SAFETY DATA SHEET
DCS Low Odor UV LED Wipe Adhesion Promoter

1. Identification

Product Name:	Direct Color Systems® Low Odor UV LED Wipe Adhesion Promoter
Product Identifier:	Printing Ink; Mixture
Use:	For Industrial Use Only by Qualified Personnel
Manufacturer:	Direct Color Systems
Address:	99 Hammer Mill Rd. Rocky Hill, CT USA 06067-3771
Emergency Phone Number:	(+1) 703-527-3887
Date Updated:	01/02/14

2.Hazards Identification

GHS Classification:

Flammable Liquids	Not Classified
Acute Toxicity(Oral)	Category 4
Acute Toxicity(Dermal)	Not Classified
Acute Toxicity(Inhalation, mist)	Not Classified
Skin Corrosion/Irritation	Not Classified
Serious eye damage/eye irritation	Not Classified
Respiratory or Skin Sensitization	Category 1
Germ Cell Mutagenicity	Not Classified
Reproductive Toxicity	Not Classified
Hazardous to the aquatic environment (Acute)	Category 2
Hazardous to the aquatic environment(Chronic)	Not Classified

GHS Label elements:

Pictograms or Symbols:

Signal Word: Warning

Hazard Statement: Harmful if swallowed.
May cause allergic skin reaction
Toxic to aquatic life.

Precautionary Statements:
Do not eat, drink, or smoke when using this product.
Wash hands thoroughly after handling.
Wear protective gloves.
Avoid breathing dust/fume/gas/mist/vapors/spray.

Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth
IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs, seek medical advice/attention. Specific treatment is urgent.
Wash contaminated clothing before reuse.
Disposal: Dispose of contents/container according to local/regional/national/international regulations.

3. Composition/Information on Ingredients

Hazards Identification	CAS #	Weight %
Hexandiol Diacrylate	13048-33-4	40-60%
Ethyl Lactate	97-64-3	5-20%

4.First Aid Measures

Skin:

Wash with soap and water and rinse thoroughly for 15 minutes. Get medical attention if blisters or inflammation are present on the skin.

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:

Do not induce vomiting. Rinse mouth with water but do not swallow and get medical attention. Call Poison Control or Physician immediately.

5. Fire Fighting Measures

Flammable Properties:	Flash Point: 118C (245F)
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, CO2, and volatile organics).
Fire Fighting Procedures:	Wear approved MSHA/NIOSH breathing apparatus and full protective clothing.

6.Accidental Release Measures

Personal Precautions:

Evacuate personnel from the area. Shut off all sources of ignition; No flares, smoking, or flames in the area. Wear protective equipment.

Environmental Precautions:

Do not flush to sewer or waterways.

Dike with soil. Cover with a sheet to prevent expanding odor.

Methods for Cleaning up:

For small spills, use absorbent media. Dispose of the absorbent media according to local, regional, and national regulations.

For large spills, enclose the spilled liquid with sand. Recover the liquid while covering it with an oil-resistant antistatic sheet. Dispose of material according to local, regional, and national regulations.

7.Handling and Storage

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.

Keep out of direct sunlight and away from heat source.

Keep tightly closed.

Keep from freezing.

Keep from oxidizing agents.

Use adequate ventilation.

8.Exposure Controls/Personal Protection

Engineering Controls:

Facilities storing or utilizing this substance should be equipped with an eyewash facility and a safety shower.

Use Process enclosures, local exhaust ventilation, or other engineering controls.

Control parameters:

ACGIH -Not Established

OSHA –Not Established

Respiratory protection:

Chemical cartridge respirator for an organic vapor, or pressure self-contained breathing apparatus.

Hand protection:

Chemical resistant gloves made of Butyl rubber or Polyethylene-polyvinyl alcohol laminated rubber.

Eye protection:

Safety Glasses with side shields, goggles, or face shield.

Skin and body protection:

Suitable safety clothes, aprons, shoes and protective boots.

9.Physical and Chemical Properties of Ink

General Information: Clear liquid with mild odor.

pH:	Not applicable
Boiling point:	94° C
Melting point:	-71° C
Flash point:	118° C (closed cup)
Autoflammability:	None
Oxidizing properties:	None
Vapor density:	> 3 (air = 1)
Density:	1.03-1.06 g/ml (20° C)
Solubility in Water:	18 g/L
Viscosity:	2 – 10 cps
VOC:	None

10. Stability and Reactivity

Stability:	Stable under normal conditions.
Conditions to avoid:	Avoid heat and freezing temperatures.
Materials to avoid:	Strong Oxidizing materials, peroxides, acids or iron.
Hazardous decomposition products:	Will decompose to form carbon oxides when burned.

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.

