



HANGZHOU HENNYCHEM MATERIAL CO.,LTD

**Professional Global manufacturer and Supplier
Of Heat Transfer oil & Biphenyl Series Derivatives**



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Company Profile

Hangzhou Hennychem Materials Co., LTD.(HHM) is a collection of scientific research, development, production and management in the integration of the provincial high-tech enterprises. HHM headquarters in Hangzhou, Zhejiang Province. Factory is located in Handan, Hebei Province. It covers an area of more than 100000m², the existing staff is more than 150 people, engineering technical personnel reaches 20 people. We have long-term technical exchanges and cooperation with Zhejiang University, Zhejiang University Of Technology, East China University Of Science And Technology, Fudan University and etc . We strictly choose Zhejiang Sanhe Pharmachem Co., Ltd. as a market and technical cooperation partner for pilot production and large-scale production of custom chemicals.

HHM officially acquired dongxiang steel plant in 2006 to put into production of biphenyl and its derivatives. In year 2012 formally put into production of diphenyl oxide and hydrogenated terphenyls. Our products are widely used in chemical industry, pharmaceutical intermediates, heat transfer oil, plastic scintillator, electronic products, etc.



By the end of 2015, our production capacity has been fully upgraded to 10000mt/year biphenyl , 3000MT/year hydrogenated terphenyls, 10000mt/year diphenyl oxide, 10000mt/year DP-DPO heat transfer, 600mt/year Ferrocene, 300mt/year 4,4'-bis(chloromethyl)-1,1'-biphenyl. oil, 50mt/year p-terphenyl, 10mt/year o/m-terphenyl. HHM actively develops to meet the market demand of new products.

Application



HHM configure the advanced experiment, testing facilities. With microcoulometer , Agilent GC, Waters 600 HPLC , Shimadzu SPD-20A HPLC, Domestic GC/HPLC, distilling test instrument, spectrophotometer , melting point apparatus, flash point apparatus ,totally more than 20 units, we also have 2 sets of small experimental unit.

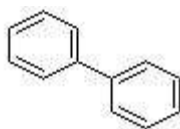
HHM regards " Committed to environmental protection and energy saving, build an all-round, whole life cycle of products and services for clients " as the enterprise gist and "continually innovating, more effort, keep improving" as our production spirit, strengthen quality management, established a perfect quality assurance system during the whole process from raw materials procurement, production testing, store and sales to ensure that provide customers with competitive prices, high-quality products, satisfactory service.

BIPHENYL

Molecular formula: C₁₂H₁₀

Molecular weight: 154.21

Structural formula:



CAS No.: 92-52-4

Purity (by GC) : ≥99.9%

Package: 25kgs/ kraft bag outside and plastic bag inside or 22-23mt / ISO TANK



BIPHENYL Application

1. It can be mixed with diphenyl oxide to make heat transfer oil.
2. Is the raw material of engineering plastic polysulfone.
3. Biphenyl is the intermediates of rodenticide rat in rat and bromine spirit .
4. Used as the standard substance in chromatographic analysis.
5. For other organic synthesis.

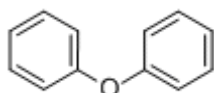
According to	Company standard	Expiration Date	One year
	Item	Technical target	
	Appearance	Light yellow to white crystalline	
	Content	≥99.9%	
	Sulphur content ,ppm	≤10	
	Chloride ion content,ppm	≤10	
	Melting point	68-71°C	
	Moisture	≤0.03%	

DIPHENYL OXIDE

Molecular formula: C₁₂H₁₀O

Molecular weight: 170.21

Structural formula:



CAS No.: 101-84-8

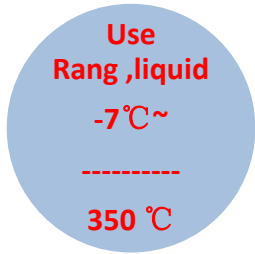
Package: 200kgs/iron drum or 22-23mt/ISO TANK



DIPHENYL OXIDE Application

1. Mainly be mixed with biphenyl to make heat transfer oil.
2. Used in the production of flavoring.
3. Used in the production of decabromodiphenyl oxide.
4. Used in production of synthetic resin and other organic synthesis.

