

|                        |                    |                                 |
|------------------------|--------------------|---------------------------------|
| <b>Chemical Nature</b> | Molecular formula: | C <sub>4</sub> H <sub>8</sub> O |
|                        | CAS Number:        | 109-99-9                        |
|                        | EINECS No.:        | 203-726-8                       |

Tetrahydrofuran (THF) is stabilized with approximately 0.025 weight percent of BHT (3,5-di-tert-butyl-4-hydroxytoluene) to inhibit the formation of explosive-prone peroxides in autoxidation.

Without the stabilizer, peroxide formation could take place on prolonged storage or exposure to air or light.

| <b>Product Specifications</b> | <b>Specifications</b> | <b>Value</b> | <b>Unit</b> | <b>Test method</b> |
|-------------------------------|-----------------------|--------------|-------------|--------------------|
|                               | Assay                 | Min 99.95    | %           | Gas Chromatography |
|                               | Water                 | Max 0.01     | Wt %        | ASTM E1064         |
|                               | Color, APHA           | Max 10       | -           | ASTM D1209         |
|                               | Suspended matter      | none         | -           | Visual             |

| <b>Physical Properties</b> | <b>Properties</b>    | <b>Value</b> | <b>Unit</b>       |
|----------------------------|----------------------|--------------|-------------------|
|                            | Melting Point        | -108.5       | °C                |
|                            | Boiling Point        | 65.5 - 66.5  | °C                |
|                            | Density @ 20 °C      | 0.887        | g/cm <sup>3</sup> |
|                            | Flash Point          | -22          | °C                |
|                            | Ignition Temperature | 230          | °C                |

**Description**

THF is a colorless, volatile cycloaliphatic ether with an odor characteristic of acetone. It is chemically neutral, highly polar and miscible with water. Synthetically derived THF is made by eliminating water from 1,4-butanediol.

THF has excellent solvent power for numerous organic substances. It is miscible with water and all common organic solvents.



**Safety**

THF is highly flammable. May form explosive peroxides.

Irritating to eyes and respiratory system.

Immediately remove contaminated clothing.

If accidentally ingested, DO NOT induce vomiting; contact physician immediately.

THF vapor may cause nausea, dizziness, headache or blackout. Maintain sufficient fresh air flow. Breathing protection required for any exposure.

If accidental eye contact is made, flush for 15 minutes with water and contact an eye specialist.

Contact with skin necessitates thorough flushing with soap water.

Always refer to the Material Safety Data Sheet (MSDS) for detailed information on safety.

**Applications**

As a resin solvent, THF is used in:

- Flexographic inks for plastics
- Coating deposition for audio and video tapes
- PVC and CPVC pipe cements
- Polyurethane coatings
- PVC film casting (food packaging)

As a reaction solvent, THF can be used in:

- Grignard Reagent formation processes
- Pharmaceutical steroids
- Preparation of organometallic reagents

As a reactant precursor for specialty derivatives:

- Pyrrolidine (used in the pharmaceutical industry)
- Polytetrahydrofuran (used in the plastic industry)

**Packaging**

Available in 180kg non-returnable steel drums, 20,000 kg isotank and bulk by sea freight at minimum 300 mt.

**Storage & Handling**

THF has shelf life of 12 months in an unopened, original containers stored in a dry cool place. THF should be stored under dry nitrogen at a pressure of 30 mbar in order to avoid contact with air and the formation of peroxides or absorption of moisture.

THF is a highly flammable material and has been designated as a class flammable liquid by NFPA. Therefore, THF should be prevented from coming into contact with an ignition source. A solution of THF and water is flammable down to a concentration of approximately 0.3%.

Dry chemical is the recommended portable extinguisher for extinguishing small fires. Alcohol based foam is the type recommended as a backup for target fires. CO<sub>2</sub> can be effective when used by a skilled fire fighter.

Always refer to the Material Safety Data Sheet (MSDS) for detailed information on handling and disposal.



**Note**

The information submitted in this publication is based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processor from carrying out own investigations and tests neither do these data imply any guarantee for certain properties nor the suitability of the product for a specific purposes. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed.

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