



# Trinohex<sup>TM</sup> Ultra

HIGH PERFORMANCE ELECTROLYTE ADDITIVE

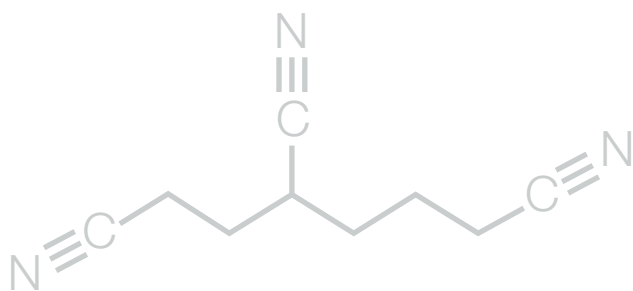


# Trinohex Ultra

HIGH PERFORMANCE ELECTROLYTE ADDITIVE

Trinohex™ Ultra is high-purity 1,3,6-hexanetricarbonitrile, an additive in lithium ion batteries that improves battery life and performance. Trinohex Ultra helps form a protective film on the cathode which prevents the dissolution of metal ions, suppresses the decomposition of electrolytes and inhibits the attack of hydrogen fluoride.

## MOLECULAR STRUCTURE

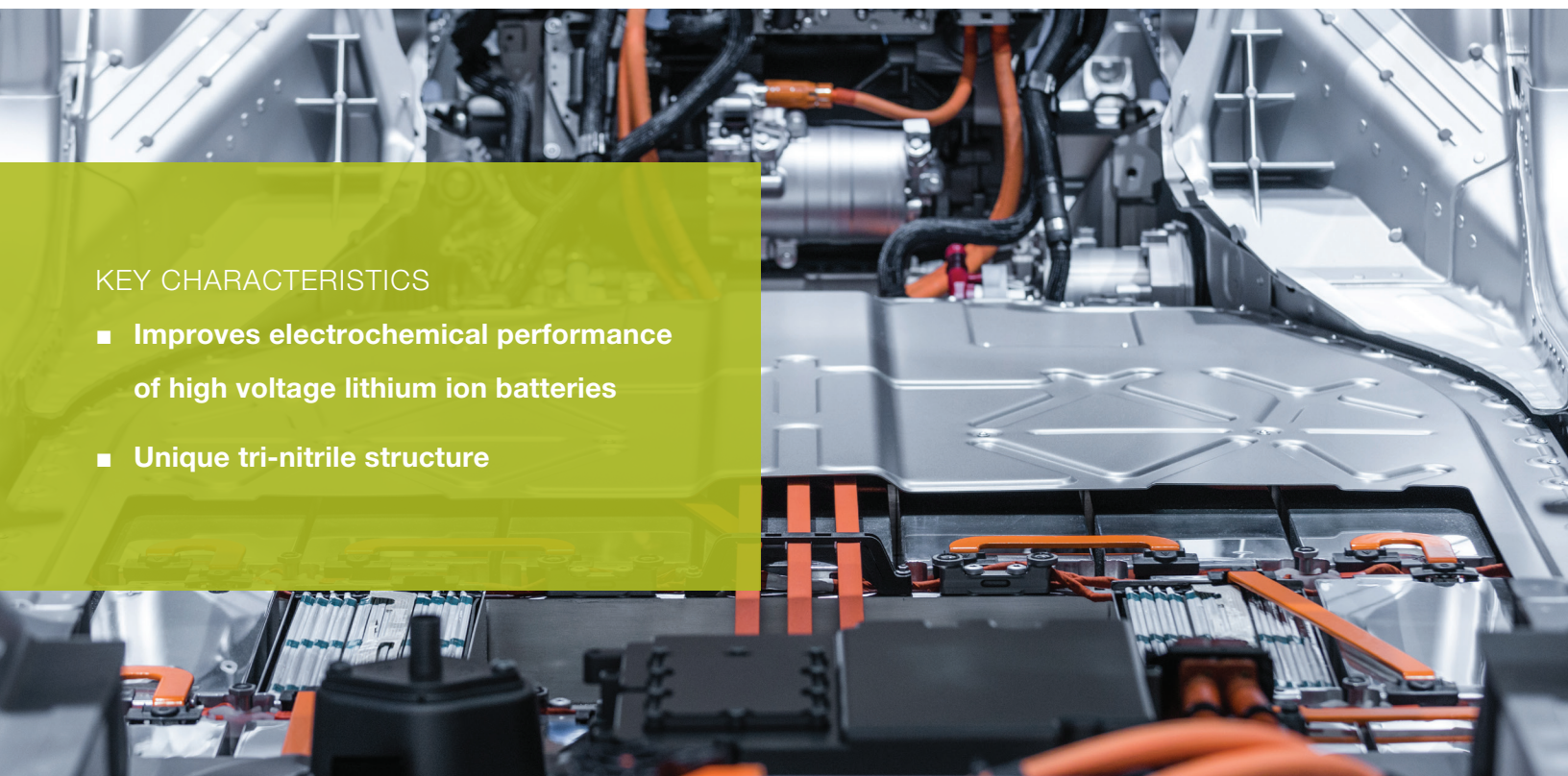


## PROPERTIES

Purity (%)	≥99
Boiling point (°C)	408
Vapor pressure (mmHg)	
@ 20°C	0
@ 100°C	0.0007
Flash point, open cup (°C)	>110
Freeze point (°C)	-23
Water, wt. (%)	<0.5
Viscosity @ 25°C (cP)	191
Solubility in water, wt. (%)	2.67
Density (g/ml)	1.035

