

Tetrahydrofuran

1. General Information

Formula: C₄H₈O

CAS No.: 109-99-9

Application: THF is cycloaliphatic ether with excellent solvent power for a wide variety of synthetic and natural resins. Also, the ether oxygen atom in the molecule is sterically unhindered, which favors the formation of complex compounds (with various metal and salts) and the formation of cation solutions. THF is used in its own right as a solvent, and chemically as a precursor of an oligomeric polyether, polytetramethylene ether glycol (PTMEG), which is used also for Spandex fiber. The solvent applications for THF fall into resin and reaction solvents.

Uses: Resin Solvents, Reaction Solvents, Polytetramethylene ether glycol (PTMEG)

2. Specification

Item	Unit	Specification	Test Method
Appearance	-	Water-White Liquid	Visual
Purity	wt%	Min. 99.9	by GC
Color	APHA	Max. 10	ASTM D 1209
Water	wt ppm	Max. 100	ASTM D 1364
Peroxide (as H ₂ O ₂)	wt ppm	Max. 50	By UV/VIS.
Inhibitor (as BHT)	wt ppm	200±50	By UV/VIS.
Specific Gravity(20/4°C)	-	0.886~0.889	ASTM D 1298

3. Physical Properties

Item	Properties
Molecular Weight	72.10 g/mol
Boiling Point	66°C
Flash Point	-14.4°C
Viscosity (25°C)	0.49 cP
Refractive Index	1.4070

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4. Storage and Handling

THF can be made to peroxide in case of contact with air. Therefore, it is recommended that THF should be stored in completely enclosed tanks or containers under a dry nitrogen blanket. Korea PTG's THF contains Butylated hydroxytoluene (BHT) as oxidation inhibitor.

THF is flammable at room temperature. Therefore, water spray, alcohol foam, dry chemical or CO₂ extinguishers may be used for firefighting.