

MATERIAL SAFETY DATA SHEET

DIRECT SOLVENT CLEANER

1. Product identification

Product Name	Direct Solvent Cleaner (SD – CL)
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 %
Dye	-	0.1 – 10
4-Hydroxy-4-methyl-2-pentanone	123-42-2	30 – 40
Ethyl cellosolve	110-80-5	50 – 70

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: 2

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

Extinguishing Media

Water fog or fine spray. Carbon dioxide. Dry chemical fire extinguishers.
Foam. Alcohol resistant foams are preferred. General purpose synthetic foams or protein foams may function, but will be less effective.

Extinguishing media to avoid

Do not use directed water stream.

Hazardous Combustion Products

During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: carbon oxides.

Protection of Firefighters

Wear positive – pressure self – contained breathing apparatus and protective fire-fighting clothing (includes fire-fighting helmet, coat, trousers, boots and gloves).
If protective equipment is not available or not used, fight fire from a protected location or a safe distance.

Specific Fire or Explosion Hazards

Fine dust of this product can form explosive mixtures with air and poses a definite fire and explosion hazard at all times; keep away from ignition sources.
Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flashback may occur.
Spills of these organic liquids on hot fibrous insulations may lead to lowering of the auto-ignition temperatures, possibly resulting in spontaneous combustion.

6. Accidental Release Measures

Personal Precautions

Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion.

Wear appropriate personal protective equipment as specified in section 8.
Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

Environmental Precautions

Vapor explosion hazard, keep out of sewers. Contain liquid to prevent contamination of soil, surface water or ground water.

7. Handling and Storage

Handling

Containers, even those that have been emptied, can contain vapors.
No smoking, open flames or sources of ignition in handling and storage area.

Storage

Storage and use areas should be non-smoking areas.
Use of non-sparking or explosion proof equipment may be necessary, depending upon type of operation. Minimize sources of ignition, such as static buildup, heat, spark or flame.
Keep container closed.

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 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 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, Fruity odor

Boiling Point, °C	165 °C	Vapor Pressure mmHg	3.8 mmHg
Freezing Point, °C	-60 °C	Specific Gravity	0.9
Flash Point, °C	80 °C	Water Solubility	Not Miscible
Vapor Density (Air = 1)	4.0	Evaporation Rate	< Butyl Acetate

10. Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.

Conditions to avoid: Flammable vapors can be released at ambient temperatures.

Materials to avoid: Avoid contact with metals such as Zinc, Magnesium, Aluminum.
Avoid contact with oxidizing materials.

11. Toxicological Information

Toxicological Data: Oral rat LD50: 3000 mg/kg; Inhalation rat LC50: 2500 ppm/7H; Skin rabbit LD50: 1500 mg/kg.

Irritation: Skin: Prolonged contact is essentially non-irritating to skin.
Eyes: May cause slight eye irritation. Effects may include discomfort and redness.

Inhalation: Excessive exposure may cause irritation to upper respiratory tract.

12. Ecological Information

Environmental Fate

When released into the soil, this material may evaporate to a moderate extent, it may leach into the ground water, may biodegrade to a moderate extent.
This material is harmful to aquatic organisms.

13. Disposal Considerations

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

Disposal

Incinerate under controlled conditions in accordance with all local and national laws and regulations.

Contaminated Packaging

Empty containers can only be disposed of when the remaining product adhering to the container walls has been removed. Remove all labels.

14. Transport Information

Any transportation's practice must be in compliance with local, state or federal laws and regulations. Not classified as hazardous under transport regulations.

15. Regulatory Information

R-Codes

20/21/22	Harmful by inhalation and in contact with skin and if swallowed.
36/38	Irritating to eyes and skin.
60	May impair fertility
61	May cause harm to the unborn child.

S-Codes

36/37	Wear suitable protective clothing and gloves.
45	In case of accident or if you feel unwell, seek medical advice immediately.
46	If swallowed, seek medical advice immediately and show this container.
53	Avoid exposure - obtain special instructions before use.

16. Other Information

The information herein is given in good faith, but no warranty express or implied, is made. Recipients of our product must take responsibility for observing existing laws and regulations.