

# Technical Data Sheet

## N-Ethylpyrrolidone (NEP)

### Chemical Synonym

Ethyl Pyrrolidinone; 1-Ethyl-2-pyrrolidine; Ethyl Pyrrolidone; NEP

### Applications

- Industrial electronics
- Paints & coatings
- Pharmaceutical chemicals
- Process solvents

### Product Description

N-Ethylpyrrolidone (NEP) is a clear, almost colorless liquid. It can be used for the following applications:

#### Microelectronics

Ethylpyrrolidone can be used as solvent in photoresist stripper formulations.

#### Electronics

Ethylpyrrolidone can be used in electrolyte formulations for electrolytic capacitors.

#### Cryogenic applications

Due to its low freezing point, ethylpyrrolidone is used as solvent in cryogenic reaction conditions.

#### Pharmaceuticals

Ethylpyrrolidone can be used as raw material for the production of several antipsychotics and antibiotics. Solvent for diclofenac in topical formulations, solvent in acne remedies. Transdermal transport enhancer.

#### Lithographic printing

Ethylpyrrolidone can be used in dampening water for lithographic printing plates.

#### Jet printing ink

Ethylpyrrolidone is used in the formulation of jet printing ink.

#### Other

Liquid cleaning composition.  
Solvent for radical polymerisation inhibitor.  
Composition of detergent for liquid crystal cell.

### Typical Properties

| Property                 | Typical Value, Units              |
|--------------------------|-----------------------------------|
| <b>General</b>           |                                   |
| Molecular Formula        | C <sub>6</sub> H <sub>11</sub> NO |
| Molecular Weight         | 113.16 g/mol                      |
| Appearance               | Colorless liquid                  |
| Autoignition Temperature | 245 °C                            |
| Boiling Point            | 212.5 °C                          |

|  |                          |
|--|--------------------------|
| Density                                      |                          |
| @ 20°C                                       | 0.9974 g/cm <sup>3</sup> |
| Flash Point                                  |                          |
| Closed Cup                                   | 90.8 °C                  |
| Freezing Point                               | <-120 °C                 |
| Octanol-water partition coefficient, log Pow |                          |
| @ 20°C                                       | -0.2                     |
| Refractive Index                             |                          |
| @ 20°C                                       | 1.4652                   |
| Surface Tension                              |                          |
| @ 20°C                                       | 69 mN/m                  |
| Vapor Pressure                               |                          |
| @ 20°C                                       | 0.18 hPa                 |
| Viscosity                                    |                          |
| @ 20°C                                       | 2.1 mPa·s                |
| Water solubility                             | Miscible                 |

## Packaging

- Bulk
- Steel drums (205 kg net)

## Storage

NEP (N-Ethyl-Pyrrolidone) is hygroscopic and must be stored in a dry place, preferably in its original packaging.

Carbon steel is adequate for storage of NEP. Stainless steel is preferable if color stability is to be maintained over long periods. For bulk storage a nitrogen atmosphere is necessary to prevent absorption of moisture and discoloration.

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