

Material Safety Data Sheet (MSDS)	File No.	Revised date
	TF-O-MSDS-013	December 1, 2020

Part I Chemical and Corporate Identity

Name of Chemical: Diluent TF-S101

Name of Company: Shenzhen TongFang Electronic New Material Co.,Ltd.

Address: No.65 Bai Ge Hu Road,Guan Hu Community,Long Hua District,Shenzhen

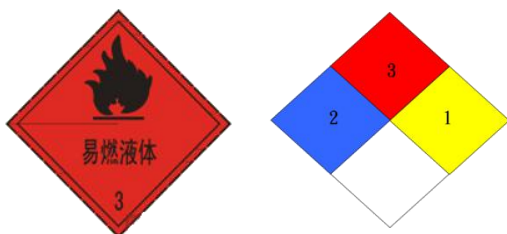
Fax: 0755-29805568

Emergency Call: 0755-29805588

Part II Hazards Identification

Hazards Type: 3.2 Flash Point Flammable Liquid

Hazards type and markings of the Chemical:



Exposure Manners: Breathe in, consume and absorb by skin

Damage to Health: Vapor of high concentration may cause headache, nausea, drowsiness, unbalanced movement, unconsciousness, damage to eyes, skin irritation, etc. The absorption of the vapor through skin can be poisonous at a certain extent. Long-term exposure may cause unconsciousness or even death. Swallowing or throwing up might breathe it into lung. Long-term contact with it may damage peripheral nerves like hands and feet.

Hazards of Burning and Explosion: It is flammable. When its vapor and air mix together, they become explosive mixture which may explode in contact with fire or great heat.

Part III Compositions

Name of Chemical: Diluent TF-S101

	Compositions	CAS NO.	Max. Value %	Remarks
1	Xylene	1330-20-7	94.9	Within safe concentration
2	Thiophene	110-02-1	0.1	Within safe concentration
3	Butyl acetate	123-86-4	5	Within safe concentration

Part IV First-Aid Measures

Skin Contact:

1. Take off the contaminated clothes, shoes and leather ornaments (like watchband and belt).
2. Rinse slowly but thoroughly with water and non-wrapped soap for over 5 minutes.
3. If there is still irritation, see doctor immediately.

Eye Contact:

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1. Open sufferer's eyes immediately and wash his/her contaminated eyes with slow-flowing warm water for 20 minutes.
2. If there is still irritation after washing, repeat washing for several times.
3. See doctor immediately.

Breathing-in:

1. Remove contaminated resources or move the sufferer to fresh air.
2. If there is no respiration, let the trained staff conduct artificial respiration at once. If there is no heartbeat, conduct cardiac resuscitation immediately.
3. See a doctor at once.

Ingestion:

1. If sufferer is about to be unconscious, or become unconscious, or is cramped, do not feed sufferer anything.
2. Do not vomit.
3. Feed sufferer 240-300ml water.
4. If sufferer occasionally vomits, lean his/her body forward to reduce danger of inhalation and feed water repeatedly.
5. See a doctor immediately.

Part V Fire Extinction Measures

Warnings:

1. Container at fire site might break.
2. Extinguisher will accumulate in closed space.
3. Vapor is heavier than air and will spread far away, and liquid will float above water which makes the fire worse.

Extinction Methods and Extinguisher: Foamite, Extinguishing Powder, CO₂

Precautions and Measures for Fire Extinction: Water is prohibited for fire extinction.

Part VI Measures against Leak

Emergency Measures:

Cut off power. Let the staff in contaminated area retreat to safe area quickly and set isolation to strictly limit entrance. It is suggested that emergency staff shall wear self-supplied and positive-pressed respirator and porous antitoxic clothing. Try to block any leak resources. Prevent the leak from flowing into limited space, such as sewer and drainage channel.

Small-Sized Leak:

Try to collect the leak as much as possible in a pressure-tight container, and use sand, activated carbon or other inert materials to absorb the rest leak. Cream made of inflammable dispersant can also be used. The used cream should be diluted and disposed through waste water treatment.

