



河北康壮环保科技股份有限公司

Hebei Kangzhuang Environmental Protection Technology Co., Ltd

1,3-Dimethyl-3,4,5,6-Tetrahydro-2-Pyrimidinone

I、DMPU

Appearance: colorless or slightly yellow clear liquid

Flash point: 121°C

Molecular formula: $C_6H_{12}N_2O$

Molecular weight: 128.18

Melting point: -20°C

Boiling point: 246°C

Vapor pressure mmHg: 75(50°C)

Density: 1.06/cm³

Purity: ≥ 98%、99%

Moisture: ≥ 0.1%

II、Chemical character of DMPU

Because the carbonyl in its structure is with strongly absorb-electron effect, so it is a kind of non-proton polarity solvent with high boiling point, high flash point and low melting point, use conveniently for many processing operation such as filtration, distillation, solvent extraction, and so on; it is with very low toxicity, so the harm to human body is inappreciable, and reduce the environment pollution; due to its very strong dissolvability, it can dissolve organic matter, inorganic matter, resin, polymer, etc., and activate all kinds of reagent, mix to dissolve the other high boiling point solvents; it is with very good stability, it is stable under the hot strong alkali and acidity condition, it is with water resistance and light, oxygen stability. Therefore DMPU used for organic chemistry reaction can promote the dissolution of reactants, quicken the reaction speed, increase the efficiency of reaction, and substitute the bigger toxicity solvents.

III、Application

DMPU used for producing the medicament preparation: the cuticle of organism is a physiological barrier, which prevent out-body matter from entering, so the preparation for external use need to add the solvent that can promote the skin absorption. The solvent should be accorded with the requirement as below: active medicament can reach the harmed place quickly and credibly; no skin irritation, no toxicity; keep the stability for long term. DMPU can resolve many kinds of medicament, it is nearly no toxicity to human body, can meet above requirement, so it is used as medicament dressing. The medicament made by mixing DMPU, other dressings and medicament can promote the dissolution and mixture of medicament, boost up the stability and pass skin absorption of medicament, and prolong the effect time of medicament.