According to	Company standard	Expiration Date	One year
	Item	Technical target	
	Content	≥99.9%	
	Appearance	colorless clear liquid	
	Crystallization point	≥26.5 °C	
	Phenol content ppm	≤0.02	
	chlorine content ,ppm	≤10	
	sulphur content ,ppm	≤10	
	Moisture	≤0.03	



HYDROGENATED TRIPHENYLS(HHM H350)

Molecular formula: C18H22

Molecular weight: 238

CAS No.: 61788-32-7

Package: 200kgs/iron drum or 22-23mt/ISO TANK

HHM H350 HYDROGENATED TRIPHENYLS Application

HHM H350 Heat Transfer Fluid is a composite liquid phase organic heat carrier with special high thermal stability, its main component is modified terphenyl, and can be longterm steadily used within $-7^{\circ}\text{C} \sim 345^{\circ}\text{C}$. It is similar to American Therminol 66, Dowtherm RP, French Gilotherm TH, German Diphyl THT, Japanese Therms-900 heat transfer fluids and may be applied together with them in any proportion. HHM H345 is widely used in the industrial fields including: chemical fiber industry, plastic industry, petroleum industry.

HHM H350 HYDROGENATED TRIPHENYLS has the following important characteristics:

Non-Corrosiveness:

HHM H350 will not cause corrosiveness of iron and other nonferrous metal materials that are applied in general industrial devices.

High Thermal Stability

HHM H350 has quite excellent thermal stability. Low freezing point, reliable operation even under applicable conditions at $-7^{\circ}\text{C} \sim 345^{\circ}\text{C}$ may be guaranteed for years.

High Safety Performance

HHM H350 has low vapor pressure under high temperature, Even if use at 345°C , Vapor pressure was only 75.4 kpa. Has high safety performance, low viscosity and good pump ability.

Anti-coking

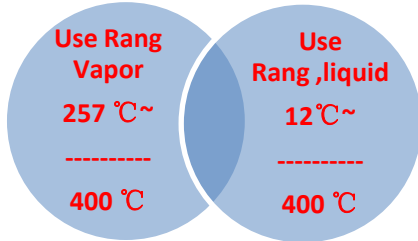
HHM H350 has excellent performance to resist coking and solid particle, and guarantees more reliable operation of HTF systems.

inoxidizability

HHM H350 hydrogenated terphenyls has Oxidation resistance, it is through an expansion slot equipment (pressure defense inside, add nitrogen and liquid seal) for antioxidant, don't need to add antioxidant, and enhances its thermal stability.

依据标准 According to	国家标准 National standard	最高允许使用温度 Permitted maximal used temperature	350°C
项目名称 Item	指标 Technical target	项目名称 Item	指标 Technical target
组分 component	部分氯化三联苯 Hydrogenated terphenyls	馏程 Distillation range	
外观 Appearance	清晰淡黄色液体 Clear light yellow liquid	初沸点/°C Initial boiling point	≥337
闪点 Flash point	≥107°C	残碳/% Carbon residual	≤0.05
自燃点 Spontaneous ignition point	≥340°C	运动粘度 Kinematic viscosity	100°C 3.6-3.8
硫含量 Sulfur content	≤10	热稳定性 Thermal stability (340°C) 100h	透明, 无悬浮物和沉淀 Transparent, without suspended matter and precipitation
氯含量 (mg/Kg) Chlorine content	≤10	外观Appearance 劣化率Deterioration rate/%	≤10

酸值 (以KOH计) (mg/g) Total acidity (KOH)	≤0.05	铜片腐蚀 (100°C, 3h) /级 Copper corrosion	≤1
水分 (mg/kg) Moisture content	≤300	水溶性酸碱 Water-soluble acid-base	No data
密度Density (15°C)g/cm ³	1.012-1.040	倾点/°C Pour point	≤-18
最佳适用范围 Best applicable scope	0°C-345°C	For more information , please E-mail to hennychem@163.com, or contact our salesman. 如需了解更多详情, 请发邮件至hennychem@163.com或联系我们的销售人员。	



DP-DPO Heat Transfer fluid (HMM H400)

CAS No.: 8004-13-5

Package: 200kgs/galvanized iron bucket or 22-23mt/ISO TANK

HMM H400 DP-DPO Heat Transfer Fluid Application

HMM H400 is a synthetic heat transfer fluid designed to meet the demanding requirement of liquid phase system from 12 °C to 400 °C or vapor phase system from 257 °C to 400 °C. HMM H400 is a mixture of 26.5% biphenyl and 73.5% diphenyl ether. It is similar to American Dowtherm A, Therminol VP-1, Japanese Therms-300, French Cilothersm Do, German Diphyl organic heat carriers and may be applied together with them. widely used in solar-thermal power generation, chemical fiber industry, plastic industry .

