

SAFETY DATA SHEET Thermochromic Dispersion

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MSDS005 Revision 4
Revision Date 06/25/2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	Thermochromic Dispersion		
Additional Names	None		
Description	Aqueous temperature sensitive color change pigment dispersion.		
Intended Use	Manufacture of color change inks and coatings.		
Company	LCR Hallcrest 1911 Pickwick Lane Glenview IL 60026 USA		
Web	www.hallcrest.com		
Telephone	+1 847 998 8580		
Fax	+1 847 998 6866		
Email	sales@hallcrest.com		
Emergency telephone number	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 Irrit 2: H318 - Causes serious eye irritation.
Carcinogen 1B: H350 – May cause cancer.
Reproductive toxicity 2 – Suspected of damaging fertility of the unborn child.

GHS Label Elements
Pictograms



Signal Word Danger

Hazard Statements Skin Sens. 1: H317 - May cause an allergic skin reaction.
Eye Irrit. 2: H319 - Causes serious eye irritation.
Carc. 1B: H350 - May cause cancer .
H361 – Suspected of damaging fertility or the unborn child

Precautionary Statement

P201 – Obtain special instructions before use
 P202: Do not handle until all safety precautions have been read and understood.
 P261: Avoid breathing dust/fumes/gas/mist/vapours/spray.
 P264 Wash thoroughly after handling.
 P272: Contaminated work clothing should not be allowed out of the workplace.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P281 – Use personal protective equipment as required.
 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.
 P308 + P313: IF exposed or concerned: Get medical advice/attention.
 P321: Specific treatment (see ... on this label)
 P333+P313 - If skin irritation or a rash occurs: Get medical advice/attention.
 P337+P313 - If eye irritation persists: Get medical advice/attention.
 P363 - Wash contaminated clothing before reuse.
 P405 - Store locked up.
 P501 – Dispose of contents/container according to appropriate regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS.			
Hazardous ingredients	Classification	Conc.	CAS
Formaldehyde	Flam. Liq. 4; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; Skin Sens. 1; Muta. 2; Carc. 1B; Aquatic Acute 3; H227, H301+H311_H331, H314, H317, H318, H341, H350, H402	<0.5%	50-0-0
4,4'-Isopropylidenediphenol	Repr. 2: H361f; STOT SE 3: H335; Eye Dam. 1: H318; Skin Sens. 1: H317;	1-5%	80-05-7

4. FIRST AID MEASURES

Description of 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.

Most important symptoms and effect, both acute or delayed.

Skin contact Avoid contact with skin. Irritating to skin.

Eye contact Irritating to eyes.

Inhalation Irritant, moderate respiratory.

Ingestion Ingestion may cause nausea and vomiting.

Indication of any immediate medical attention and special treatment needed.

Inhalation Coughing, difficulty in breathing. If breathing is difficult give oxygen.

Eye contact Seek medical attention if irritation or symptoms persist.

Skin contact May cause sensitization by skin contact. Wash off immediately with plenty of soap and water.

5. FIRE FIGHTING MEASURES

Extinguishing Media Use as appropriate: carbon dioxide (CO2), dry chemical, foam, water spray.

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

Special protective actions for fire-fighters Use self-contained breathing apparatus and protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, protective equipment and emergency procedures	Remove all sources of ignition. (Heat, flames and sparks) Ensure adequate ventilation of the working area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing.
Environmental Precautions	Do not allow product to enter drains. Prevent further spillage if safe. If the product contaminates rivers, lakes or drains inform respective authorities.
Methods and material for containment and cleaning up	Absorb with inert, absorbent material. Transfer to suitable, labeled containers for disposal.

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.
Clean Up:	Contain spillage, soak up with non-combustible absorbent material, (sand, earth, vermiculite) and transfer to a container for disposal according to local / national regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits

Formaldehyde	ACGIH TLV TWA: - Notations: SEN; A2	ACGIH TLV STEL: C 0.3ppm
	OSHA PEL 8hr TWA Mg M3: -	OSHA PEL 8hr TWA ppm: -
4,4'-Isopropylidenediphenol	WEL 8-hr limit ppm: -	Skin Designator: -
	WEL 15 min limit ppm: -	WEL 8-hr limit mg/m3: 10
	WEL 8-hr limit mg/m3 total inhalable dust:-	WEL 15 min limit mg/m3: -
	WEL 8-hr limit mg/m3 total respirable dust:-	WEL 15 min limit mg/m3 total inhalable dust:-
		WEL 15 min limit mg/m3 total respirable dust:-

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 Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.

Skin protection – Hand protection Wear protective gloves / clothing. Solvent resistant apron and boots.

Respiratory Protection Use the indicated respiratory protection is the occupational exposure limit is exceeded and / or in case of product release (dust). Respiratory with a vapor filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Viscous Liquid
Colors	Various according to type
Odor	Characteristic
Odor threshold	N/A
pH	5.0 – 5.5
Melting Point/Freezing Point	100°C
Initial Boiling Point and Boiling Range	No testing available.
Flash Point	No testing available
Evaporation rate	No testing available.
Flammability	No testing available.
Upper/Lower Flammability or Explosive Limits	No testing available.
Vapor Pressure	No testing available.

Solubility Immiscible
% Volatiles (by volume) No testing available
Specific Gravity 0.8 – 1.1
Viscosity 300-1500 cps

10. STABILITY AND REACTIVITY

Reactivity No data available
Chemical Stability Stable under normal conditions.
Possibility of hazardous reactions Burning can product the following combustion products: N/M
Conditions to avoid Protect from frost.
Incompatible materials Alkalis.
Hazardous Decomposition Products Formaldehyde may be generated and other harmful fumes.

11. TOXICOLOGICAL INFORMATION

Toxilogical Information

Formaldehyde	Oral Mouse LD50: 42mg/kg Inhalation Rat LD50: 250ppm	Skin Rabbit LD50: 270 mg/kg
4,4'-Isopropylidenediphenol	Oral Rat LD50: 4240 mg/kg Dermal Rabbit LD50: 3 mL/kg	Oral Mouse LD50: 2500 mg/kg

Skin corrosion/irritation No test data available

Serious eye damage/irritation No test data available

Respiratory or skin sensitization No test data available

Germ cell mutagenicity 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
Acute Toxicity May cause sensitization of the skin.
Likely routes to exposure skin

12. ECOLOGICAL INFORMATION

Toxicity

2-Propenoic acid, monoester with 1,2-Propanediol
 Fathead minnow – LC50 96hr – 3.1 mg/l
 Daphnia magna – EC50 48hr – 24mg/l
 Green Algae – EC50 – 6.98mg/l

Formaldehyde Daphnia 1 EC50 – 54mg/l

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 No data available on this product.

13. DISPOSAL CONSIDERATIONS

General information Dispose of in compliance with all local and national regulations. Do not empty into drains; dispose of this material and its container in a safe way.

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
Formaldehyde	Y	Y	Y0.1	Y	N	Y	Y	Y 500	Y 100
4,4'-Isopropylidenediphenol	Y	Y	Y1.0	N	N	N	N	N	N

16. OTHER INFORMATION

Revision Revision 3 6/22/2015: Major revision to include the requirements of the HCS/HazCom 2012 Final Rule.
 Revision 4 6/25/2015: Spelling and Grammar corrections and corrected product name.

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 0, REACTIVITY 0