Safety Data Sheet

Issuing Date 24-September-2018 **Revision Date** 25-September-2018 **Version 2**

Section 1: PRODUCT AND COMPANY INFORMATION

Product Code(s) **IKUU000146**

Product Name **UV LED Inkjet Varnish**

Synonyms None

Recommended Use For Industry Use Only by Qualified Personnel

Supplied By
Innovative Digital Systems
2000 Innovation Drive
Indian Trail, NC 28079
PH: +1(704)628-7679
www.ids-digital.com
www.digitalprintsupplies.com

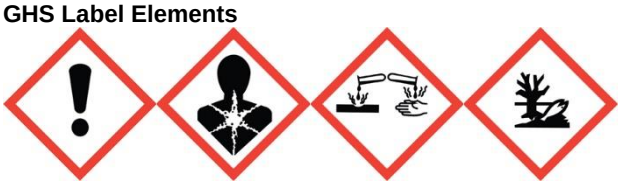
Section 2: HAZARD IDENTIFICATION

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910/1200)

Acute toxicity – Oral	Category 5
Acute toxicity – Dermal	Category 5
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 2

GHS Label Elements



Signal Word WARNING
DANGER

Hazard Statements
H303 - May be harmful if swallowed.
H313 - May be harmful in contact with skin.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H335 - May cause respiratory irritation.
H351 - Suspected of causing cancer.
H361 - Suspected of damaging fertility or the unborn child.
H373 - May cause damage to respiratory tract and liver through prolonged or repeated exposure.
H401 - Toxic to aquatic life.

H411 - Toxic to aquatic life with long lasting effects.

Precautionary Statements – Prevention
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash face, hands and any exposed skin thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workspace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/ protective clothing/ eye protection/face protection.
P281 - Use personal protective equipment as required.

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention.
IF INHALED: 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.
Specific treatment (see supplemental first aid instructions on this label)
Collect spillage.

IF ON SKIN:
Wash with plenty of soap and water.
Take off contaminated clothing and wash before reuse.
If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES:
Rinse cautiously with water for several minutes.
Remove contact lenses if present and easy to do so. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.

Precautionary Statements – Storage
P403 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.

Precautionary Statements – Disposal
P501 - Dispose of contents/container to an approved waste disposal plant.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

This Material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Chemical name	CAS No.	Weight %	Classification (Reg. 1272/2008)
Acrylic Monomer Blend	Proprietary	30-50*	Skin Irrit. 2 (H315), Eye Irrit. 2 (H319), Skin Sens. 1 (H317), Aquatic Chronic 2 (H411)
Isobornyl acrylate	5888-33-5	10-30*	Skin Irrit. 2 (H315), Eye Irrit. 2A (H319), STOT SE 3 (H335), Aquatic Chronic 3 (H412)
Lactam	Proprietary	1-20*	Eye Dam. 1 (H318), Carc. 2 (H351), Acute Tox. 4 (H302, H311, H332), STOT RE 2 (H373), STOT SE 3 (H335)
1,6-Hexandioldiacrylate	13048-33-4	1-20*	Skin Irrit. 2 (H315), Eye Irrit. 2 (H319), Skin Sens. 1 (H317), Aquatic Chronic 3 (H412)
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	1-10*	Repr. 2 (H361), Aquatic Chronic 2 (H411), Skin Sens. 1B (H317)
Photoinitiator Blend	Proprietary	1–10*	Aquatic Chronic 4 (H413), Skin Sens. 1 (H317)
Additives	Proprietary	1 -10*	Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410)

Remaining ingredients are not considered hazardous in accordance with the Globally Harmonized System (GHS)

*The exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4: FIRST AID MEASURES

General Advice
Never give anything by mouth to an unconscious person. In case of serious or persistent conditions, call a doctor or emergency medical care.

Eye Contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while flushing. If symptoms persist, call a physician.

Skin Contact
Immediately wash skin with plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

Ingestion
Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Clean mouth with water and afterwards drink plenty of water. Consult a physician.

Inhalation
Remove to fresh air. Avoid direct contact with skin. Immediate medical attention is required. If not breathing, give artificial respiration. Artificial respiration and/or oxygen may be necessary. If symptoms persist, call a physician.

Notes to Physician
Eye Contact - Emergency Medical Treatment Procedures:
Some photoinitiators cure in the near UV and visible light range.
Keep overhead lighting OFF as a precaution. Flush eyes for an additional 15-30 minutes prior to examination under light. DO NOT use UV light with fluorescent stain to examine injured eye without copious irrigation of the eye. May cause sensitization of susceptible persons. Use of epinephrine may be indicated. Treat symptomatically.

Self-Protection of the First Aider
Use personal protective equipment as required. Avoid contact with skin, eyes and clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Section 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use Carbon dioxide (CO_2), Dry chemical, or foam. Cool containers with flooding quantities of water until well after fire is out.

Special Protective Equipment for Firefighters
Wear self-contained breathing apparatus and full protective gear for firefighting if necessary.

Section 6: ACCIDENTAL RELEASE MEASURES

Environmental Precautions
Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent the material from entering drains or water courses. Do not flush into surface water or sanitary sewer system.

Personal Precautions
Evacuate personnel to safe areas. Ensure adequate ventilation, wear protective gloves/clothing and eye/face protection.

Methods for Cleaning Up
Take up with sand or other non-combustible absorbent material and place into containers for later disposal. Use personal protective equipment as required.

