

SALES SPECIFICATION DIETHYL ETHER, PURIFIED GRADE

Quality Attributes

Test Description	Limits	Test Method
Appearance	Colorless Liquid	Visual
Ethyl Ether, weight %	99.80 min.	GC
Ethyl Alcohol, weight %	0.01, max.	GC
Water Content, weight %	0.100, max.	ASTM
Acidity as Acetic Acid, weight %	0.0025, máx	MIL-E-199A
Color, Pt-Co	10, máx	ASTM
Aldehydes (as HCHO), minute	The water layer shows no turbidity > 1	MIL-E-199A
Peroxides (as H ₂ O ₂), ppm	1.00, máx	ACS
Residue After Evaporation, weight %	0.0020, max.	ACS
BHT, range	7 - 9	Not available
Description: Colorless, highly volatile, highly flammable liquid.		

Reference: Monfel's internal documents.

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- **Extremely flammable:** Diethyl ether is a Class IA. Flammable liquid, with a very low flash point and a tendency to form flammable vapors at room temperature.
- **Peroxide formation:** It can form explosive peroxides upon exposure to air and light. Stabilizers like BHT are often added to prevent this.
- **Incompatible materials:** Do not mix with strong oxidizing agents, strong acids, or halogens.
- **Health hazards:** Vapors can cause drowsiness and dizziness (narcotic effects). It can also be harmful if swallowed and may cause mild skin irritation and serious eye irritation.

PRODUCT DATA SHEET

DIETHYL ETHER, PURIFIED GRADE

Diethyl ether is an extremely flammable, colorless liquid with a low boiling point (34.6° C) and a flash point of -45°C. It has a density of about 0.706 g/mL at 25°C, is only slightly soluble in water, and has a vapor density of approximately 2.6. Diethyl ether can form explosive peroxides when exposed to air and light, and its vapors have upper and lower flammability limits of approximately 36% and 1.9 % by volume, respectively.

Chemical and Physical Properties

Property	Value
Chemical Formula	C ₄ H ₁₀ O
Molecular Weight	74.12 g/mol
Cas Number	60-29-7
Appearance	Colorless liquid
Odor	Pungent/sweet
Melting point/freezing point	-116 °C
Boiling point	34.4 °C
Lower flammability limit	1.9%
Upper flammability limit	48%
Flash point	Closed cup - 45°C Open cup - 40°C
Auto-ignition temperature	180 °C
Decomposition temperature	Not available
pH	7
Kinematic viscosity	0.23 cP @ 25°C
Solubility	≥ 100mg/l @ 20°C
Partition coefficient n-octanol/water (log value)	0.89
Vapor pressure	440 mmHg @ 20°C
Density	0.7140-0.7200 g/cm ³
Relative vapor density (air =1)	2.6 @ 20°C