

# Technical Data Sheet

## Eastman EastaPure™ Ethyl Acetate

### Applications

- Lcd displays
- Photoresist solvents
- Photoresist strippers
- Process solvents

### Key Attributes

- Excellent resin solubility
- High Purity/Low Trace Metals
- High assay
- Inert - Food use with limitations
- Inert - Nonfood use
- Viscosity reducer

### Product Description

Eastman EastaPure™ Ethyl Acetate solvent is a viscosity reducer for resins used in photoresist formulations. Ethyl Acetate can also be used as a primary photoresist solvent and is compatible with many resist polymers. High-purity (low-trace metals) solvents are required to make acceptable semiconductor chips, and special handling and storage procedures are used to maintain high purity.

The chemical substances for this product are listed as Inert Ingredients Permitted for Use in Nonfood Use Pesticide Products, and in Food Use Pesticide Products with limitations, under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). For details on specific permissions, [click here](#).

### Typical Properties

| Property                            | Typical Value, Units                         |
|-------------------------------------|--|
| <b>General</b>                      |  |
| Acidity<br>as Acetic Acid           | 0.005 wt % max.                              |
| Autoignition Temperature            | 485 °C (905 °F)                              |
| Azeotropes                          |  |
| BP                                  | 70.4 °C (158.7 °F)                           |
| Wt % Water                          | 8.5 wt %                                     |
| Boiling Point<br>@ 760 mm Hg        | 75.5-78 °C (168-173 °F)                      |
| Blush Resistance<br>@ 80°F (26.7°C) | 39 % RH                                      |
| Color<br>Pt-Co                      | 10 max.                                      |
| Critical Pressure                   | 38.3 ATM                                     |
| Critical Temperature                | 250.1 °C                                     |
| Critical Volume                     | 286 ml/g·mol                                 |
| Dilution Ratio                      |  |
| Toluene                             | 3.1  |
| VMP Naphtha                         | 1.1  |
| Electrical Resistance               | 20 Megohms                                   |
| Empirical Formula                   | C <sub>4</sub> H <sub>8</sub> O <sub>2</sub> |
| Ethyl Alcohol                       | 0.2 wt % max.                                |
| Evaporation Rate<br>(ether = 1)     | 3<br>4.1                                     |

(n-butyl acetate = 1)

|   |                        |
|---|------------------------|
| Expansion Coefficient, per °C<br>@ 20°C | 0.00134                |
| Flash Point<br>Tag Closed Cup           | -4 °C (24 °F)          |
| Freezing Point                          | -84 °C (-118 °F)       |
| Hansen Solubility Parameters            |                        |
| Hydrogen Bonding                        | 3.5                    |
| Nonpolar                                | 7.7                    |
| Polar                                   | 2.6                    |
| Total                                   | 8.8                    |
| Heat of Combustion                      | -492.6 kcal/g·mol      |
| Heat of Vaporization                    | 7703 cal/g·mol         |
| Liquid Heat Capacity<br>@ 25°C          | 40.82 cal/(g·mol)(°C)  |
| Liquid Viscosity<br>@ 25°C              | 0.5 cP (mPa·s)         |
| Maximum Incremental Reactivity (MIR)    | 0.64                   |
| Molecular Weight                        | 88.11                  |
| Nitrocellulose Solubility               | Active                 |
| Refractive Index<br>@ 20°C              | 1.37                   |
| Solubility                              |                        |
| in Water, @ 20°C                        | 8 wt %                 |
| Water in, @ 20°C                        | 3 wt %                 |
| Specific Gravity<br>@ 20°C/20°C         | 0.901                  |
| Surface Tension<br>@ 20°C               | 23.9 dynes/cm          |
| TLV PPM 1998                            | 400                    |
| Upper Limits for Trace Metals           |                        |
| Calcium                                 | 50 ppb                 |
| Iron                                    | 50 ppb                 |
| Lithium                                 | 50 ppb                 |
| Magnesium                               | 50 ppb                 |
| Potassium                               | 50 ppb                 |
| Sodium                                  | 50 ppb                 |
| Zinc                                    | 50 ppb                 |
| Vapor Density<br>(air = 1)              | 3                      |
| Vapor Pressure                          |                        |
| @ 20°C                                  | 86 mm Hg               |
| @ 55°C                                  | 45.9 kPa               |
| Water                                   | 0.05 wt % max.         |
| Wt/Vol<br>@ 20°C                        | 0.9 kg/L (7.51 lb/gal) |

## Comments

Properties reported here are typical of average lots. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

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