

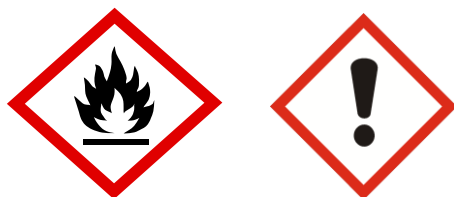
# SAFETY DATA SHEET

## SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: AI-THINNER  
TRADE NAME: AI-THINNER  
MANUFACTURER/SUPPLIER: TONG HSIEH CHEMICAL INDUSTRIAL CO., LTD.  
COMPANY/PLANT: NO. 346, HO-HSING ROAD, CHUNAN IND. PARK,  
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## SECTION 2. HAZARDS IDENTIFICATION

GHS-Pictogram



Signal Word : Danger

Hazard Categories / Classes :

flammable liquids :	Category 4
Acute toxicity (Oral) :	Category 4
Skin corrosion/Irritation :	Category 3
Serious eye damage / eye irritation :	Category 2
Aspiration hazard :	Category 4

Hazard Statements :

- Flammable liquid and vapor.
- Harmful if swallowed.
- Cause skin irritation.
- Cause severe eye injury.

Precautionary statements :

- Store container in a well-ventilated place.
- Light cigarettes or any other ignition sources should not be allowed around storage area.
- Store away from strong oxidizers and strong acids.
- Avoid contact with eyes.
- Wear protective clothing / protective gloves / safety glasses / face protective gears.

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## SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

### Hazards Composition

Components	Chemical formula	CAS NO.	Concentration % (w/w)
N-METHYL-2-PYRROLIDONE	C <sub>5</sub> N <sub>9</sub> NO	0872-50-4	70
Xylene (mixture)	C <sub>8</sub> H <sub>10</sub>	1330-20-7	30

## SECTION 4. FIRST AID MEASURES

- General information : Instantly remove any clothing soiled by the product in case of irregular breathing or respiratory arrest provide artificial respiration.
- After inhalation : Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice.  
Symptoms of pulmonary edema can be delayed up to 48 hours after exposure.  
Obtain medical attention.
- After skin contact : Avoid direct contact. Wear chemical protective clothing, if necessary. Flush contaminated area with lukewarm, gently flowing water for at least 20-30 minutes.  
If irritation persists, repeat flushing and get medical attention.
- After eye contact : Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 20-30 minutes.  
If irritation persists, repeat flushing.  
Quickly transport victim to an emergency care facility.
- After swallowing : Never give anything by mouth if victim is rapidly losing consciousness. Have victim rinse mouth thoroughly with water.  
Do not induce vomiting.  
Have victim drink 240 to 300 ml of water to dilute material in stomach.  
Obtain medical attention immediately.
- First aid comments : Provide general supportive measures (comfort, warmth, rest).  
Consult a doctor for all exposures except minor instances of inhalation or skin contact.

## SECTION 5. FIRE FIGHTING MEASURES

- Extinguishing media : Carbon dioxide, dry chemical powder, foam, water spray or fog.  
Solid streams of water may be ineffective and spread material.

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Fire fighting instructions :	<p>Evacuate area and fight fire from a safe distance or protected location. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.</p> <p>If possible, isolate materials not yet involved in the fire, and move containers from the fire area if this can be done without risk. Otherwise, fire-exposed containers should be cooled by application of hose streams. Take care not to get water inside container. Cooling should continue until well after the fire is out. If this is not possible, use unmanned monitor nozzles and immediately evacuate the area.</p>
Protection of fire fighters :	<p>Cresol is corrosive to skin. Do not enter without wearing specialized equipment. Firefighter's normal protective clothing (Bunker Gear) will not provide adequate protection, chemical protective clothing (e.g. chemical splash suit) and positive pressure self-contained breathing apparatus may be necessary.</p>

## SECTION 6. ACCIDENTAL RELEASE MEASURES

Spill precautions :	<p>Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Wear adequate personal protective equipment. Extinguish or remove all ignition sources.</p>
Clean-up :	<p>Stop or reduce leak if safe to do so. Contain spill with earth, sand or absorbent material which does not react with spilled material. Prevent spilled material from entering waterways, sewers or confined space.</p>
Small spills :	<p>Soak up spill with absorbent material which does not react with spilled chemical. Put material in suitable, covered, labelled containers. Flush area with water.</p> <p>Contaminated absorbent material may pose the same hazards as the spilled product.</p>
Large spills :	<p>Contact fire and emergency services and supplier for advice.</p>

## SECTION 7. HANDLING AND STORAGE

Handling :	<ol style="list-style-type: none"><li>1. Inspect all incoming containers to make sure they are properly labelled and not damaged.</li><li>2. Before handling, it is important that engineering controls are operating and that protective equipment requirements are being followed.</li><li>3. Keep away from heat. Post NO SMOKING signs.</li><li>4. Electrically ground all drums, transfer vessels, hose and piping.</li><li>5. Unprotected persons should avoid all contact with this product including contaminated equipment. Avoid generating vapors or mists.</li><li>6. Practice good housekeeping. Maintain handling equipment. Comply with applicable regulations.</li></ol>
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- Storage :
1. Keep containers closed when not in use.
  2. Store in a cool, well-ventilated area out of direct sunlight and away from heat and ignitions sources.
  3. Store away from oxidizers and corrosives and other incompatible materials.
  4. Keep storage areas clear of any ignition source.
  5. Keep quantities stored as small as possible.
  6. Consider leak detection and alarm equipment for storage area.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls : Use local exhaust ventilation to control airborne mist and vapor (if heated). Supply sufficient replacement air to make up for air removed by exhaust systems. It is good practice to use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical system in area of use.

