



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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Ethylene oxide (EO) ❖

Characteristic	Test Method	Unit	Value
PURITY	MA - 773	WT.%	99.9 MIN.
COLOR Pt-Co	DC -139	PT-CO	5 MAX.
WATER	VC - 261/A	WT.%	0.01 MAX.
ACETYLENE	S - 414C	PPM	NONE
ACIDITY	DC - 138	PPM	20 MAX.
ALDEHYDES	DC - 163/A	PPM	30 MAX.
RESIDUE	DC - 133	gr/100ml	0.003 MAX
SUSPENDED MATTER	DC - 139	WT.%	NONE

❖ Not exportable.

ETHYLENEOXIDE is produced by reacting ethylene with oxygen in the presence of a silver catalyst. **ETHYLENEOXIDE** is a highly reactive chemical, an intermediate in the production of a wide range of derivative chemicals, which have applications in a huge number of industrial and consumer products.

o Application areas:

ETHYLENEOXIDE is a commodity monomer used as a building block for the manufacture of a wide range of products and intermediates in the chemical industry. These products include ethylene glycols, polyethylene glycols, glycol ethers, ethanolamines and ethoxylates.

In addition, **ETHYLENEOXIDE** is an important raw material in the production of polyether and polymer polyols, which are major components used in polyurethane foam manufacture.

The products derived from **ETHYLENEOXIDE** have many familiar applications; coolants for auto engines ("antifreeze"), polyester fibres, film and bottles, heat transfer liquids, polyurethanes, polyesters, plasticizers, humectants, cosmetics, detergents, ointments, pharmaceutical preparations, brake fluids, natural gas and refinery gas sweetening and chemicals for textile finishing.

o Storage conditions:

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Store between 0°C and 5°C. Store away from direct sunlight. Do not store in rusty steel, copper and its alloys, die casting alloys, phenolic resin coated steel, plastic lined steel, rubber lined tanks. Suitable storage material is stainless steel.

Keep away from heat, sparks and flame.



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Ethylene oxide (EO)

To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

For transfer use centrifugal pumps with mechanical seals, fitted with high temperature/low flow rate cut-outs. If possible use nitrogen (pressurized) to make transfers.

Do not breathe gas. Avoid contact with skin and clothing. Avoid contact with eyes. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Store under a nitrogen or methane blanket. Prevent contact with air or oxygen.

Nitrogen must be of high integrity and contaminant-free. Storage and transfer equipment should be adequately earthed and bonded to prevent the accumulation of static charges. Tanks should be insulated for fire protection and have an effective water spray protection system.

o **Packing:**

Bulk or in 60 Kg stainless steel Cylinders.