HMM H400 has the following important characteristics HMM H400:

Excellent Thermal Stability

HMM H400 has the Excellent thermal Stability performance in organic heat transfer fluid. Reliable operation may be provided for years within the temperature range 12 °C ~ 400 °C.

Liquid/Vapor Phase System

HMM H400 can be used not only as a liquid heat transfer fluid , due to its evaporation - condensation properties , it can also be used as vapor heat transfer fluid within the temperature range 257 °C-400 °C.

Low Viscosity

HMM H400 in minimum temperature of 12 °C still has a very low viscosity. But considering that will crystallize under 12 °C, it is necessary to adopt measures to prevent the operation problems caused by crystallization. When is used in a cold climate.

Excellent temperature control

HMM 400 can be used as the gas phase heat conduction oil, can satisfy the requirement of precise temperature control heat conduction oil system.

依据标准 According to		国家标准 National standard		最高允许使用温度 Permitted maximal used temperature	
项目名称 Item	指标 Technical target	项目名称 Item	指标 Technical target	项目名称 Item	指标 Technical target
外观 Appearance	无色液体 Colorless liquid	密度 Density (20 °C)	1062kg/m ²	自燃点 Autoignition point	不低于最高允许使用温度 No less then permitted maximal used temperature
水分 Water	≤300	灰分/% Ash	≤0.002	准临界温度 Pseudocritical temperature	499 °C

酸值 (KOH) /mg/g Acid value	≤0.05	残炭/% Carbon residue	≤0.05	运动粘度/mm ² /s Kinematic viscosity	
Assay Diphenyl Oxide (by GC)	72-75%	平均分子量 Average molecular weight	166	40 °C	2.4-2.6
Assay Diphenyl (by GC)	25-28%	融化热 Heat of fusion	23.25kcal/kg	100 °C	1.012
铜片腐蚀 (100°C , 3h) /级 Copper corrosion	≤1	最高使用温度下汽化热 Heat of vaporization at the maximum use temperature 400 °C	206kJ/kg	结晶范围 Crystallization range	12-13°C
硫离子含量 Sulphur content	≤10 ppm	最佳使用温度 Optimum use range		最大成膜温度 Maximum film temperature	425 °C
氯离子含量 Chlorine content	≤10 ppm	液相 Liquid phase	12-400 °C	闪点 (闭口) Close cup flash point	≥100°C
沸程/°C (气相) Boiling range (Vapor phase)	256.5-258	气相 Vapor phase	257-400 °C	For more information , please E-mail to hennychem@163.com or contact our salesman. 如需了解更多信息, 请发邮件至 hennychem@163.com 或联系我们的销售人员。	

Mono-iso-propylbiphenyl

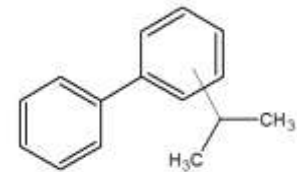
Molecular formula: C₁₅H₁₆

Molecular weight: 196.3

Structural formula:

CAS No.: 25640-78-2

Package: 190kgs/ iron drum or Iso Tank



Mono-iso-propylbiphenyl application

Used as heat transfer oil within temperature rang- 30 °C ~ + 280 °C . Used for electric power capacitor insulating oil, performance reached us Westinghouse standards, can replace the existing higher toxicity of insulating oil;Can be used as ceramic, ink solvent oil;

SPECIFICATIONS

Appearance: Colorless or light yellow liquid

Purity: ≥95%

Moisture(mg/kg) : ≤0.2%

FP.: ≥140°C

Kinematic viscosity (40°C) : 4~5cst

Di-iso-propylbiphenyl

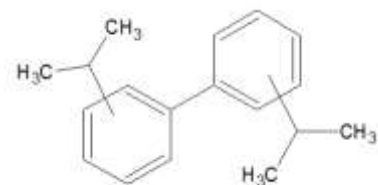
Molecular formula: C₁₈H₂₂

Molecular weight: 238

Structural formula:

CAS No.: 69009-90-1

Package: 190kgs/ iron drum or Iso Tank



Di-iso-propylbiphenyl application

Used as heat transfer oil within temperature rang- 20 °C ~ +330 °C . For no carbon carbon paper the preparation of microcapsule; Used as ceramic glaze, printing ink solvent oil, can replace the high toxicity of diisopropyl naphthalene, hydrogenated terphenyls and diaryl ethane, etc.

