

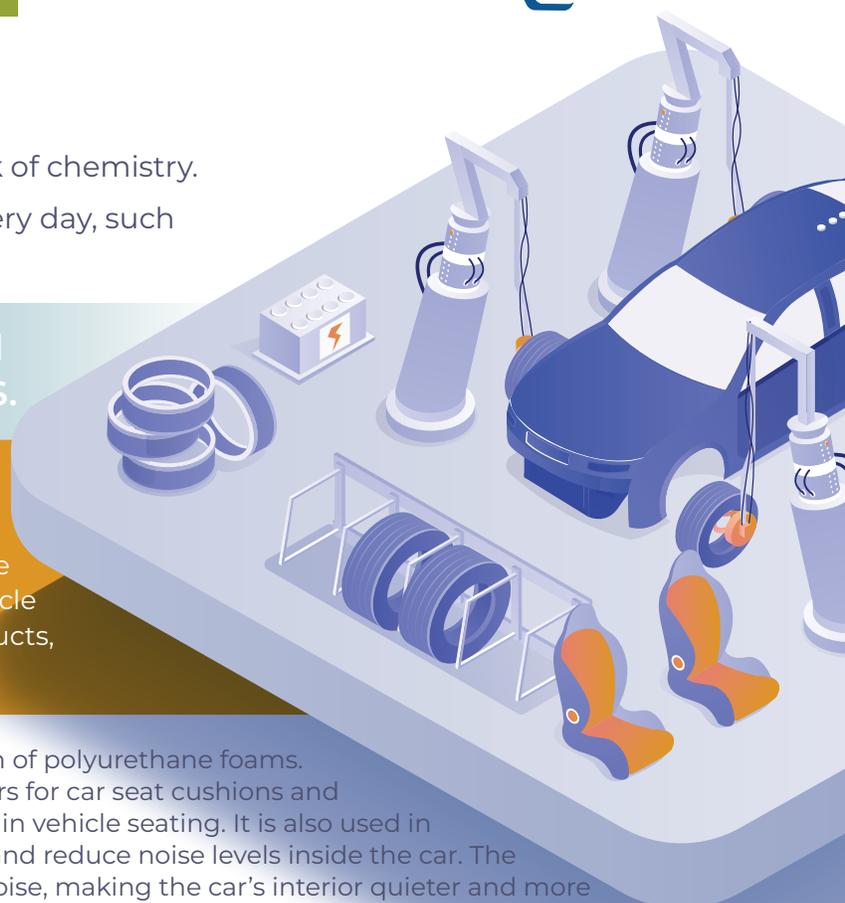
ETHYLENE OXIDE

A Critical Building Block for the Automotive Industry



Ethylene oxide (EO) is a versatile building block of chemistry. It helps make many of the products we use every day, such as plastics, safety glass, adhesives, and textiles.

One area where ethylene oxide is used is in the automotive industry in the U.S.



How is it used?

Ethylene oxide and its derivatives are used in automotive seating, hydraulic & brake fluids, jet fuel anti-icing additives, motor vehicle antifreezes, noise & vibration reduction products, and electric vehicle batteries.

- ✔ Ethylene oxide is a key ingredient in the production of polyurethane foams. Polyurethane foams are used in automotive interiors for car seat cushions and headrests. The foam provides comfort and support in vehicle seating. It is also used in dashboards and door panels to provide insulation and reduce noise levels inside the car. The foam helps to absorb vibrations and reduce road noise, making the car's interior quieter and more comfortable for passengers.
- ✔ Ethylene glycol, a derivative of ethylene oxide, is a key component in the manufacturing of engine coolant and antifreeze. This helps prevent engines from freezing in cold temperatures and overheating by providing heat transfer in the cooling system.
- ✔ Polyester (polyethylene terephthalate [PET]), a derivative of ethylene oxide, is the predominant fiber used in the manufacturing of automotive textiles.¹ Polyester fibers are used in car interiors, such as seat belts, seat fabrics, and carpets.
- ✔ Polyester resins are sometimes used in racing cars for fiberglass body panels² to give a car a distinctive look and better performance. Fiberglass hoods and trunks are popular among car enthusiasts because they are lightweight and easy to replace. Fiberglass fenders and bumpers can reduce weight and improve aerodynamics. Fiberglass spoilers are often used in racing applications to increase downforce.
- ✔ Polyester resins are used in car repairs as automotive body fillers to fill holes, dents, and other imperfections in a car body.
- ✔ Ethylene oxide is used to produce ethylene carbonate, which is used in lithium-ion batteries for electric vehicles to allow the electricity generated to travel more easily through the battery.
- ✔ Ethylene oxide derivatives can also be found in car wash cleaning products and for treating fabrics used in automotive interiors.

The demands on our nation's automotive sector continue to grow, and overly conservative restrictions on the production of ethylene oxide could put the needs of the 1 trillion-dollar auto manufacturing economy and 9.7 million jobs³ at risk.

Our member companies are dedicated to the responsible manufacture and use of ethylene oxide, and we support strong, science-based regulation of this important chemistry.

¹ Saricam, Canan, and Nazan Okur. [Polyester Usage for Automotive Applications](#), Intech, 2018.

² [Mechanics News](#) ³ [Alliance for Automotive Innovation](#)