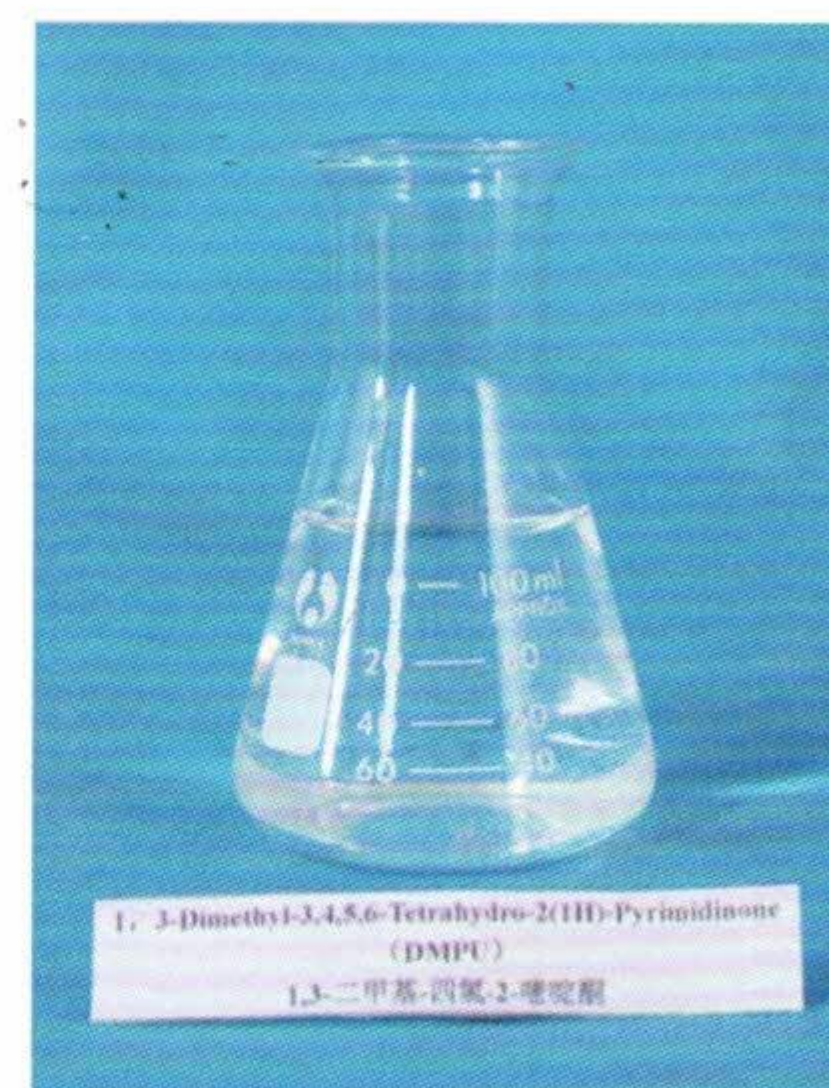
IV、advanced use

1. Proved by practice, using integrated performance of DMPU is greatly increased in fine chemical industry field, for producing antibiotic, DMPU with high dielectric constant and high boiling point is more suitable for synthesizing production, using DMPU is not only with lower toxicity, but also can obviously increase the rate of finished product and reduce the production cost.

2. Used in industry production, DMPU can substitute caused-cancer Hexamethylphosphoramide (HMPA), that will be very good to protect environment.

V、The enterprises of using DMPU

All kinds of chemical industry manufacture drug factory (such as antibiotic manufacture factory), traditional chinese medicine factory, pesticide factory, macromolecule material factory (plastic factory, dope factory), manufacture film factory, top grade manufacture leather factory, top grade sponge factory, cell factory, printing ink factory, writing ink factory, electron circuit clean lotion manufacture factory and other fine chemical industry factory.



Your sincere chemical product supplier

Address: Lingang economic and technical development zone, Cangzhou City, Hebei Province

Tel: 86-317-2181189 2052098 4951698

Fax: 86-317-2052628

<http://www.czhg.com.cn> E-mail: sales@czhg.com.cn

QQ: 1210456999 1041660629



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1,3-二甲基-3,4,5,6-四氢-2-嘧啶酮

别名：1,3-二甲基丙撑脲 N,N-二甲基丙烯基脲

外观：无色或浅黄色透明液体

闪点：121℃

分子式： $C_6H_{12}N_2O$

CAS:7226-23-5

分子量：128.18

熔点：-20℃

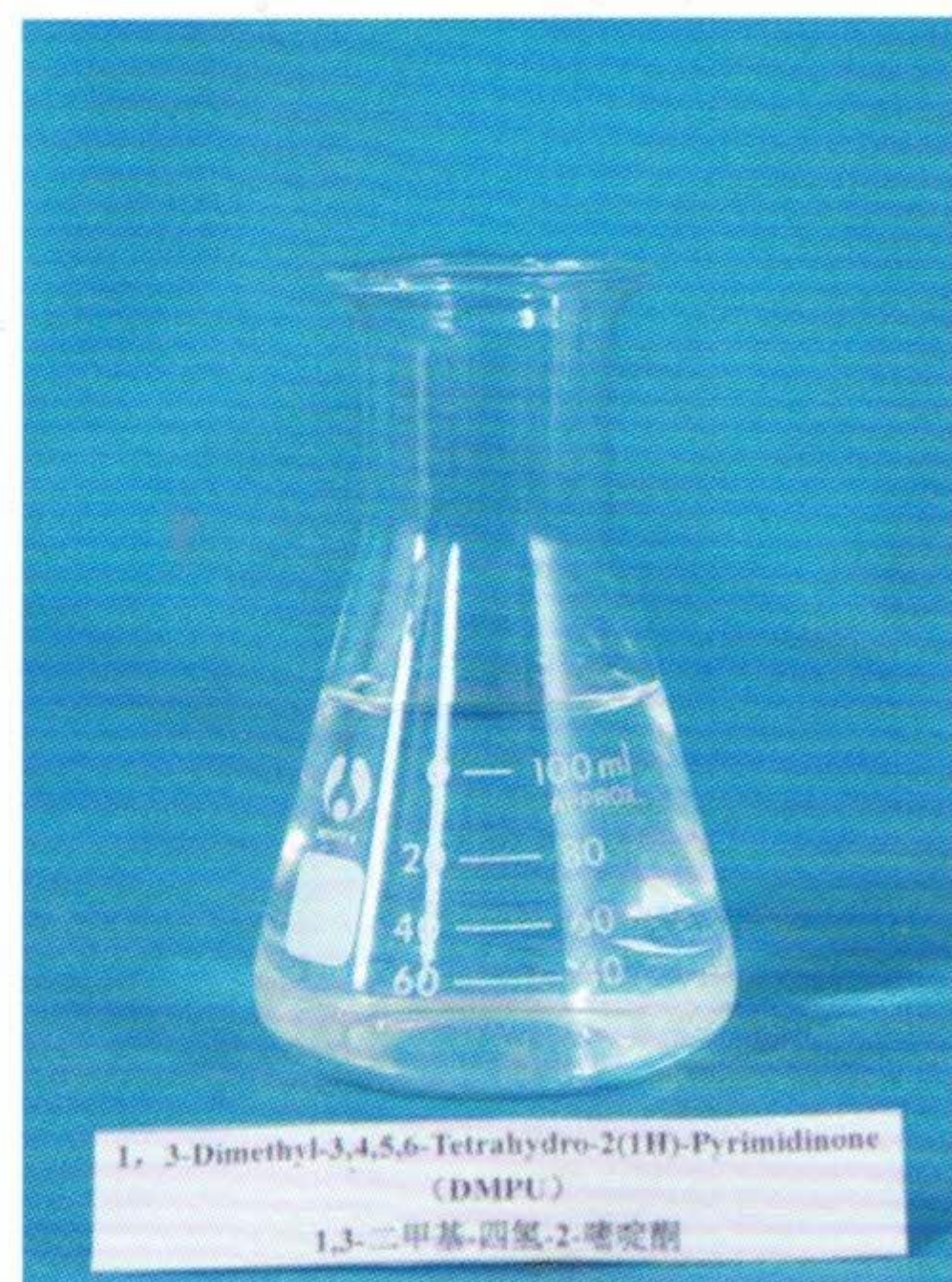
沸点：246℃

气压 mmHg：7.5 (50℃)

密度：1.06g/cm³

含量：≥ 98%、99%

水分：≤ 0.1%



二、DMPU 的化学性质

其结构中由于羰基具有强烈的吸电子效应，因而它是一种非质子的极性溶剂，具有高沸点、高闪点、低熔点，在过滤、蒸馏、溶剂萃取等工艺操作中使用方便；毒性极低，对人体危害微不足道，也减少了对环境的污染；由于它具有极强的溶解性，能溶解有机物、无机物、树脂、聚合物等，并对各种试剂具有活化性质，还能与其它高沸点溶剂混溶；具有极好的稳定性，在热的强碱和酸性条件下都很稳定，还具有耐水性及对光、氧的稳定性。因此 DMPU 应用到有机化学反应中能促进反应物溶解，加快反应速度，提高反应收率，还能替代毒性较大的溶剂。

三、应用：DMPU 在药物制剂中的应用：生物体的表皮是一道生理屏障，它阻止体外物质的进入，因此外用制剂中需要加入能促进皮肤吸收的溶剂。这种溶剂应符合以下需求：活性药物基团能快速可靠地到达损伤的部位；不刺激皮肤，无毒；长时间保存稳定。DMPU 能够溶解多种药物，对人体几乎没有毒性，具备以上要求，因此它能作为药物辅料使用。以 DMPU 和其它辅料及药物配成药剂能促进药物的溶解与混合，增强该药的稳定性和透皮吸收能力，延长药物的作用时间。

四、使用先进性：1、实践证明，DMPU 在精细化工生产中，使用综合性能大大提高，在抗生素生产等方面，由于 DMPU 高介电常数和高沸点，更适合合成生产，使用 DMPU 不仅毒性更低，更能较大幅度提高成品收率，降低生产成本。

2、可在工业生产中，代替有致癌性的六甲基磷酰三胺（HMPA），并有很好的绿色环保效益。

五、产品适合企业：各类化工制药厂（如抗生素生产企业）、中药厂、农药厂；高分子材料厂（塑料厂、涂料厂）制膜生产厂、高档制革厂、高档海绵生产厂、电池厂、油墨厂、墨水厂、电子电路清洗剂制造；其他有关精细化工厂。

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