



# Material Safety Data Sheet


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## Section 1 - Product and Company Identification

Product name : Stripper-10	
Other names : --	
Product use : Remove PR	
Supplier's name : San Fu Chemical Co., Ltd., Shan Hua Plant	
Supplier's address : 340 Hsiao Hsin Li, Shan Hua Town, Tainan Hsien, Taiwan, R.O.C.	
Supplier's phone : 06-5837608	Emergency phone : 06-5837608
FAX. : 06-5839498	

## Section 2 - Hazards Identification

Classification :	
1. Flammable Liquid	Category 4
2. Acute Toxicity	Category 4 (Ingestion)
3. Acute Toxicity	Category 4 (Skin)
4. Corrosive to Metals	Category 1
5. Skin Corrosion/Irritation	Category 1
6. Serious eye Damage/Eye Irritation	Category 1
The Most Important Hazards and effect	
Label element :	
■ Hazard symbol : Corrosion, Exclamation Mark	
	
■ Signal word : Danger	
Hazard statement :	
1. Flammable liquid	
2. Harmful if ingested	
3. Harmful if contact with skin	
4. May corrode metals	
5. Cause severe skin burns and eyes damage	
6. Cause serious eye irritation	
Precautionary statement :	
1. Avoid breathing vapors and contact with skin and eyes	
2. Wear breathing apparatus/protective gloves/face protection	
3. Store and use only in well-ventilated place	
Others Hazard :	

## Section 3 - Composition/Information On Ingredients

Mixture :

Component or impurities contributing to the hazard	Concentration or concentration range (%)	CAS No.
Monoethanolamine (MEA)	> 50%	141-43-5



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Dimethyl Sulfoxide (DMSO)	< 50%	67-68-5
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## Section 4 - First Aid Measures

<p>The First-aid Information :</p> <ul style="list-style-type: none"><li>■ Inhalation :<ol style="list-style-type: none"><li>1. Remove the pollutant, or leave area of exposure to breath fresh air immediately</li><li>2. If not breathing, provide artificial respiration or oxygen by trained personnel. Avoid providing aid to give mouth-to-mouth resuscitation.</li><li>3. Get medical attention immediately.</li></ol></li><li>■ Skin Contact :<ol style="list-style-type: none"><li>1. Wear impervious gloves to avoid contacting with chemicals.</li><li>2. Flush the contaminated area for at least 20 minutes.</li><li>3. Obtain medical attention immediately.</li></ol></li><li>■ Eye Contact :<ol style="list-style-type: none"><li>1. If necessary, wear impervious gloves to avoid contacting with chemicals.</li><li>2. Immediately flush eyes with warm water for at least 20 minutes, lifting lower and upper eyelids occasionally.</li><li>3. Try to not contaminate unaffected area.</li><li>4. If pain persists or recurs, flush repeatedly and get medical attention immediately.</li></ol></li><li>■ Ingestion :<ol style="list-style-type: none"><li>1. Rinse mouth by plenty of water.</li><li>2. Get medical attention immediately.</li></ol></li></ul>
The Most Important Symptoms and Hazardous Effects : irritation, burn
Protection of First-aiders : <ol style="list-style-type: none"><li>1. Entry the hazard area and move the patient if only if wear Chemical protective suit (Level A)</li><li>2. First-aid in safety zone, wearing Chemical protective suit (Level C)</li><li>3. Do not give mouth-to-mouth resuscitation.</li></ol>
Notes to a Physician : --

## Section 5 - Fire Fighting Measures

Extinguishing Media : dry sand, chemical foam, CO <sub>2</sub> , Chemical powder
Specific Hazards when Fire-fight : Flammable liquid, which may form explosive mixtures in air if the temp. reaches 85°C or above.
Specific Fire-fighting Procedure : <ol style="list-style-type: none"><li>1. Fight fire from protected location or safe distance.</li><li>2. Approach fire from upwind. Stay away from the toxic vapor or decomposition.</li><li>3. Stop leak if safe to do so. If not, let the fire burn itself out only if there is no danger.</li><li>4. Separate the materials that have not been caught on fire.</li><li>5. Move the undamaged containers from fire area if safe to do so.</li><li>6. Water spray may be used to reduce vapors and to cool containers exposed to fire.</li><li>7. It may be ineffective to extinguish the fire with water.</li><li>8. For fires in cargo or storage are, cool containers with water from unmanned hose holder or monitor nozzles.</li></ol>



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9. Stay away from fire area if possible, and let the fire burn itself out.
10. Stay away from tanks.
11. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire.
12. Do not entry unless wear specific protective gears.