Personal protective equipment : If engineering controls and work practices are not effective in controlling exposure to this product, then wear suitable personal protective equipment. Have appropriate equipment available for use in emergencies such as spills or fire.

Eye / Face protection: Chemical safety gozzles.

Skin protection : Chemical protective gloves, coveralls, boots, and / or other chemical protective clothing to prevent all skin contact.

Permissible exposure limits (PELs)

Time-weighted Average (PEL-TWA)

N-METHYL-2-PYRROLIDONE : 250 ppm , Xylene : 100ppm (435mg/m<sup>3</sup>)

Personal hygiene : Do not eat, drink and smoke in work areas. Wash hands thoroughly after handling this material. Maintain good housekeeping.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light brown viscous liquid
Flash point:	45-55 °C
Flammability:	Flammable
UEL:	1.3 % ( v/v )
LEL:	9.5 % ( v/v )
Auto ignition temperature:	>270 °C
PH:	ca. 6-8
Vapor Pressure:	--
Vapor Density:	ca. 3.4~3.7 (Air=1)
Boiling Point:	ca. >135 °C
Melting Point:	--
Solubility in Water:	ca. 5 % (w/w) at 100 °C
Specific Gravity:	ca. 1.03-1.10 at 20 °C (Water=1)
Evaporation Rate	Xylene, Approximate 0.7 (n-butyl acetate=1)

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## SECTION 10. STABILITY AND REACTIVITY

Stability : Stable.

Conditions to Avoid : Heat, sparks, open flames, static discharge, other ignition sources.

Materials to Avoid : Strong acid and strong oxidizing agents.

Hazardous Decomposition Products : None reported.

## SECTION 11. TOXICOLOGICAL INFORMATION

### N-METHYL-2-PYRROLIDONE :

LD<sub>50</sub> (oral, rat) : 4200 mg / kg

LC<sub>50</sub> (trout) : 3048 mg / L

Eye irritation : Extreme irritation has been observed in rabbits.

Skin irritation : Corrosive injury has been observed in rabbits.

Skin sensitization : The available information does not suggest that cresols are skin sensitizers.

Carcinogenicity : No cancer studies have been conducted.

### Xylene :

LC<sub>50</sub> ( rat ) : 6350 ppm (4hrs exposure) (unspecified isomers and ethylbenzene)

LD<sub>50</sub> (oral, female mouse) : 5251 mg / kg

LD<sub>50</sub> (dermal, rabbit) : 12180 mg / kg (m- xylene)

Eye irritation : Xylene is a very mild eye irritant.

Skin irritation : Xylene is a moderate skin irritant.

Carcinogenicity : The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence for carcinogenicity in animals.

Fetotoxicity : Mixed xylenes are considered fetotoxic.

Effects of long-term (chronic) exposure : In general, animal studies have provided little evidence of damage to the liver, kidney or lungs. Some studies have shown reversible blood effects at concentrations above 1000 ppm, However, xylene has not shown to cause benzene-like cancer of the blood.

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## SECTION 12. ECOLOGICAL INFORMATION

### Biodegradability

The biodegradability of most content of cresol and xylene are good. Xylene has been verified to show excellent biodegradability by MITT's examination of existing chemical substances.

### Fish toxicity

TLm of N-METHYL-2-PYRROLIDONE for various fish (24, 96 hrs) 832~1072 mg/L

TLm of Xylene for various fish (24, 96 hrs) 10~40 mg/L

LC <sub>50</sub> of Xylene	13.0 mg/L 24 hrs	(Goldfish)
	13.5 mg/L 96 hrs	(Rainbow trout)

### Others

Octanol/Water partition coefficient

Log Kow 2.8~3.2 for Xylene

## SECTION 13. DISPOSAL CONSIDERATIONS

Review national and local government requirements prior to disposal, store material for disposal as indicated in storage conditions. Disposal by controlled incineration or secure landfill may be acceptable.

## SECTION 14. TRANSPORTATION INFORMATION

UN Number : 1992

Shipping name and Description : Varnish, liquid

Label : 3 (Flammable liquids )

Packing Group : III

## SECTION 15. REGULATORY INFORMATION

Applicable regulations :

Recommended guidelines, rules and standards for chemical safety handling, storage, transportation, loading / unloading hazard, classification and labeling, need to refer the regulations below :

Rules of Label and Hazard Communication for Dangerous and Harmful Materials

Airbone Permissible Exposure Concentration of Harmful Materials at the Labor Work Environment

Labor Safety and Health Law

Labor Safety and Health Law Enforcement Rules

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## SECTION 16. OTHER INFORMATION

### References :

- 1).The SDS of Chinese Petroleum Corporation, Taiwan
- 2).The database of SDS of Council of Labor Affairs, Executive Yuan, Taiwan
- 3). K, Verschueren : Handbook of Environmental Data on Organic Chemicals, (Second Edition 1983)
- 4). The Royal Society of Chemistry : Chemical Safety Data Sheets, Vol.1 Solvents 108. Xylene (1989)

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## ADDITIONAL COMMENTS

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