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SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND OF THE COMPANY/ UNDERTAKING

Product Name : UV 200 Curable Black Ink for LH100_LF140_LUS150

Product IDN : UV.200.1000

Material Uses : Ink for use in an ink jet process.

Manufacturer : STS Inks LLC., 8300 Congress Ave., Boca Raton, FL 33487

Phone: 561-999-8818 Fax: 561-999-8828 Emergency: 561-419-7111

www.stsinks.com : January 15, 2018

2. HAZARD IDENTIFICATION

2.1 Classifications

Date Issued

Classification according to GHS

GHS09 Environment:

Aquatic Chronic 2 H411: Toxic to aquatic life with long lasting effects

GHS07

Skin Irrit. 2 H315: Cause skin irritation

Skin Sens 1: H317: May cause an allergic skin reaction

Eye Irrit. 2A H319: Causes Serious eye irritation

STOT SE 3 H335: May cause respiratory irritation

GHS08 Health Hazard

Repr 2. H361: Suspected of damaging fertility or the unborn child

STOT Rep. Exp. 1 H372: Causes damage to organs through prolonged or repeated exposure

2.2 Label Elements:

Labeling according to GHS

Hazard pictograms



Signal Word: Danger

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Hazard Statements:

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H319: Causes Serious eye irritation.

H335: May cause respiratory irritation.

H361: Suspected of damaging fertility or the unborn child.

H372: Causes damage to organs through prolonged or repeated exposure.

H411: Toxic to aquatic life with long lasting effects.

Precautionary Statements:

PREVENTION:

P270: Do not eat, drink or smoke when using this product.

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves.

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.

P273: Avoid release to the environment.

RESPONSE:

P301+P312+P330: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

P332+P313+P333: If SKIN IRRITATION OCCURS: Get medical advice/attention.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P403 +P233 Store in a well-ventilated place. Keep container tightly closed.

P363: Wash contaminated clothing before reuse.

DISPOSAL:

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other Hazards

Results of PBT and vPvB assessment:

PBT: Not applicable. vPvB: Not applicable.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization: Mixture Inkjet printing ink in organic solvents.

Ingredients	CAS No	EC Number	Reach Registration Number	Percent (%)	Classification GHS (Rev 5)
Colorant	Trade Secret	-	-	<5%	-
2-Phenoxy-ethyl Acrylate	48145-04-6	256_360_6	Registered	<10%	Skin Sens 1: H317 Aquatic Chronic 2: H411
Trimethylolpropane (EO) ₃ Triacrylate	28961-43-5	500-066-5	Registered	<10%	EyeIrrit.2: H319 SkinSens.1: H317
N-Vinyl caprolactam	2235-00-9	218-787-6	Registered	10-20%	EyeIrrit.2: H319 SkinSens.1: H317 STOT Rep. Exp. 1: H372
Isobornyl Acrylate	5888-33-5	277-561-6	Pending	10-15%	SkinIrrit.2: H315 EyeIrrit.2: H319 STOT SE 3: H335 Aquatic Chronic 2: H411
2,4,6-trimethyl benzoyl - diphenyl phosphine oxide	75980-60-8	278-355-8	Registered	1-5%	Skin Sens 1: H317 Repr. 2: H361 Aquatic Chronic 2: H411
Bis (2,4,6- trimethylbenzoyl) phenyl phosphine oxide	162881-26- 7	423-340-5	Registered	1-5%	Skin Sens 1: H317 Aquatic Chronic 2: H411
2-isopropyl-9H- thioxanthen-9-one	5495-84-1	226-827-9	Registered	<1%	STOT SE 3: H335
Tetrahydrofurfuryl acrylate	2399-48-6	219-268-7	Registered	10-20%	SkinIrrit.2: H315 EyeIrrit.2: H319
Urethane Acrylate	Proprietary	Proprietary	Pending	1-5%	SkinIrrit.2: H315 EyeIrrit.2: H319 STOT SE 3: H335
Urethane Acrylate	Proprietary	Proprietary	Pending	1-5%	SkinIrrit.2: H315 EyeIrrit.2: H319
Stabilizer	Proprietary	Proprietary	Registered	<1%	EyeIrrit.2: H319 SkinSens.1: H317
Acrylated Oligoamine	Proprietary	Proprietary	Registered	1-5%	SkinIrrit.2: H315 EyeIrrit.2: H319
Polyester Acrylate	Proprietary	Proprietary	Pending	10-15%	SkinIrrit.2: H315 EyeIrrit.2: H319

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4. FIRST AID MEASURES

4.1 Description

Inhalation : If inhaled move to fresh air. Respiratory irritation may occur, if

symptoms develop seek medical attention. If not breathing, give artificial

respiration preferably mouth to mouth.

Ingestion : Give two glasses of water and monitor closely. Call a poison control

center, emergency room, or physician before trying to induce vomiting. Never give anything by mouth to an unconscious person. Get medical

attention if symptoms appear.

Skin Contact: In case of contact, immediately flush skin with plenty of water while

removing contaminated clothing and shoes. Wash clothing before reuse.

Get medical attention if symptoms appear.

Eye Contact : Do not rub eyes. In case of contact, immediately flush eyes with plenty of

water for at least 15 minutes. If irritation persists, get medical attention.

${\bf 4.2\;Most\;Important\;Symptoms\;and\;Effects,\;Both\;Acute\;and\;Delayed}$

Potential Health Effects

Eye Contact: Causes severe eye injury which may persist for several days.

Inhalation: Exposure to vapors (mist) may be harmful to the unborn child and at the risk of impaired

fertility and irritate nose, throat/respiratory system.

