Automotive

CHEMISTRY CREATES AMERICA COMPETES™

Chemistry Critical to National Priorities

U.S. chemical producers provide chemistry needed to achieve national priorities, including the manufacturing of computer chips and automobiles, energy development, rebuilding the country's infrastructure, and supporting healthcare and biotechnology. Pro-growth, science-based policies are needed to ensure we can produce more of these critical chemistries here at home and help make America the world's manufacturing superpower. For more information visit: **chemistrycreates.org**

Case Study: Automotive

U.S. chemical manufacturers produce materials used all over the cars we drive today, from the exterior paint, bumpers and headlights to interior seats, dashboard components, and the seatbelts and airbags that help protect passengers. Plastics can even be found in lithium polymer car barriers that power some hybrid and electric vehicles.

Diisononyl phthalate (DINP) and Diisodecyl phthalate (DIDP): used to provide UV resistance, prevent corrosion and effectively withstand extreme temperatures. DINP and DIDP have a multitude of auto uses including upholstery and interior finishes, window glazing, doors, floor mats, wire and cable, sealants, body-side molding and molded interior applications.

Cyclic Aliphatic Bromide Cluster (HBCD): used as a potential flame retardant for EV chargers.

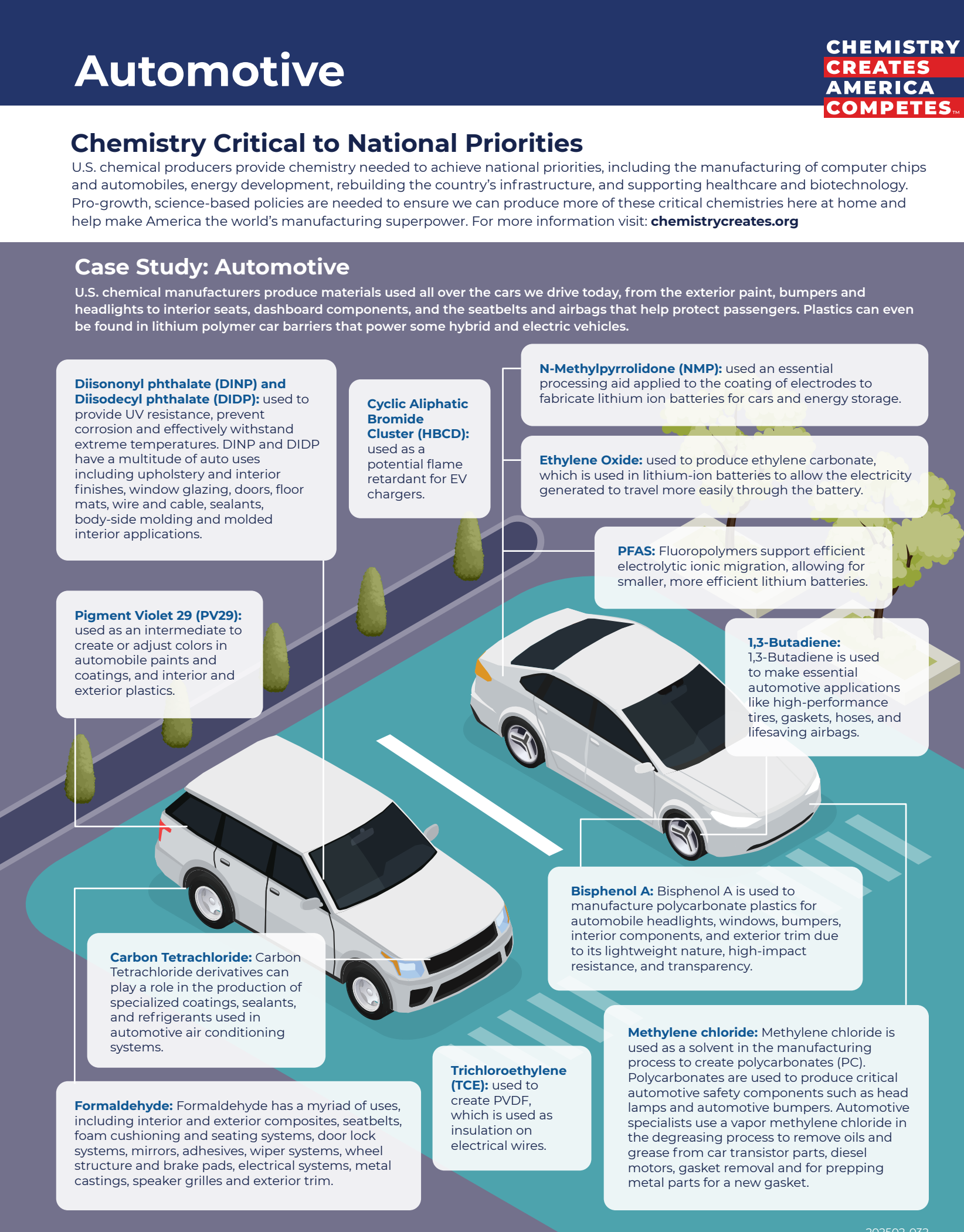
N-Methylpyrrolidone (NMP): used an essential processing aid applied to the coating of electrodes to fabricate lithium ion batteries for cars and energy storage.

Ethylene Oxide: used to produce ethylene carbonate, which is used in lithium-ion batteries to allow the electricity generated to travel more easily through the battery.

PFAS: Fluoropolymers support efficient electrolytic ionic migration, allowing for smaller, more efficient lithium batteries.

Pigment Violet 29 (PV29): used as an intermediate to create or adjust colors in automobile paints and coatings, and interior and exterior plastics.

1,3-Butadiene: 1,3-Butadiene is used to make essential automotive applications like high-performance tires, gaskets, hoses, and lifesaving airbags.



Bisphenol A: Bisphenol A is used to manufacture polycarbonate plastics for automobile headlights, windows, bumpers, interior components, and exterior trim due to its lightweight nature, high-impact resistance, and transparency.

Carbon Tetrachloride: Carbon Tetrachloride derivatives can play a role in the production of specialized coatings, sealants, and refrigerants used in automotive air conditioning systems.

Trichloroethylene (TCE): used to create PVDF, which is used as insulation on electrical wires.

Methylene chloride: Methylene chloride is used as a solvent in the manufacturing process to create polycarbonates (PC). Polycarbonates are used to produce critical automotive safety components such as head lamps and automotive bumpers. Automotive specialists use a vapor methylene chloride in the degreasing process to remove oils and grease from car transistor parts, diesel motors, gasket removal and for prepping metal parts for a new gasket.

Formaldehyde: Formaldehyde has a myriad of uses, including interior and exterior composites, seatbelts, foam cushioning and seating systems, door lock systems, mirrors, adhesives, wiper systems, wheel structure and brake pads, electrical systems, metal castings, speaker grilles and exterior trim.

202502-032