

1. Identification

Product identifier	UV-LED DX Black, Cyan, Magenta, Yellow, Light Cyan, Light Magenta, White, & Varnish	
Product code	1416(Black), 1417(Cyan), 1418(Magenta), 1419(Yellow), 1422(White), 1420(Light Cyan), 1421(Light Magenta), 1423 (Varnish)	
Recommended use	UV-LED Curable Printing Ink	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Company name	LogoJET	
Address	301 Prides Crossing Lafayette, LA 70508	
Telephone	337-330-8471	
E-mail	info@logojet.com	
Contact person	Mark Berglund	
Emergency phone number	CHEMTREC	1-800-424-9300

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1A
	Carcinogenicity	Category 1
	Reproductive toxicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA defined hazards	Not classified.	
Label elements		

Signal word	Danger
Hazard statement	Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. May cause cancer. Suspected of damaging fertility. Causes damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response	If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Isobornyl acrylate	5888-33-5	5-15
Tetrahydrofurfuryl acrylate	2399-48-6	15-29
Hexanediol Diacrylate	13048-33-4	15-25
N-vinyl caprolactam	2235-00-9	5-9.5
Nickel, 5,5'-azobis-2,4,6-(1H,3H,5H)-pyrimidinetrione complexes	68511-62-6	0-4
Phosphine oxide, diphenyl(2,4,6- trimethylbenzoyl)-	75980-60-8	2-9
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	162881-26-7	0.5-2
2-Phenoxyethyl acrylate	48145-04-6	0.2-2
Carbon Black	1333-86-4	0-4
2-Methyl 1-1-(4-Methylthiophenyl)-2-Morpholinopropanone	71868-10-5	0-5

Composition comments Components not listed are either no-hazardous or are below reportable limits.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important Symptoms/effects	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision May cause respiratory irritation. Skin irritation. May cause redness and pain. May cause an allergic reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects
Indications of immediate Medical attention and Special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂)
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Firefighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Provide adequate ventilation. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Nickel, 5,5'-azobis-2,4,6(1H,3H,5H) -pyrimidinetrione complexes (CAS 68511-62-6)	PEL	1 mg/m ³
US. NIOSH: Pocket Guide to Chemical Hazards		
Components	Type	Value
Nickel, 5,5'-azobis-2,4,6(1H,3H,5H) -pyrimidinetrione complexes (CAS 68511-62-6)	TWA	0.015mg/m ³
Components	Type	Value
Benzophenone (CAS 119-61-9)	TWA	0.5mg/m ³
Components	Type	Value
Hexamethylene diacrylate (CAS 13048-33-4)	TWA	1 mg/m ³ 0.11 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Skin protection Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance Colored liquid.

Physical state Liquid.

Form Colored liquid.

Color Colored

Odor Mild acrylate.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point > 199.4 °F (> 93.0 °C) Cleveland Closed Cup

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density > 1

Vapor density temp. 77 °F (25 °C)

Relative density 1 - 1.1

Relative density temperature 77 °F (25 °C)

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	3 - 8 mPa-s
Viscosity temperature	77 °F (25 °C)
Other information	
Explosive properties	
Oxidizing properties	

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause irritation to the respiratory system.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Acute toxicity	May cause an allergic skin reaction. May cause respiratory irritation
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Components	Species	Test Results
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- (CAS 75980-60-8)		
Acute		
<i>Oral</i>		
LD50	Rat	> 2000 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic	
Carcinogenicity	May cause cancer	

Components	Species	Test Results
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- (CAS 75980-60-8)		
Acute		
<i>Oral</i>		
LD50	Rat	> 2000 mg/kg
Hexanediol Diacrylate- (CAS 13048-33-4)		
<i>Oral</i>		
LD50	Rat	>5000 mg/kg
<i>Dermal</i>		
LD50	Rabbit	>3000 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	May cause cancer.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes (CAS 68511-62-6)	1 Carcinogenic to humans.	
NTP Report on Carcinogens		
Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes (CAS 68511-62-6)	Known To Be Human Carcinogen.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity	Suspected of damaging fertility.	
Specific target organ toxicity - single exposure	May cause respiratory irritation.	
Specific target organ toxicity - repeated exposure	Causes damage to organs through prolonged or repeated exposure.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.	

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Components	Species	Test Results
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- (CAS 75980-60-8)		
Aquatic		
Crustacea	EC50 Water flea (Daphnia magna)	< 100 mg/l, 48 hours
Fish	LC50 Leuciscus idus	< 100 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of this product.	
Bioaccumulative potential	No data available.	
Mobility in soil	No data available.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT	
UN number	Not regulated
UN proper shipping name	-
Transport hazard class(es)	
Class	-
Subsidiary risk	-
Label(s)	-
Packing group	-
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	-
Packaging exceptions	-
Packaging non bulk	-
Packaging bulk	-
IATA	
UN number	Not regulated
UN proper shipping name	-
Transport hazard class(es)	
Class	-
Subsidiary risk	-
Packing group	-
Environmental hazards	Yes
ERG Code	-
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA SPECIAL PROVISION: A197-is a new special provision assigned to environmentally substances, **UN3077** and **UN3082** that allows these substance to be shipped as a "not restricted" provided that the net quantity in any receptacle does not exceed 5 kg or 5L and the packaging used meets defined standards

IMDG

UN number	Not regulated
UN proper shipping name	-
Transport hazard class(es)	
Class	-
Subsidiary risk	-
Packaging group	-

Environmental Hazards

Marine pollutant Yes

EmS -

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

General information IMDG Regulated Marine Pollutant. DOT Regulated Marine Pollutant.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
One or more components are not listed on TSCA.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

2-Phenoxyethyl acrylate (CAS 48145-04-6) LISTED

Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes (CAS 68511-62-6) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	68511-62-6	0-4
2-Phenoxyethyl acrylate	48145-04-6	0.2-2

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

2-Phenoxyethyl acrylate (CAS 48145-04-6)

Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes (CAS 68511-62-6)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

2-Phenoxyethyl acrylate (CAS 48145-04-6)

Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes (CAS 68511-62-6)

US. Pennsylvania Worker and Community Right-to-Know Law

2-Phenoxyethyl acrylate (CAS 48145-04-6)

US. Rhode Island RTK

2-Phenoxyethyl acrylate (CAS 48145-04-6)

Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes (CAS 68511-62-6)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes (CAS 68511-62-6)

International Inventories

Country(s) or region	Inventory name	On inventory(yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 16-October-2017

Revision date -

Version # 01

HMIS® ratings Health: 2*
Flammability: 0
Physical hazard: 0

Disclaimer Hilord Chemical Corp cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.