Massive Leak:

Build dam or dig hole for reservation. Use cystose for coverage to reduce the harm of vapor. Spray mist of water to cool and dilute the vapor in order to protect the staff on site. Use anti-explosion pumper to transfer it into tank car or exclusive container for recycling or moving to waste plant for disposal.

Part VII Safe Disposal and Storage Methods

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Warnings:

1. The substance is flammable liquid, so run engineering control and make good use of individual protective equipment while disposing it. The operators shall receive proper trainings on danger and safe use of related substances.
2. Remove all ignition source and incompatible substances.
3. Working area should set warning "No Smoking".
4. All storage tanks, transfer containers and pipelines should be connected to earth. Exposed metal should be in touch with earth for earthing.
5. When mixing operation is not conducted in closed system, make sure containers for mixture, transport equipment for receipt and containers connect with each other at iso-electric level.
6. Empty tanks, containers and pipelines might contain dangerous residue. There should be no soldering, cutting, drilling or other work with heat before disposal.
7. Ventilation system without generating fire spark should be adopted in working area, and the equipment should be explosion-proof.
8. Ensure smooth pass in passage and exit.
9. Avoid generating fog-drop or vapor while working. Operate in assigned area with good ventilation and adopt minimum usage. Separate operation area and storage area.
10. Do not mix with incompatible substances (like strong oxidizer)
11. While using storage container of compatible substances, be careful not to spill the content out for sub-package.
12. Do not compress and transport liquid out of the container with air or inert gases.
13. Unless mixing area is separated by fire-proof structure, do not conduct mixing work in storage area.
14. Use approved storage containers and mixing equipment for flammable liquid.
15. Do not refill the contaminated liquid into original storage container.
16. Container should be labeled with warning. Keep compactness and avoid damage while not using it.
17. Operation area should be equipped with suitable fire-extinguisher and equipment for leak clearance.

Storage:

1. Keep in cool, dry and well ventilated place without direct sunlight. Keep away from heat resources, ignition source and incompatible substances.
2. Storage equipment should be made of fire-proof material.
3. Use ventilation system without generating fire spark, explosion-proof equipment and safe electrical system.
4. Floor should be made of impermeable material to avoid permeation.
5. Set slope, threshold, or groove at gate to dispose leaking substance to safe place.
6. Storage area should be set with clear warning without barrier, and allow assigned or trained personnel to enter.
7. Storage area should separate with operation area. It should be kept away from elevator, building, exit or primary passage.
8. There should be suitable fire-extinguisher and equipment for leak clearance in storage area.
9. Regularly check whether there is damage or leak of storage container.
10. Check whether all new containers are set with moderate warnings without damage.
11. Limit storage.

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12. Store in suitable and labeled container and keep closed to avoid damage of container caused by piling.
13. Use storage container made of compatible material to contain leaking substances.
14. Empty tanks should be stored separately and kept closed.
15. Storage containers should be connected to earth and with other equipment at iso-electric level.
16. All storage containers for flammable liquid should be equipped with pressure-relief valve and vacuum-relief valve.
17. Store under storage temperature suggested by chemical products manufacturer or supplier. If there is necessity, install temperature-detecting alarm device to warn extreme-high temperature or extreme-low temperature.
18. Avoid massive storage in room. Try to store in separated fire-proof construction as possible as you can.
19. Exhaust pipe of storage tank should be equipped with fire-extinguisher.
20. Storage tank should be ground storage tank. The whole bottom area should be closed to avoid permeation. Anti-spilling dam should be built around with capability of holding the entire content.

Part VIII Contact Control/Personal Protection

Procedure Control:

1. There is no spark in use. Separate earth ventilation system away from other ventilation systems.
2. Exhaust port shall face the outside directly.
3. Let enough fresh air flow in to supplement the air pumped out by ventilation system.

Protection of Respiration System: Wear respirator.

Eye Protection: Goggles for chemicals and face shield.

