

SAFETY DATA SHEET Thermochromic BW Plastisol Ink

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MSDS145 Revision 1
Revision Date 07/29/2015

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 H361 – Suspected of damaging fertility of the unborn child.
Acute Tox. 5 – H313 – May be harmful in contact with skin. (Not adopted by US OSHA)

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
H313 – May be harmful in contact with skin

Precautionary Statement

P201 – Obtain special instructions before use
 P202: Do not handle until all safety precautions have been read and understood.
 P260 – Do not breathe mist/ vapors/spray
 P261 : Avoid breathing dust/fumes/gas/mist/vapours/spray.
 P262: Do not get in eyes, on skin, or on clothing.
 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.
 P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 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)
 P331: Do not induce vomiting.
 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
Alkylsulfonic Acid Ester of Phenol	Acute Tox. 4;H312	18% - 38%	Proprietary

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 Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

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 Recommended extinguishing media; alcohol resistant foam, CO₂, powder, water spray. Do not use: water jet.

Specific hazards arising from the chemical Hazardous decomposition: Hydrogen chloride (if heated), carbon monoxide and carbon dioxide.

Special protective actions for fire-fighters In the event of fire, wear full protective clothing and NIOSH Approved Self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Move container from fire area if it can be done without risk. Use water to keep fire exposed containers cool and disperse vapors.

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 Ventilate the area and avoid breathing vapors. Take the personal protective measures listed in section 8.
 Contain and absorb spillage with non-combustible materials e.g. sand, earth, and vermiculite. Place in closed containers outside buildings and dispose of according to the Waste Regulations.
 Clean, preferably with a detergent. Do not use solvents.
 Do not allow spills to enter drains or watercourses.
 If drains, sewers, streams or lakes are contaminated, inform the local water company immediately. In the case of contamination of rivers, streams or lakes the Environmental Protection Agency should also be informed.

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
4,4'-Isopropylidenediphenol	OSHA PEL 8hr TWA Mg M3: - WEL 8-hr limit ppm: - WEL 15 min limit ppm: - WEL 8-hr limit mg/m3 total inhalable dust:- WEL 8-hr limit mg/m3 total respirable dust:-	OSHA PEL 8hr TWA ppm: - Skin Designator: - WEL 8-hr limit mg/m3: 10 WEL 15 min limit mg/m3: - WEL 15 min limit mg/m3 total inhalable dust:- WEL 15 min limit mg/m3 total respirable dust:-

Control Parameters

Appropriate Engineering Controls Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

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	Smooth thick liquid
Colors	Various according to type
Odor	Characteristic
Odor threshold	Faint
pH	Not measured.
Melting Point/Freezing Point	Not measured.
Initial Boiling Point and Boiling Range	>420°F @5mmhg
Flash Point	>400°F C.O.C.
Evaporation rate	<1 (Either = 1)
Flammability	No testing available.
Upper/Lower Flammability or Explosive Limits	No testing available.
Vapor Pressure	No testing available.
Solubility	Immiscible
% Volatiles (by volume)	<1lb/gallon
Specific Gravity	1.05-1.15
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. Hydrogen Chloride (if heated).

11. TOXICOLOGICAL INFORMATION

Toxilogical Information		
Formaldehyde	Oral Mouse LD50: 42mg/kg Inhalation Rat LD50: 250ppm	Skin Rabbit LD50: 270 mg/kg
Alkylsulfonic Acid Ester of Phenol - (Proprietary)	Oral Rat LD50 - >5,000 Skin Rate LD50 - > 1000	
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

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 1 7/29/2015 – Initial Revision

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