Skin Contact: Contact with skin may cause irritation, swelling or redness, allergy and/or sensitization.

Ingestion: May cause injury of mouth, throat, and stomach.

Over Exposure Signs/Symptoms

Eye Contact: No specific data.
Inhalation: No specific data.
Skin Contact: No specific data.
Ingestion: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Suitable Extinguishing Media: Alcohol-resistant foam, dry chemical, carbon dioxide (CO_2), water spray.

5.2 Special Hazards arising from the substance or mixture

Carbon Oxides

5.3 Advice for Fire-Fighters

Use breathing apparatus with independent air supply.

Protective suit.

5.4 Further Information

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Use water spray to cool unopened containers.

5.5 NFPA Ratings

Health: 2 Flammability: 2 Reactivity: 1

Hazard Scale: 0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.2 Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wetbrushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Handling : Avoid contact with skin and eyes. Avoid inhalation of vapor or

mist. Keep away from sources of ignition- No smoking.

Take measures to prevent the buildup of electrostatic charge.

7.2 Conditions for safe : Store in cool place and away from light. Keep container tightly

storage closed in a dry and well-ventilated place. Containers which are

opened must be carefully resealed and kept upright to prevent

leakage.

7.3 Specific end uses : no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameter

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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Personal Protective Equipment

[Respiratory Protection]: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such NIOSH (US) or CEN (EU).

[Body Protection]: Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

[Skin Protection]: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

[Eye/face Protection]: Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

9. PHYSICAL AND CHEMICAL PROPERTIES Color : Black Odor : Slight odor Boiling Point/boiling range of ink : No data available Melting Point/melting range : No data available Flash Point of ink : No data available **Auto-Ignition Temperature** : No data available Flammability (solid, gas) : Not Applicable **Specific Gravity** : No data available Vapor Density : Not Applicable Vapor Pressure : No data available **Explosive Properties** : No data available. Solubility : Easily soluble Water Solubility : No data available. Viscosity : Not applicable : No data available. рН **VOCs** : No data available Oxidizing Properties : No data available

The physical and chemical data given in Section 9 are typical values for this product and are not intended to be product specifications.

10. STABILITY AND REACTIVITY

10.1 Reactivity

: High temperatures and UV light cause rapid polymerization

10.2 Chemical Stability

: Unstable. Polymerizes under heat and light

10.3 Possibility of hazardous reactions

: No data available

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10.4 Conditions to avoid : Heat, flames, sparks, direct exposure to light **10.5 Incompatible materials**: Strong oxidizing agents, strong bases, water

10.6 Hazardous : Other decomposition products - no data available

decomposition products

11. TOXICOLOGICAL INFORMATION

11.1 Routes of : Eye, skin, inhalation, and oral ingestion

Overexposure

11.2 Health Hazards:

Acute Health Hazards : Overexposure of the eve surface to ink may be mildly irritating.

> Overexposure of ink contact with the skin may cause irritation and, in some people, swelling and redness. Intentional inhalation to ink vapors may result in respiratory tract irritation. Intentional

or accidental oral ingestion may cause an upset stomach

Chronic Health Hazards

: No information available Mutagenicity : No information available **Carcinogenicity** : No information available

11.3 Toxicity:

Acute Toxicity Data : No information **Inhalation** : No information **Irritating** : No information Sensitization : Not available **Reproductive Toxicity** : Not available.

12. **ECOLOGICAL INFORMATION**

12.1 Toxicity : Aquatic toxicity: No further information available

12.2 Persistence and Degradability : No further relevant information available 12.3 Bioaccumulation Potential : No further relevant information available 12.4 Mobility in Soil : No further relevant information available

12.5 Results of PBT and vPvB : PBT: Not applicable : vPvB: Not applicable Assessment

12.6 Other Adverse Effects : No further relevant information available

DISPOSAL CONSIDERATIONS 13.

13.1 Waste : Product

Disposal Waste must be disposed of according to the applicable state, federal, and

local regulations.

: Contaminated Packaging Dispose of as unused product

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14. TRANSPORTATION INFORMATION

United States DOT Domestic Surface, USA, ICAO/IATA AIR, IMO/IMDG OCEAN, ADR, or RID

14.1 UN Number : UN3082

14.2 UN Proper Shipping Name : Environmentally Hazardous Substance, Liquid, N.O.S.

[Acrylic Monomers].

14.3 Transport Hazard Class(es) : ADR, IMDG, IATA – Class 9

14.4 Packaging Group : III **14.5 Environmental Hazards** : Yes

14.6 Special Precautions for : Transport and storage of the product in accordance with

User general precautions and instructions mentioned in this SDS

14.7 Other Information : Inner packaging less than 5L or 5Kg is exempted from

Dangerous Goods. Special Provision A197

14.8 DOT : Not regulated as Dangerous Goods when transported by

road in the United States.

15. REGULATORY INFORMATION

U.S Federal Regulations : Not available.

OSHA: This product is classified as an OSHA hazardous

material.

CERCLA: SARA Hazard Category: Acute Hazard

Section 313 : *Indicates toxic chemical(s) subject to the

reporting requirements of the Section 313 of Title III

and of 40 CFR 372.

International Regulations

Canadian WHMIS : Not available. **Canadian Environmental Protection** : Not available.

Act

EINECS : Not available.

State Regulations : Not available.

State of California Proposition 65: This product does not contain any chemicals

known to the state of California to cause cancer,

birth, or any other reproductive defects

16. OTHER INFORMATION

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

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