SPECIFICATIONS

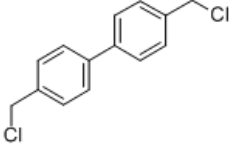

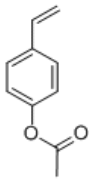
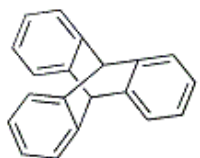
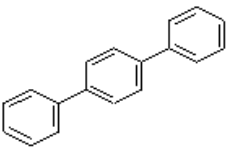
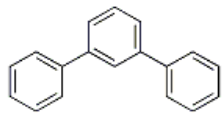
Appearance: Colorless or light yellow liquid

Purity: ≥90%

Moisture (mg/kg) : ≤0.2%

FP.: ≥160°C

Kinematic viscosity (40°C) : 8~12cst

<p style="text-align: center;">4,4'-Bis(chloromethyl)-1,1'-biphenyl</p> <p>Molecular formula: C₁₄H₁₂Cl₂ Molecular weight: 154.21 Structural formula: CAS No.: 1667-10-3 Package: 25kgs/ kraft bag outside and plastic bag inside</p> <div style="text-align: center;">  </div> <p>BCMB Application</p> <p>An important intermediate of fluorescent whitening agent and other synthesis of organic chemicals. SPECIFICATIONS Appearance: off-white crystal powder Purity: ≥98% Mono-chloromethyl biphenyl: ≤1% Loss on drying: ≤0.5%</p>	<p style="text-align: center;">Ferrocene</p> <p>Molecular formula: C₁₀H₁₀Fe Molecular weight: 251.15 Structural formula: CAS No.: 102-54-5 Package: 25kgs/ kraft bag outside and plastic bag inside</p> <div style="text-align: center;">  </div> <p>Ferrocene Application</p> <p>Used as a fuel additive, gasoline antiknock, polymerization catalyst, antimicrobial agent. SPECIFICATIONS Appearance: orange crystalline solid with a camphor-like odor. Purity: ≥99% MP. / °C(lit.): 172-174 Solubility: Soluble in most organic solvents, such as benzene, but Insoluble in water.</p>
<p style="text-align: center;">4-Ethenylphenol Acetate (PAS)</p> <p>Molecular formula: C₁₀H₁₀O₂ Molecular weight: 162.19 Structural formula: CAS No.: 2628-16-2 Package: 200kgs/drum</p> <div style="text-align: center;">  </div> <p>PAS Application</p> <p>Used in the synthesis of poly styrene hydroxyl, is the main element of the photoresist. SPECIFICATIONS Appearance: Colorless Liquid Purity: ≥98% Moisture (mg/kg) : ≤0.2% Metal ions content: ≤200ppb Polymerization inhibitor (TBC) : 200-300ppm</p>	<p style="text-align: center;">Triptycene</p> <p>Molecular formula: C₂₀H₁₄ Molecular weight: 254.33 Structural formula: CAS No.: 477-75-8 Package: 25kgs/ fiber drum outside and plastic bag inside</p> <div style="text-align: center;">  </div> <p>Triptycene Application</p> <p>An important intermediated of organic synthesis . SPECIFICATIONS Appearance: off-white crystal powder Purity: ≥99.0% MP.: 252-254 °C</p>
<p style="text-align: center;">P-terphenyl (PTP)</p> <p>Molecular formula: C₁₈H₁₄ Molecular weight: 230.3 Structural formula: CAS No.: 92-94-4 Package: 25kgs/ fiber drum outside and plastic bag inside</p> <div style="text-align: center;">  </div> <p>PTP Application</p> <p>An important intermediated of plastic scintillator and other organic synthesis . SPECIFICATIONS Appearance: white crystal powder Purity: ≥99.9% MP.: 210-214°C</p>	<p style="text-align: center;">M-terphenyl (MTP)</p> <p>Molecular formula: C₁₈H₁₄ Molecular weight: 230.3 Structural formula: CAS No.: 92-06-8 Package: 25kgs/ fiber drum outside and plastic bag inside</p> <div style="text-align: center;">  </div> <p>MTP Application</p> <p>An important intermediated of organic synthesis . SPECIFICATIONS Appearance: white crystal powder Purity: ≥99.9% MP.: 84-88 °C</p>

