposure** No test data available  
**STOT-repeat exposure** No test data available  
**Aspiration hazard** No test data available  
**Likely routes to exposure**

**12. ECOLOGICAL INFORMATION**

**Toxicity** 4,4'-Isopropylidenediphenol **Green algae EC50/96h: 3.1**  
**Fathead minnows LC50/96h: 4.6**  
**Daphnia LC50/48h: 10.2**

**Persistence and degradability** No data available  
**Bioaccumulative potential** No data available  
**Mobility in soil** No data available  
**Other adverse effects** Harmful to aquatic organisms

**13. DISPOSAL CONSIDERATIONS**

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

**14. TRANSPORT INFORMATION**

**UN Number** This product is not classified as dangerous for carriage.  
**UN Proper Shipping Name** This product is not classified as dangerous for carriage.  
**Transport Hazard class(es)** This product is not classified as dangerous for carriage.  
**Packing Group (if applicable)** This product is not classified as dangerous for carriage.  
**Environmental Hazards** This product is not classified as dangerous for carriage.  
**Special Precautions for the User** This product is not classified as dangerous for carriage.  
**DOT** This product is not classified as dangerous for carriage.  
**IMDG** This product is not classified as dangerous for carriage.  
**IATA** This product is not classified as dangerous for carriage.  
**Further Information**

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

**15. REGULATORY INFORMATION**

Ingredient	TSCA	MA	SARA313	CALPROP65	CWA307	CAA112	CWA311	SARA302	SARA304
4,4'-Isopropylidenediphenol	Y	Y	Y1.0	N	N	N	N	N	N

**Regulations** COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

**16. OTHER INFORMATION**

**Revision** Revision 4: Major revision to include the requirements of the HCS/HazCom 2012 Final Rule. Formaldehyde was removed from the SDS because it is below the reportable limit of 0.1%.

**Text Hazard Statements from Section 3**  
 R37 - Irritating to respiratory system.  
 R41 - Risk of serious damage to eyes.  
 R43 - May cause sensitisation by skin contact.  
 R52 - Harmful to aquatic organisms.  
 R62 - Possible risk of impaired fertility.

Skin Sens. 1: H317 - May cause an allergic skin reaction.  
 Eye Dam. 1: H318 - Causes serious eye damage.  
 STOT SE 3: H335 - May cause respiratory irritation.  
 Repr. 2: H361f - Suspected of damaging fertility.

**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.

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