Body Protection: Full-body protective clothing and foot-ware made of the materials above

Hand Protection: Anti-permeated gloves made of cyanogen rubber, fluorinated elastomer, chlorinated polyethylene and chloroprene rubber

Other Protection:

1. Take off contaminated clothes as quickly as possible after work and wear or desert after washing.
Danger of contaminator should be told to washer.
2. Smoking or eating is forbidden in working area.
3. Hands should be rinsed thoroughly after contact with contaminator.
4. Keep good individual sanitation

Part IX Physical and Chemical Properties

State of Substance: Colorless transparent liquid

Relative Density (Water=1): 0.855±0.02 (20°C)

Flash Point (°C): 11 °C

Upper Limit of Explosion% (V/V): 7.99%

Burning Point (°C): 469°C

Lower Limit of Explosion% (V/V): 1.72%

Dissolubility: A little solvent to water and can be mixed with ethanol.

Primary Application: Dilute the Insulating paint

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Part X Stability and Reactivity

Stability: 5°C-45°C stable

Forbidden Composition: Strong Oxidizer

Situation to Be Avoided: Static electricity, fire spark and naked flame

Decomposed Substance: CO, CO₂

Part XI Toxicological Information

Acute Toxicity:

Inhalation:

1. Very low toxicity which mainly depresses central nervous system and causes dizziness, giddiness and nausea.
2. High concentration can cause unconsciousness
3. Vapor will irritates nose and throat.

Skin: Contact with liquid by skin may cause slight skin irritation

Eye: Vapor and Liquid will cause eye irritation.

Ingestion:

1. May cause sore throat, nausea and diarrhea.
2. Swallowing or vomiting may inhale contaminator into lung, which causes acute lung irritation, lung-tissue damage or death.

Chronic Toxicity: Long-term exposure could cause dermatitis.

Local Effect: ----

Sensitization: ----

Special effects: ----

Part XII Ecological Information

Ecological Toxity and Toxicology: Products of low toxity have no related information.

Biodegradability: Handled by environmental protection companies

Non-Biodegradability: While emitting into soil or water, its spreading expectancy is primarily volatile.

Bio-Accumulation: It seldom happens.

Part XIII Waste Disposal Methods

Properties of Waste: Waste of hazards

Disposal Methods:

1. Waste should be disposed according to regulation of government.
2. Wasted solvent should be put in close and labeled container for disposal and recycling.
3. Empty tanks and wasted materials should not be deserted at random. Please observe relevant laws and hand them to recycling companies to dispose.

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Part XIV Transport Information

Marking: Flammable

Warnings for Shipment: Avoid direct sunlight. Obey the pointed route.

Part XV. Legal Information

The Regulations of Safe Management Regarding Dangerous Chemicals (issued by the State Council on February 17, 1987) about the laws and regulations specified safe production, use, storage, transportation, loading and unloading, classification and marks of the hazardous chemicals.

Classification and Labels of Dangerous Chemical Substances Commonly Used (GB13690-92) named it 3.2 flash point flammable liquid.

Part XIV Other Information

References:

1. Zhou Guotai, Full Book for Dangerous Chemical Safety Technology, Chemical Industry Press, 1997
2. Compiled jointly by National Environmental Protection Bureau Toxic Chemical Management Office and Beijing Chemical Research Institute, Chemical Toxicological Regulations and Environmental Data Manual, China Environmental Science Press, 1992
3. Canadian Centre for Occupational Health and Safety, CHEMINFOR Database, 1989
4. Canadian Centre for Occupational Health and Safety, RTECS Database, 1989

Tabulating time: December 1, 2020

Tabulating department: Quality Department

Data review unit: Shenzhen Tongfang Electronic New Material Co., Ltd.

Other information: "--" means that there is no relevant medical report or information.

Note:

1. This document is only used for reference and should not be used as basis of legal responsibilities.
2. While using the item, please customize the most suitable procedure or control methods according to different techniques to guarantee the stability of quality.