#### Specific Protection of Firefighters :

1. As in any fire, wear a self-contained breathing apparatus in pressure demand, MSHA/NIOSH (approved or equivalent), and full chemical protective suit.
2. If necessary, may cover a spark-proof coat on the protective suit.

#### Section 6 - Accidental Release Measures

##### Personal Precautions :

1. Restrict access to area until completion of clean up.
2. Ensure clean up is conducted by trained personnel only.
3. Wear proper personal protection gears.
4. Keep all personnel away from leeward.

##### Environmental Precautions :

1. Ventilate area of leak or spill.
2. Remove all sources of ignition.

##### Methods for Cleaning up :

1. Avoid contact with spills.
2. Prevent from entering sewers or confined space.
3. If safe to do so, stop or reduce spills.
4. Absorb or dike spill with sand or other inert, stable, and non-flammable materials.
5. Small spills: absorb spill with inert materials. Seal in suitable containers for disposal. Small amounts of residue may be flushed with plenty of water.
6. Large spills: contact the fire department, emergency management agency, or the suppliers immediately.

#### Section 7 - Handling and Storage

##### Handling :

1. Ensure all employees receive appropriate training of handling the hazardous materials.
2. Keep away from heat or any source of ignition.
3. Keep away from any incompatibles.
4. Prohibit smoking in work and storage area.
5. Ground and bond containers when transferring.
6. Use spark-free tools and explosion proof equipment.
7. Avoid producing vapor and mist, operating in spark-proof and well-ventilated area only.
8. Handling amount of usage should be kept to a minimum.
9. Separate the working area and storage place.
10. Wear proper breathing apparatus/protective gloves/face protection
11. Avoid contact with contaminated equipment.
12. Keep away from any incompatibles (such as oxidizing agents).
13. An eyewash and/or emergency shower should be available in work area.

##### Storage :

1. Unblock the exit routes.



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2. Consider install equipment to prevent fire and spilling.
3. Keep a fire extinguisher and cleaning equipment nearby.
4. Do not spill out during operation.
5. Label the container, and keep the container closed while not use.
6. Store in a cool, dry, well-ventilated area, away from sunshine, heat sources, and incompatible substances.
7. Ensure the storage in an isolated fireproof building.
8. The flooring should be impermeable to the product.
9. Make a threshold at the door and build a sloe or a groove in front of the door to enable the fluid leakage to be emitted to a safe place.
10. Clearly labeled in the entrance of the storage place, no obstacle. Only allowed trained personnel access.
11. Separate the working area and storage place. Away from the elevator and main entrance of the building/room.
12. Keep MSDS, a fire extinguisher and cleaning equipment nearby.
13. All equipment should be regularly checked and maintained.
14. All containers should be regularly checked and maintained for the label and damage.
15. Control the storage in a limited amount.
16. The barrels that store the flammable liquids should install the pressure reducing valve and vacuum relief valve.
17. Store in the suggested temperature. If necessary, install temperature alarm.
18. Avoid the indoor storage in large amount. Ensure the storage in an isolated fireproof building.
19. Stay away from acidic compounds.

## Section 8 - Exposure Controls & Personal Protection

Engineering measures :

1. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
2. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Control parameters			
TWA	STEL	Ceiling	Biological standards
3ppm (MEA)	6ppm (MEA)	--	--

Personal protective equipment :

- Respiratory Protection : Use an approved positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.
- Eye Protection : Wear chemical safety goggles/mask.
- Skin and Body Protection : Wear chemical impervious gloves, and appropriate gears.

Hygiene measures :

1. Remove contaminated clothes, clean thoroughly before reuse or disposal. Must advise the danger to the laundry worker.
2. Smoking, eating, and drinking are prohibited in work area.
3. Wash hand thoroughly after handling this substance.
4. Maintain a clean work environment.

## Section 9 - Physical & Chemical Properties

Appearance : liquid	Odor : ammonia odor
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Color : colorless or light yellow	Melting Point: 3°C ~10.5°C (MEA) 18.5°C (DMSO)
pH value : 12.36	Boiling point/boiling range : --
Flammability: --	Flash point : 85°C (MEA) 87°C (DMSO)
Decomposition temp : --	Test method : close
Auto ignition temp : 410°C (MEA) 300°C ~302°C (DMSO)	Explosion properties : 5~17% (MEA) 1.8~63% (DMSO)
Vapor pressure : 4mmHg (MEA) 0.6hpa (20°C) (DMSO)	Vapor density : 2.1 (MEA) 2.7 (DMSO)
Density : 018 (MEA) 1.10/g cm <sup>3</sup> (20°C) (DMSO)	Solubility : soluble in water
log Kow : --	Evaporation Rate : --

