



Arak Petrochemical Company



ISO 9001:2000

Certificate No.: CH98/8032

ISO 14001:2004

Certificate No.: CH03/0112

OHSAS 18001:1999

Certificate No.: CH05/0675

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## Monoethylene glycol (MEG)

Characteristic	Test Method	Unit	Value
PURITY	ASTM E – 202	WT. %	99.8 MIN.
DIETHYLENE GLYCOL	ASTM E – 202	WT. %	0.08 MAX.
WATER CONTENT	ASTM E – 203	WT. %	0.08 MAX.
ACIDITY AS ACETIC ACID	ASTM D – 1613	WT. PPM	10 MAX.
ASH	DC – 254A	gr/100ml	MAX. 0.005
CHLORIDES	EO - 635	WT. PPM	0.1 MAX.
IRON	ASTM E – 202	WT. PPM	0.1 MAX.
ALDEHYDE AS ACETALDEHYDE	DC – 163C	WT. PPM	10 MAX.
COLOR Pt-Co	ASTM D – 1209	Pt - Co	5 MAX.
SP. GR (20/20 °C)	ASTM D – 891	-	1.1151 - 1.1156
DISTILLATION @ 760 MM-Hg			
IBP	ASTM D – 1078	°C	196 MIN.
DP	ASTM D – 1078	°C	199 MAX.
5-95 VOL % RANGE	ASTM D-1078	°C	1 MAX.
UV TRANSMITTANCE			
AT 220 nm	EO –577A	T %	70 MIN.
AT 275 nm	EO –577A	T %	95 MIN.
AT 350 nm	EO –577A	T %	99 MIN.

**MONOETHYLENEGLYCOL** obtained from the reaction of ethylene oxide and water. It is a clear, transparent and odorless liquid that can be mixed with water in any proportion.

o **Application areas:**

• **Polyester :**

Polyester fibers, threads, films and polyester resins are produced from the reaction between **MONOETHYLENEGLYCOL** with dibasic acids and their esters, such as terephthalic, oxalic, succinic, glutamic and adipic acids among others. The polyterephthalate fibers of **MONOETHYLENEGLYCOL** are widely used in the textile industry and known commercially as Tergal, Terilene, Dacron and Trevira among other names.

Due to their high mechanical resistance, excellent dielectric properties and low hygroscopicity, polyester films are used to produce photographic films, magnetic tapes and packaging.

**MONOETHYLENEGLYCOL** is used in the synthesis of polyethylene terephthalate (PET), which is frequently used in the packaging of foodstuff and carbonated beverages.



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## Monoethylene glycol (MEG)

- **Resins :**

**MONOETHYLENEGLYCOL** is used in the synthesis of unsaturated polyester resins, alkyd resins, rosin esters and polyurethane resins.

It acts as a coalescence and anti-freezing agent in emulsified resins. Used together with adipic acid and other glycols, rubber with a high chemical and abrasion resistance can be synthesized. Resins produced from oleic acid and **MONOETHYLENEGLYCOL**, known as alkyd resins, are used frequently in the industry of paints and varnishes.

- **Wetting and plasticizing agents :**

**MONOETHYLENEGLYCOL** can be used as wetting and plasticizing agent in the production of cellophane, glues and adhesives, textiles, printing ink, leather, cosmetics, paper and pharmaceutical products.

- **Coolant additives :**

**MONOETHYLENEGLYCOL** is used in industrial refrigeration circuits and internal combustion engine coolant systems with the purpose of raising the boiling point and reducing the freezing point of the solution used. For this application, an anticorrosive must be added to **MONOETHYLENEGLYCOL** to prevent the system from suffering water corrosion.

DIETHYLENEGLYCOL can be used in antifreeze formulations in proportions of up to 10% together with **MONOETHYLENEGLYCOL**. The various quantitative ratios between these components are suitable for specific applications in the field of industrial refrigeration.

- **Other uses :**

**Ethylene glycols** can also be used in the formulation of printing ink, in the treatment of gases, in the formulation of fire-resistant hydraulic fluids, in the formulation of cutting oils, in the formulation of surface polishers, in the formulations of agrochemicals, in the extraction of solvents, in the manufacture of pigmented pastes and putty for walls, and in the synthesis of explosives.

- **Storage conditions:**

Under nitrogen blanket and at ambient temperature.

- **Packing:**

Bulk or in 220 Lit (net: 220 Kg) new drums, each 4 drums strapped on a pallet.