

MATERIAL SAFETY DATA SHEET

DIRECT TO SUBSTRATE DTS UV LED INK

1. Product identification

Product Name	DTS LED UV ink (C/M/Y/K/Lm/Lc/Lk/LLK/GO/W)
Manufacturer	Signs Full Joint Tech Co. LTD
Address	2709 Room, Soaring Building, ABP, Fengtai District, Beijing, China Tel.: 0086 – (10) 57170106; Fax: 0086 – (10) 57170106

2. Composition / Information on Ingredients

Ingredient	CAS No	Weight %	Remarks
Pigment	Proprietary	5 – 30	No PEL established. May cause sensitization.
Isobornyl Acrylate	5888-33-4	20 – 45	
1.6-Hexanediol diacrylate	13048-33-4	20 – 45	
Photo initiator		2 – 10	

3. Hazards identification

3.1. Emergency Overview

Harmful if swallowed, inhaled or absorbed through skin.

It causes irritation to eyes and respiratory tract.

Health Rating: 1

Flammability: 1

Reactivity Rating: 0

Remaining components unknown, or < 1%

3.2. Potential Health Effects

Inhalation: Inhalation of vapors may cause irritation, headache, dizziness, fatigue, nausea, vomiting and loss of appetite. Weakness, incoordination and tremors may occur.

Ingestion: Swallowing may cause nausea, vomiting, abdominal pain, breathing difficulties, weakness. Liver and kidney damage may result from swallowing large quantities of the material.

Skin contact: May be absorbed through the skin with possible systemic effects.

Eye contact: May cause irritation, redness and pain.

4. First Aid Measures

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. Call a physician.

Ingestion: Induce vomiting immediately as directed by medical personnel.

Skin contact: Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Eye contact: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses after initial 1 – 2 minutes and continue flushing for several additional minutes. If effects last longer, consult physician, preferably an ophthalmologist.

5. Fire – fighting Measures

Flash Point and Method: NA

Fire Extinguishing Media: NA

Unusual fire and explosion hazards: NA

Extinguishing Media: Dry chemical powder, CO₂, foam.

Do NOT use water.

Fire Protection: For firefighter, wear the protective chemical – resistant clothing and self-contained breathing apparatus.

6. Accidental Release Measures

General Information

Make ventilation in time. Put out all fires. Inform the environmental protective department.
Avoid spilling into the sewers.

Spills/Leaks

Wear protective clothing. Turn off all the fire, no fire use in the relevant leakage area, no smoking. Flush the relevant leakage area with water; do not inhale the smoke, gas, steam and water vapors.

7. Handling and Storage

Handling

Use in ventilated places. Carefully pack and do not spray out of the container.
When operating, wear personal protective equipment.

Storage

Store in ventilated, dry place, avoid light. Check regularly if damaged or leaked container.
Storage temperature: -5 ~ 40°C.

8. Exposure Controls / Personal Protection

Exposure Guidelines

A “skin” notation following the exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapors or by direct skin contact.

Engineering Controls

Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

Personal Protective Equipment

Respiratory Protection: For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

In misty atmospheres, use an approved particulate respirator.

For emergency conditions, use an approved positive – pressure self – contained breathing apparatus.

Protective Clothing: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, gloves, boots, apron, or full body – suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of it properly.

Hand/Skin Protection: Wear gloves made of butyl rubber, neoprene etc.

Eye/Face Protection: Use safety glasses. If exposure causes eye discomfort, use a full-face respirator.

9. Physical and Chemical Properties

Appearance/Odor: Colored liquid

Boiling Point, °C	≥ 200°C	Vapor Pressure mmHg	<0.01 mmHg/20°C
Melting Point, °C	-15 ± 5 °C	Specific Gravity	1 ± 0.10
Flash Point, °C	120 °C	Surface Tension	23dyne/cm(21-25dyne/cm)
Viscosity	5 cps (4 – 6 cps)	Inflaming Retarding	III
Water Solubility	<0.15%	Exposure limitation	1 mg/m ³ AIHA

10. Stability and Reactivity

Chemical stability:	Stable in regular temperature and pressure
Conditions to avoid:	Direct sunshine, heating, fire.
Materials to avoid:	Oxidizing materials, strong acids and alkali, water.
Hazardous polymerization:	None.

11. Toxicological Information

Toxicological Data:	Oral rat LD50: 5 g/kg; Inhalation rat LC50: 2500 ppm/7H; Oral rabbit LD50: 3 g/kg/2 weeks.
Irritation:	Prolonged skin contact may cause slight irritation.
Sensibility:	NA.

12. Ecological Information

No information available.

13. Disposal Considerations

Any disposal practice must be in compliance with all local and national laws and regulations.

Waste Disposal Method

Dispose of in accordance with all local, state or federal regulations. Waste water treated.

14. Transport Information

D.O.T. Shipping Name:	Meet the requirement of International Transportation for common chemical product.
International Transportation Regulation:	CFR Classification not limited IATA/ICAO Classification not limited (International Shipping Organization) IMDG Classification not limited (International Shipping Organization)
Domestic Transportation Regulation:	During the transportation, sealed container is needed to avoid leaking.
Special transportation precautions:	When transporting, please lay the box slightly and erectly.

15. Regulatory Information

OSHA Status:	Product not tested. But is considered to be of relatively low toxicity.
TSCA Status:	This product meets the requirements of the Toxic Substances Control Act.
SARA Title III:	Product not listed. SARA listed reporting levels of the ingredients at or above De Minim are noted in paragraph 2, if any.
RCRA Hazardous Waste No/Status:	If discarded in its purchased form, this product would not be a federal hazardous waste either by listing or by characteristic. States, however, often have stricter regulations. Users should check with their state regulatory agencies for current hazardous waste criteria. Under RCRA it is the responsibility of the product user to determine at the time of disposal whether a material containing the product or derived from the products should be classified as a hazardous waste (40CFR261 20-24).

16. Other Information

All information herein is based upon data obtained from the manufacturer and/or recognized technical sources. This information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. We do not make any warranty, express or implied, as to the accuracy or completeness of this information. It is the user's responsibility to determine the suitability of this information for the adoption of necessary safety precautions and/or compliance with federal, state and local laws and regulations.