## Section 10 - Stability & Reactivity Data

Stability : stable under normal conditions
Possible hazardous reactions under specific conditions : <ol style="list-style-type: none"><li>1. Strong acid, hydrochloric acid, acid anhydride: violent reaction or explosive reaction</li><li>2. Strong Oxidizers: violent reaction</li><li>3. Monomers (epoxide, vinyl chloride, vinyl acetate): violent reaction</li><li>4. Strong deoxidizer (Hydrazine) : violent reaction</li><li>5. Nitrocellulose: may cause spontaneous combustion</li></ol>
Conditions to avoid : air, sunlight, temperature over 85°C
Materials to avoid : strong acid, hydrochloric acid, acid anhydride, strong oxidizer, monomers, strong deoxidizer, nitrocellulose
Hazardous decomposition products : --

## Section 11 - Toxicological Information

Route of exposure : inhalation, skin, ingestion, eye
Symptoms : burn, coughing, asthma, laryngitis, tachypnoea, headaches, vomiting, measles, pain
Immediate Toxicity : <ul style="list-style-type: none"><li>■ Skin : serious irritation, pain, burn, redness, blister</li><li>■ Inhalation :<ol style="list-style-type: none"><li>i. Expose to high concentration may cause moderate irritation to nose and respiration system.</li><li>ii. Symptoms may include burn, coughing, asthma, laryngitis, tachypnoea, headaches, nausea, vomiting, and chest pain.</li><li>iii. Expose to higher concentration, may injure severely lungs (chemical pneumonia, or pulmonary edema), or even injure liver and kidneys.</li></ol></li><li>■ Eye :<ol style="list-style-type: none"><li>i. May cause serious irritation, eye redness</li><li>ii. The dilute solution can cause serious damage to cornea</li></ol></li></ul>



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- iii. If more serious, may cause sight losing or visual disturbance
  - Ingestion :
    - i. May cause serious irritation, a burning sensation in the mouth, throat, digestive tract, stomach.
    - ii. May cause pain in stomach and chest, nausea, vomiting, diarrhea, dizziness, thirsty, lethargy, and exhaustion.
    - iii. May cause shock, low blood pressure, slow pulse, cyanosis (bluish discoloration of the skin), or even loss of consciousness.
      - LD<sub>50</sub>:
        - i. MEA: 1720mg/kg (RAT, ORAL)
        - ii. DMSO: 14500 mg/m<sup>3</sup> (RAT, ORAL)
        - iii. DMSO: 40000 mg/kg (RAT, SKIN)
      - LC<sub>50</sub>: --

#### Specific effects :

1. Repeated or prolonged skin contact may cause chronic dermatitis.
2. If overtime inhaled, may cause asthma, bronchitis and upper respiratory tract infection.

#### Section 12 - Ecological Information

##### Ecotoxicology :

- LC<sub>50</sub>(fish) : 170mg/l/96H (MEA)
- EC<sub>50</sub>(Aquatic Invertebrates) : --
- Bioconcentration factor (BCF) : --

##### Persistence and degradability :

- Half-Life (Air) : --
- Half-Life (Water surface) : --
- Half-Life (Groundwater) : --
- Half-Life (Soil) : --

Bio-accumulative potential : a number of chemicals produce abnormalities of the liver and kidneys.

Mobility in soil : --

Other adverse effects : --

#### Section 13 - Disposal Considerations

##### Methods of disposal :

Dispose of as special waste in compliance with local and national environmental laws and regulations.

#### Section 14 - MSDS Transport Information

UN classification number : 2491 (MEA)

Proper D.O.T Shipping Name : --

Hazard Class : 8(MEA)

Packing Group : III(MEA)

Marine pollution : --

Specific precautionary transport measures and conditions : Stay away from fire sources.



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## Section 15 - Regulatory Information

Regulations :
1. Labor Safety and Health Facilities Regulations
2. Toxic Chemical Substances Labeling and Safety Date Regulations
3. Permissible Exposure Limits of Hazardous Substances in the Work Environment
4. Road Traffic Safety Regulations
5. Industrial Waste Storage and Disposal Regulations

## Section 16 - Other Information

Literature references	1. MSDS from manufactures or suppliers 2. CHEMINFO Data Bank, CCINFO CD, 2005-3 3. RTECS Data Bank, TOMES PLUS CD, Vol. 65, 2005 4. HSDB Data Bank, TOMES PLUS CD, Vol. 65, 2005 5. ChemWatch Data Bank, 2005-1		
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