

MATERIAL SAFETY DATA SHEET

DCS UV LED CURABLE IR2 INK – ALL COLORS

1. Production Information

Product Name: Direct Color Systems® UV LED CURABLE INK IR2
 Chemical family/Product type: Ink jet ink; monomer based;
 Manufacturer: Direct Color Systems
 Address: 99A Hammer Mill Rd.
 Rocky Hill, CT USA 06067-3771
 Emergency Phone Number: (+1) 703-527-3887
 CAS Number: Mixture/ Trade Secret
 Date Updated: 10/03/11

2. Composition Information

Hazards Identification	Weight %	Toxicity Data – Results listed are for the pure chemicals. Ink is a mixture.		
2-(2-Vinyloxyethoxy) ethyl acrylate CAS# 86273-46-3	> 50	ACGIH TLV Not Established	OSHA PEL Not Established	NIOSH-REL Not Established
Acrylate Monomer Blend CAS# Proprietary Blend	5-30%	ACGIH TLV Not Established	OSHA PEL Not Established	NIOSH-REL Not Established
Phosphine Oxide CAS# Proprietary	1-10%	ACGIH TLV Not Established	OSHA PEL Not Established	NIOSH-REL Not Established
Carbon Black CAS# 1333-86-4	0-5%	ACGIH TLV 3.50 mg/M3	OSHA PEL 3.50 mg/M3	NIOSH-REL Not Established
		Oral LD50 > 10000 mg/kg (rat).		

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3. Hazard Identification

Emergency Overview:

This ink is a non-combustible liquid that is a moderate irritant to skin and other exposed tissue. Prolonged inhalation will affect the central nervous system. The ink will stain skin, eye tissue, and any object or material it comes in contact with.

Skin: May cause irritation and coloration.

Eyes: May cause allergic reaction and will cause irritation.

Respiratory System: Will cause irritation and mild central nervous system effects such as headache, dizziness, drowsiness, and coughing.

Ingestion: May cause upset stomach, headache, dizziness, blurred vision, nausea, vomiting, and discoloration of mouth, teeth and throat.

Target Organs: Acute exposure will affect skin, central nervous system, and eyes.

Chronic exposure will affect skin, kidneys, liver, central nervous system, and reproductive system.

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

HEALTH HAZARD (BLUE)	2
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FLAMMABILITY HAZARD (RED)	1
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PHYSICAL HAZARD (YELLOW)	2
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Hazard Scale: 0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
*=Chronic

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4. First Aid Measures

Skin:	Wash with soap and water and rinse thoroughly for 15 minutes.
Eyes:	Flush eyes and under eyelids for 15 minutes with water. Seek medical attention if irritation or redness persists.
Inhalation:	Move to fresh air. Seek medical attention if irritation persists.
Ingestion:	Rinse mouth with water but do not swallow and get medical attention. Call Poison Control or Physician immediately.

5. Fire Fighting Measures

Extinguishing Media:	Water spray for cooling, foam, carbon dioxide, dry chemical, or Halon for fire suppression.
Hazardous Combustion Products:	Material is a flammable liquid but must be preheated for combustion. May burn in fire conditions releasing products, which may be toxic (CO, CO ₂ , and volatile organics).
Fire Fighting Procedures:	Wear approved MSHA/NIOSH breathing apparatus and full protective clothing.

6. Accidental Release

For spills, wear gloves and safety glasses and use sponge to wipe up ink. Rinse area with water and all ventilate area to remove fumes. Dispose of sponges outside in closed container to minimize fumes. Wash any ink off any area that the ink comes in contact with thoroughly.

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7. Precautions for Safe Handling and Use

Engineering controls:	Proper ventilation.
Exposure controls:	
Occupational:	Not established.
Respiratory protection:	Not established.
Hand protection:	Not established.
Eye protection:	Not established.
Skin protection:	Not established.
Environmental exposure control:	Not established.

8. Exposure Controls/Personal Protection

In accordance with good industrial practices, handle with care and avoid personal contact.

Wear protective gloves, safety goggles, and other protective clothing.

Avoid contact with skin, eyes, and clothing.

Irritant.

Keep out of direct sunlight and away from heat source.

Keep tightly closed.

Keep from freezing.

Keep from oxidizing agents.

Use adequate ventilation.

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9. Physical and Chemical Properties of Ink

General Information: Black liquid with mild odor.

pH:	Not applicable
Boiling point:	> 120° C
Melting point:	Not applicable
Flash point:	>200° F (closed cup)
Autoflammability:	None
Oxidizing properties:	None
Vapor density:	> 3 (air = 1)
Density:	0.94 – 0.99
Solubility in Water:	Insoluble
Viscosity:	2 – 10 cps

10. Stability and Reactivity

Stability:	Stable under normal conditions.
Conditions to avoid:	Avoid heat and freezing temperatures.
Materials to avoid:	Oxidizers and explosives.
Hazardous decomposition products:	Will decompose to form carbon oxides when burned.

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11. Toxicology and Health Hazards

Routes of toxicology: Eye, skin, inhalation, and oral.

Acute Health Hazards: Overexposure of eye surface to ink may be mildly irritating.
Overexposure of skin to ink may cause irritation, redness and swelling.
Inhalation or overexposure to ink vapors may result in respiratory tract irritation and anesthesia.
Ingestion may cause upset stomach.

Chronic Health Hazards: None known.

Mutagenicity: The components are not reported to produce mutagenic effects in humans.

Carcinogenicity: The components are not reported to produce carcinogenic effects in humans.

Irritancy of product: Exposure of ink to eye, skin, and inhalation may irritate tissue.

12. Ecological Information

Ecotoxicity:	No data available on the effects of this ink.
Mobility:	No data available on the effects of this ink.
Persistence and degradability:	No data available on the effects of this ink.
Mobility:	No data available on the effects of this ink.
Bioaccumulative potential:	No data available on the effects of this ink.
Other adverse effects:	No data available on the effects of this ink.

13. Disposal Considerations

Disposal should be in accordance with federal, state and local requirements.

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14. Transport Information

By 49 CFR 172.101 published by the US department of Transportation, this product is **not** considered Dangerous Goods.

DOT listing: None

Packing group: None

DOT Labels required: None

Marine pollutant: Components are not listed as marine pollutants.

The above information is believed to be correct but does not purport to be all-inclusive and shall only be used as a guide. Direct Color Systems offers this information as a service to our customers and shall not be held liable for any damage resulting from handling or from contact with the above product.

END OF MSDS