DATA SHEET

Norbornene Bicyclo[2.2.1]hept-2-ene

Structural Formula

Empirical Formula $C_7 H_{10}$

Synonyms

– 2-Norbornylene
– 2-Norbornene
– Norcamphene

CAS Number 498-66-8

Colourless or white solid with characteristic odour. Norbornene is a liquid with low viscosity above 47 °C. Solid norbornene has a high solubility in common organic solvents as for example in acetone and in aliphatic, cycloaliphatic or aromatic solvents.

Unsaturated bicyclic hydrocarbon (cycloolefin)

Property	Value	Unit
Molecular weight	**94.2**	g/mol
Melting Point	**46-47**	°C
Boiling Point	**96**	°C
Density (50°C)	**0.845**	g/ml
Viscosity (50°C)	**0.75**	mPas s
Heat of evaporation	**372**	kJ/kg
Vapor pressure at 59 °C	**301**	hPa
Flash point	**-8**	°C
Ignition Temperature	**450**	°C
Lower explosion limit	**2.5**	% weight
	0.77	% vol.
	31	g/m³
Upper explosion limit	**18.4**	% weight
	6.5	% vol.
	272	g/m³
Dipole moment	**0.396**	Debye
Thermal conductivity	**0.12**	W/m K
Water solubility at 20°C	**134**	mg/l
Odour threshold	**0.25**	mg/m³

Purity

98% area (GC); different grades are available. This typical value is subject to change without further notice. Norbornene will be delivered unstabilized. The addition of a stabilizer is possible on request.

Packaging

Norbornene can be supplied in containers of different kind and size. More information on request.

Storage and Handling

Norbornene is a solid under 47°C, capable of being stored in mild steel, stainless steel or glass containers at atmospheric pressure. Use only PTFE, perfluorated elastomers or metal for gaskets and seals. The storage under nitrogen is recommended to avoid contact with oxygen. Storage vessels and transfer equipment should be adequately grounded to prevent the accumulation of static electricity. Norbornene should be stored in a tightly closed and dry container in a cool, well ventilated place away from heat, flames, sparks and other sources of ignition. Furthermore norbornene should be separated from food and feeding stuff. The applicable storage category is available in the according safety data sheet.

Avoid contact with strong oxidizing agents, mineral acids or bases, strong Lewis acids or bases or polymerization initiators. Use norbornene only with adequate ventilation and avoid direct contact with the substance, as it can be absorbed into the body by inhalation and by ingestion. Please review the information on our material safety data sheet (MSDS) which is available on request. The MSDS must be consulted and fully understood before handling, storage, use or disposal of this product.

Stability and Reactivity

Norbornene is stable at normal temperatures and pressure even without stabilizer. No hazardous polymerization or other reactions may occur under ordinary conditions. Norbornene is an inflammable hydrocarbon but begins burning after reaching its ignition temperature under access of air or oxygen. Furthermore it may form explosive mixtures with air and oxygen. Like all other hydrocarbons and olefins, norbornene reacts even below its ignition temperature with air or oxygen to form traces of autoxidation products.