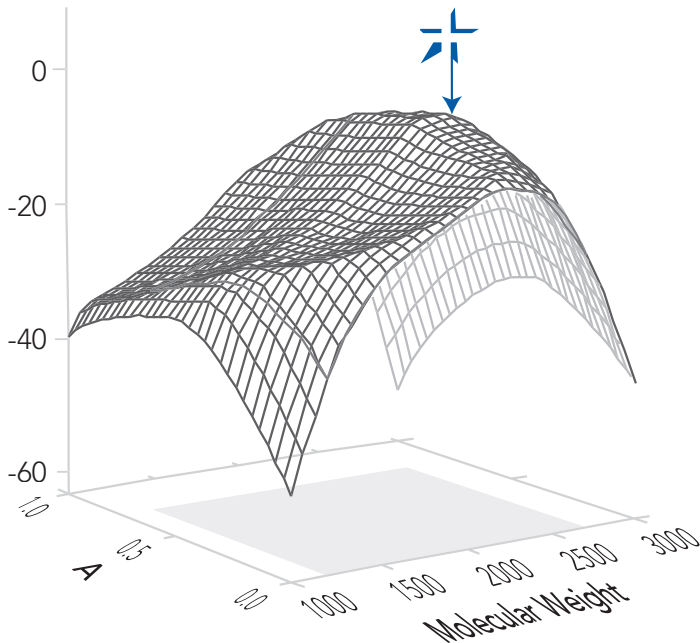


CUSTOM PLASTICIZERS FOR NBR HOSE APPLICATIONS

THE HALLSTAR PARAPLEX APPROACH

Our proprietary molecular design system creates custom-engineered plasticizers for unique, tightly defined requirements. The Paraplex Approach uses three-dimensional response surface diagrams as well as existing performance data and application knowledge. With this targeted approach, raw materials can be rapidly adjusted to determine the best possible combination of properties for the application. Paraplex® brand customized formulations are the industry benchmark for high performance, innovative plasticizers.



The illustration shows the optimized chemical composition of a custom-designed plasticizer. The star indicates the optimal solution point for the application.

Nitrile butadiene rubber (NBR) is an excellent polymer for fuel and oil hose applications. However, achieving the best performance requires meeting highly specific requirements such as:

- Low volatility
- Air oven elongation change
- Air oven tensile change
- Oil extraction resistance
- Fuel resistance

Hallstar works collaboratively with companies around the world to create and enhance next-generation products.

Hallstar's expertise in polymer modification and optimization, coupled with our application knowledge across a wide range of industrial products, is unique in the specialty chemical industry.

LET'S WORK WONDERS™