Acute Toxicity Estimates:

Acute oral toxicity :

LD 50	2026 mg/kg (male rat)
	1790 mg/kg (female rat)
Species	rat
Method	OECD-Guideline No. 401

Acute dermal toxicity:

LD50	> 2000 mg/kg
Species	rat
Method	440/2008/EEC B. 3, OECD-Guideline No. 402

Acute inhalation toxicity (mist):

LC50	5.82 mg/L (4hr)
Species	rat

Skin and Eye:

Skin corrosion/irritation:

Evaluation	Slightly irritating (P.I.I. = 2.0)
Species	Rabbit
Method	OECD-Guideline No. 404

Serious eye damage/eye irritation

Evaluation	Non-irritant
Species	Rabbit
Method	92/69/EEC B. 5, OECD-Guideline No. 405

Sensitization:

Evaluation	Skin sensitizer
Species	Mouse
Method	OECD-Guideline No. 429 (Local Lymph Node Assay)

Mutagenicity:

AMES test:

Value	Negative
Species	Salmonella typhimurium TA98, TA100, TA1535, TA1537, Escherichia coli WP2 uvr A
Method	Testing New Chemical Substances (Japan, Kampoan No. 287, Eisei No. 127: October 31, 1997; Kikyoku No. 2: October 31, 1997)

Chromosome Aberration test in vitro:

Value	Negative
Species	Chinese hamster lung cells (CHL/IU)
Method	2000/32/EC L1362000 Annex 4A, OECD-Guideline No. 473

Micronucleous test in vivo:

Value	Non-genotoxic
Species	Mouse
Method	440/2008/EEC B. 12, OECD-Guideline No. 474

L5178Y TK +/- Mouse lymphoma assay:

Value	Non-mutagenic
Species	L5178Y mouse lymphoma cell line
Method	440/2008/EEC, OECD-Guideline No. 476

Carcinogenicity:

Not Established IARC, NTP, EU, OSHA and ACGIH.

Reproductive Toxicity:

Route of Exposure	Oral
Species	rat
NOAEL value	400 mg/kg/d
NOEL Value	400 mg/kg/d
Method	OECD-Guideline No. 422

Chronic toxicity or long term toxicity:

Route of Exposure	Oral
Species	rat
Duration of exposure	28 d
NOAEL value	160 mg/kg/d
NOEL Value	50 mg/kg/d
Method	92/69/EEC B.7, OECD-Guideline No. 407

Aspiration hazard:

Not Available.

12. Ecological Information

Ecotoxicity:

Fish

LC50	6.8 mg/L
LC100	10 mg/L
NOEC	2.2 mg/L
LOEC	4.6 mg/L
Species	Brachydanio rerio
Duration of exposure	96 hr
Method	92/69/EEC C.1, OECD-Guideline No. 203

Crustacea

EC50	55 mg/L
EC100	100 mg/L
NOEC	25 mg/L
Species	Daphnia magna
Duration of exposure	48 hr
Method	92/69/EEC C.2, OECD-Guideline No. 202

Algae or other aquatic plants

EC50	Biomass 5 mg/L, Growth rate 10 mg/L
EC100	Biomass 1.4 mg/L, Growth rate 3.2 mg/L
EC90	Biomass 18 mg/L, Growth rate 33 mg/L
NOEC	Biomass 0.78 mg/L, Growth rate 0.78 mg/L
LOEC	Biomass 2.7 mg/L, Growth rate 2.7 mg/L
Species	Scenedesmus subspicatus
Duration of exposure	72 hr
Method	92/69/EEC C.3, OECD-Guideline No. 201

EC50	741 mg/L
Species	Aerobic activated sludge
Duration of exposure	3 hr
Method	88/302/EEC C.11, OECD-Guideline 209

Persistence/degradability:

Hydrolysis degradability

t ½	1.8 hr at pH=4.0 and 25C
t ½	200.1 hr at pH=7.0 and 25C
t ½	66.9 hr at pH=9.0 and 25C
Method	96/69/EEC C.7, OECD-Guideline No. 111

Biodegradability

Evaluation	Readily biodegradable
Value	BOD 82.1 %, TOC 84.4%, GC 100.0%
Duration of Exposure	28 days
Method	OECD-Guideline No. 301C

Bioaccumulation:

Value	Log Po/w 1.7
Method	92/69/EEC A. 8, OECD-Guideline No. 117

Mobility:

Evaluation	very high mobility
Value	Koc= 15 (logKoc=1.2)
Method	2001/59/EEC C. 19, OECD-Guideline No. 121

13. Disposal Considerations

Waste from residues:

Burn in a chemical incinerator equipped with an afterburner and scrubber. Consult an expert on the disposal of recovered material.

Any contaminated packaging:

Do not put other material into the used container and do not use it for other purpose.
Wash the inside of the container before disposal.

Comply with all federal, state and local regulations.

Do not dump this product into sewers, on the ground or into any body of water.

14. Transport Information

The UN classification number

UN Class: Not applicable
UN Number : Not applicable
Proper shipping Name: Not applicable
Packing Group: Not applicable
Marine Pollutant: Not applicable

Specific precautionary transport measures and conditions:

Avoid falling, dropping, shocking and dragging a container.
Protect a container from direct sunlight.

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.

15. Regulatory Information

All components are on TSCA, EINECS/ELINCS, AICS, DSL, ENCS, and ECL.
All components are REACH registered and not listed in Annex XIV of EC No., 1907/2006 REACH Restriction.
All components are not listed on SARA Title III 313.

Regulatory information with regard to this product in your country or region should be examined by the end user.

16. Other Information

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 SDS