

Technical Data Sheet

Tetrahydrofuran

Product Information

CAS#: 109-99-9

Molecular Formula: C₄H₈O

Molecular Weight: 72.1

Molecular Structural Formula:



Molecular Weight:	72.1 g/mole
Boiling point, °C:	115°C (239°F)
Melting Point °C:	66
Density @ 20°C, g/cm ³ :	0.88
Flash point, °C:	- 20

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

Specification

Appearance:	Colorless transparent liquid
Assay:	99% min.
Water:	0.05% max.
color , (APHA)	25 max.

Safety

THF is an eye irritant, making chemical splash goggles a necessity during handling. If accidental eye contact is made, flush for 15 minutes with water and contact an appropriate physician.

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

In addition, THF is also used as a reactant precursor for specialty derivatives:

- pyrrolidine (used in the pharmaceutical industry)
- polytetrahydrofuran (used in the plastic industry)

Packaging

180kg per plastic or iron drum.

14.4mt per 20ft container

Storage & Handling

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.

Once a drum has been opened and some of its content has been removed, a limitation is automatically imposed on the shelf-life, even if the blanket of nitrogen is renewed. For this reason, the remaining contents of the drum should be used up as soon as possible.

Small containers must be kept tightly closed and kept in a well-ventilated place. THF is a highly flammable material and has been designated as a class flammable liquid by the 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. CO₂ can be effective when used by a skilled fire fighter. For more information on storage and handling, see the technical leaflet Tetrahydrofuran dist. pure (THF) or Tetrahydrofuran Handling and Storage.

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

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