<p>O-terphenyl (OTP)</p> <p>Molecular formula: C₁₈H₁₄</p> <p>Molecular weight: 230.3</p> <p>Structural formula:</p> <p>CAS No.: 84-15-1</p> <p>Package: 25kgs/ fiber drum outside and plastic bag inside</p> <p>OTP Application</p> <p>An important intermediated of organic synthesis .</p> <p>SPECIFICATIONS</p> <p>Appearance: white crystal powder</p> <p>Purity: ≥99.9% MP.: 56-59°C</p>	<p>1,3,5-Triazine-2,4,6-(1H,3H,5H)-trithione trisodium salt (TMT-Na₃)</p> <p>Molecular formula: C₃N₃S₃Na₃</p> <p>Molecular weight: 243.22</p> <p>Structural formula:</p> <p>CAS No.: 17766-26-6</p> <p>Package: 25kgs or 50kg/ plastic drum</p> <p>TMT-Na3 Application</p> <p>Widely used in various wastewater monovalent and bivalent metal precipitation, especially suitable for dealing with Hg, Cu, Cd, Ag, Pb, Ni, Sn, zinc, Mn, Cr.</p> <p>SPECIFICATIONS</p> <p>Appearance: White to light yellow crystalline powder</p> <p>Purity: ≥50%</p>
<p>3'-Amino-4'-methoxyacetanilide</p> <p>Molecular formula: C₉H₁₂N₂O₂</p> <p>Molecular weight: 180.2</p> <p>Structural formula:</p> <p>CAS No.: 6375-47-9</p> <p>Package: 25kgs/ kraft bag outside and plastic bag inside</p> <p>3'-Amino-4'-methoxyacetanilide Application</p> <p>Mainly used as disperse dye intermediates.</p> <p>SPECIFICATIONS</p> <p>Appearance: white crystal powder</p> <p>Purity: ≥97% Amino content: ≥70%</p>	<p>Decahydronaphthalene</p> <p>Molecular formula: C₁₀H₁₈</p> <p>Molecular weight: 138.25</p> <p>Structural formula:</p> <p>CAS No.: 91-17-8</p> <p>Package: 200kgs/drum</p> <p>Decahydronaphthalene Application</p> <p>Can be used as a paint solvent , extract fats and waxes, manufacture of shoe polish, floor wax instead of turpentine ,can also mixed with benzene and ethanol for fuel of internal combustion engine.</p> <p>SPECIFICATIONS</p> <p>Appearance: Colorless Liquid</p> <p>Purity: ≥98%</p>
<p>Methyldiethoxyphosphine</p> <p>Molecular formula: C₅H₁₃O₂P</p> <p>Molecular weight: 136.13</p> <p>Structural formula:</p> <p>CAS No.: 15715-41-0</p> <p>Package: 200kgs/drum</p> <p>Methyldiethoxyphosphine Application</p> <p>Intermediates of broad-spectrum herbicide grass ammonium phosphine</p> <p>SPECIFICATIONS</p> <p>Appearance: Colorless Liquid</p> <p>Purity: ≥95%</p>	<p>(S,S)-2,8-Diazabicyclo[4,3,0]nonane</p> <p>Molecular formula: C₇H₁₄N₂</p> <p>Molecular weight: 126.16</p> <p>Structural formula:</p> <p>CAS No.: 151213-42-2</p> <p>Package: 200kgs/drum</p> <p>(S,S)-2,8-Diazabicyclo[4,3,0]nonane Application</p> <p>Used as pharmaceutical intermediates</p> <p>SPECIFICATIONS</p> <p>Appearance: Colorless to brown viscous liquid</p> <p>Purity: ≥99%</p>