Section 7: HANDLING AND STORAGE

Handling
Use personal protective equipment as required. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Use with local exhaust ventilation. Protect from light.

Storage
Keep container tightly closed in a dry and well-ventilated place. Protect from light. Keep out of the reach of children. Keep in properly labeled containers.

Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering Measures Ventilation systems. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

Personal Protective Equipment

Respiratory Protection Provide adequate ventilation. Provide extract ventilation at the points where emissions occur. Static electricity and formation of sparks must be prevented. Do not breathe vapors, mist or gas.

Skin and Body Protection Wear protective nitrile rubber gloves and impervious protective clothing.

Eye/Face Protection Wear tight-fitting safety glasses with side-shields.

Environmental Exposure Controls Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains.

Hygiene Measures When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Discard gloves that show tears, pinholes, or signs of wear. Keep away from food and drink.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Color	Light yellow tint
Odor	Acrylic

Property	**Values**
pH	No information available
Melting point/range (°C)	No information available
Boiling point/range (°C)	No information available
Flash point	> 100°C
Flammability limit in air	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
VOC content	No information available
Evaporation rate	No information available
Water Solubility	Practically insoluble
Viscosity at 25 °C	10-30 cP

Section 10: STABILITY AND REACTIVITY

Conditions to Avoid Protect from light. Polymerization occurs when exposed to white light, ultraviolet light or heat. Heat, flames, and sparks.

Materials to Avoid Avoid contact with radical forming initiators, strong oxidizing agents, peroxides, strong acids and bases or reactive metals.

Hazardous Decomposition Products No decomposition if stored and applied as directed.

Hazardous Polymerization None under normal processing.

Section 11: TOXICOLOGY INFORMATION

Information on toxicological effects

Acute Toxicity

Information on Likely Routes of Exposure

Inhalation	Irritating to respiratory tract. Avoid breathing vapors or mists.
Eye contact	Irritating to eyes. Avoid contact with eyes.
Skin contact	Irritating to skin and mucous membranes. May cause allergic skin reaction.
Ingestion	Moderately Toxic. Do NOT taste or swallow.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	May cause an allergic skin reaction.
Mutagenic effects	No information available.
Carcinogenic effects	No information available.
Reproductive toxicity	Possible risk of impaired fertility. May impair fertility. May cause harm to the unborn child.
STOT – repeat exposure	
Target organ effects	Respiratory tract, Liver. Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	No information available.

Numerical measures of toxicity – Product Information

0% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (Oral)	>2000 mg/kg
ATEmix (dermal)	>2000 mg/kg
ATEmix (inhalation-mist)	>20 mg/l

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Acrylic Monomer Blend	>2000 mg/kg (Rat)	>2000 mg/kg (Rabbit)	
Isobornyl acrylate	4890 mg/kg (Rat)	>5000 mg/kg (Rabbit)	
Lactam	830-2500 mg/kg (Rat)	1040 mg/kg (Rabbit)	3.07 mg/l (Rat)
1,6-Hexandioldiacrylate	>5000 mg/kg (Rat)	>3000 mg/kg (Rabbit)	
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	>5000 mg/kg (Rat)	>2000 mg/kg (Rat)	
Photoinitiator Blend	>2000 mg/kg (Rat)		
Additives	3230 mg/kg (Rat)		

Section 12: ECOLOGICAL INFORMATION

Acute aquatic toxicity

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Acrylic Monomer Blend	EC_{50}, 72 hours: 76.3mg/L	LC_{50}, 96 hours: 1.76mg/L	EC_{50}, 48 hours: 90.94mg/L
Isobornyl acrylate			EC_{50}, 48 hours: 1.1mg/L
Lactam			EC_{50}, 48 hours: 45mg/L
1,6-Hexandioldiacrylate	-	LC_{50}, 96 hours: 4.6-10mg/L	LC_{50}, 48 hours: 1-10mg/L
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	EC_{50}, 72 hours: >2.01mg/L	LC_{50}, 48 hours: 6.53mg/L	EC_{50}, 48 hours: 3.53mg/L
Photoinitiator Blend	IC_{50}, 72 hours: >100mg/L	LC_{50}, 96 hours: 24mg/L	EC_{50}, 96 hours: 105mg/kg
Additives	IC_{50}, 72 hours: 1.68mg/L	LC_{50}, 96 hours: 0.97mg/L	EC_{50}, 24 hours: 20mg/L

Persistence and degradability	No information available
Bioaccumulation/Accumulation	No information available
Mobility	No information available
Other Adverse Effects	No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste from Residues/Unused Products	Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Dispose of in accordance with local and national regulations. All waste should be disposed of using a Registered Waste Carrier operating under the Environmental Protection Act (Duty of Care) Regulations 1992 (S.I. No. 2839).
Contaminated Packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Other Information	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORT INFORMATION

DOT	Not regulated
ICAO/IATA	Not regulated
IMDG/IMO	Not regulated

Section 15: REGULATORY INFORMATION

All components are on TSCA, EINECS/ELINCS, AICS, DSL, ENCS, IECSC, and KECL.

Section 16: OTHER INFORMATION

Supplied to	Innovative Digital Systems 2000 Innovation Drive Indian Trail, NC 28079
Issuing Date	24-September-2018
Revision Date	25-September-2018
Revision Note	No information available

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet