



南亞塑膠工業股份有限公司 NAN YA PLASTICS CORPORATION

四氫呋喃 THF (Tetrahydrofuran)

說明 Description


四氫呋喃(THF)為一澄淨、無色、低黏度，近似醚類氣味之液體。THF 有高揮發性和極低之凝固點。溫度20℃時可完全溶於水，在工業應用上可作許多不同用途之溶劑。

THF is a water-clear, colorless, easily burned liquid which smells like ether. THF owns high volatility and extreme low freezing point. It is readily soluble in water at 20℃, it is used in lots of different functional solvent applications in industry.

規格 Specifications

項目 Properties	單位 Unit	規格 Specification	分析方法 Analysis Method
外觀 Appearance	-	透明、清澈液體 Clear, Transparent Liquid	目視檢查 Visual Inspection
純度 Purity	wt %	≥ 99.8	氣相層析儀(GC)
色澤 Color	APHA	≤ 10	JIS K 0071-1993
水份 Moisture	wt %	≤ 0.02	JIS K 0068-1992
過氧化物 Peroxide	ppm	≤ 50	(iodimetry)
安定劑 Stabilizer (BHT)	ppm	200 ~ 300	氣相層析儀(GC)

物性 Physical Properties

化學文摘社登記號碼	CAS No.	109 – 99 – 9
構造式	Structure formula	CH ₂ CH ₂ CH ₂ CH ₂ O 
同義字	Synonyms	Furanidine、Hydrofuran、Butylene Oxide
物理狀態		Water-white liquid with ethereal odor.
無色液體，具醚味		
分子量	Molecular Weight	72
比重	Specific Gravity	0.887 (liq.) @ 20℃
熔點	Melting Point	-108.5℃
沸點	Boiling Point	65℃
水溶解度	Solubility in Water	≥ 100 mg/mL @20℃
蒸氣壓	Vapor Pressure	131.5 mmHg @ 20℃
蒸氣密度	Vapor Density	2.49 (Air=1)
閃火點	Flash Point	-21~-17℃
其它物理性質	Other Physical Properties	
折射率	Refractive Index	1.407 @ 20℃
氣味	Odor	近似醚類氣味 Ether odor

用途 Usage

反應THF 可作為天然及合成樹脂之溶劑，其特殊的乙烯基可用於表面塗佈溶液、聚合物塗佈、玻璃紙、保護塗佈、黏附劑、磁帶、列印墨水等。

THF 為將丁二醇脫水即可得到，在工業上它是許多物質的重要溶劑，如PVC、聚乙烯基醋酸酯、聚酯、聚丙烯酸、天然與合成的樹脂。

它亦用於塗料、列印墨水、琥珀酸(丁二酸)、己二酸、明膠。THF 與氫反應形成吡咯烷(C₄H₉N)。THF 也是一種工業上 BD 合成的中間物。

Solvent for natural and synthetic resins, particularly vinyls, in topcoating solutions, polymercoating, cellophane, protective coatings, adhesives, magnetic tapes, printing inks, etc.

THF is acid-catalyzed dehydration of 1,4-BG, it is an important industrial solvent for many polymeric materials, such as polyvinyl chloride, polyvinyl acetate, polyvinyl ether, polyacrylates, natural and synthetic resins.

It is also used in the manufacture of paints, printing inks, succinic acid, adipic acid and glues. Reaction of THF with ammonia leads to pyrrolidine, and THF is also an intermediate in an industrial synthesis of butadiene.