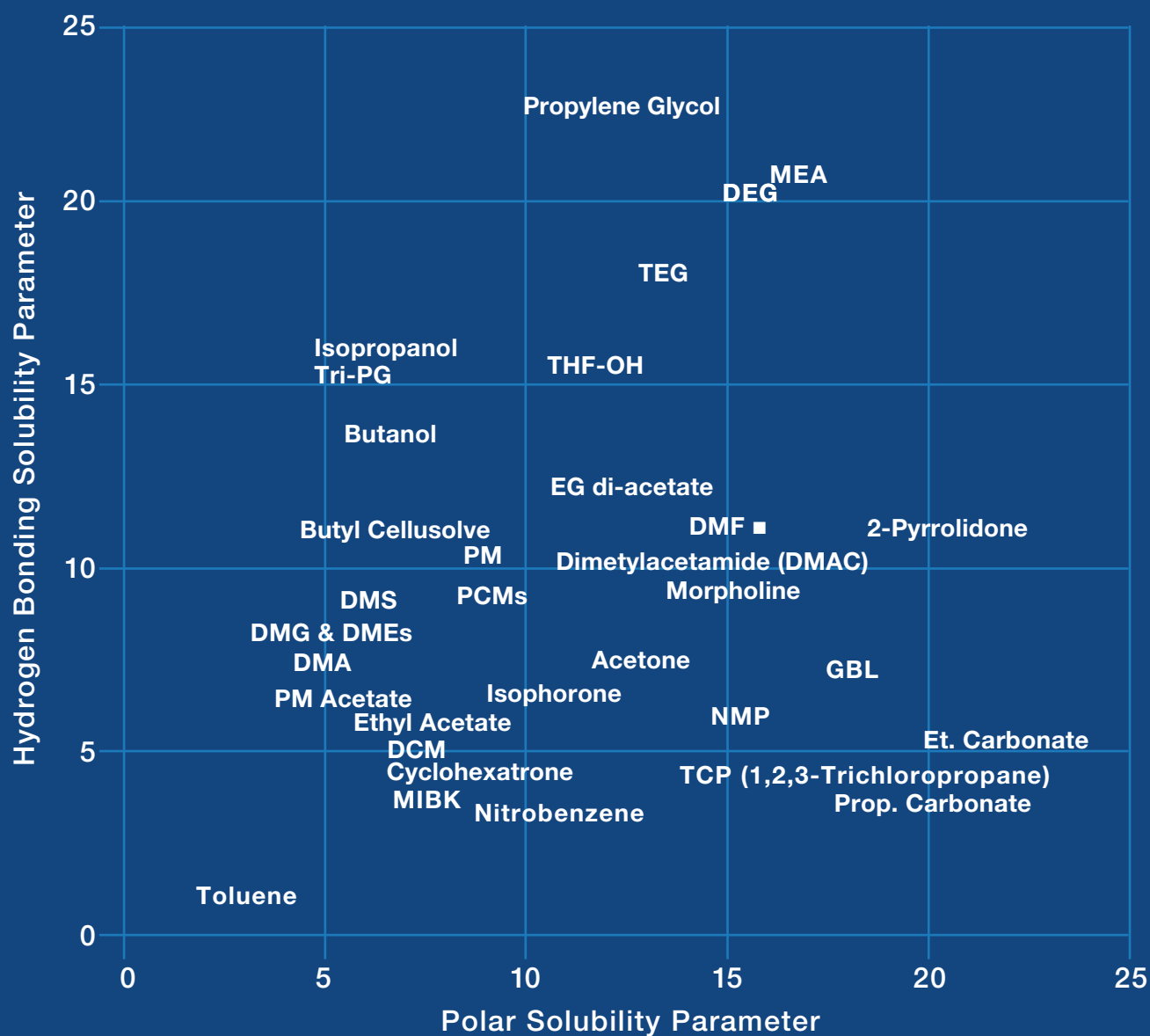
## KEY CHARACTERISTICS

- Improves electrochemical performance of high voltage lithium ion batteries
- Unique tri-nitrile structure



# Hansen Solubility Parameters

Trinohex Ultra vs. Common Solvents



## Polar Solubility Parameters

	Nonpolar	Polar	Hydrogen Bonding
Trinohex Ultra	19.12	15.57	10.53

\*The Hansen Solubility Parameters of the liquid were calculated using a multiple-sphere, multiple-concentration approach, which converged to give an estimate of the HSP of the liquid.

# About Ascend

Ascend Performance Materials is a global leader in the production of high-quality plastics, chemicals, and fibers. As the world's largest fully integrated manufacturer of nylon 6,6 resin, our manufacturing processes are vertically integrated, ensuring the highest level of quality and economies of scale. Ascend's specialty chemicals and blends of acids, amines and esters are used in a variety of applications and industries. We offer customized solutions through formulated products and superior technical support.

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