

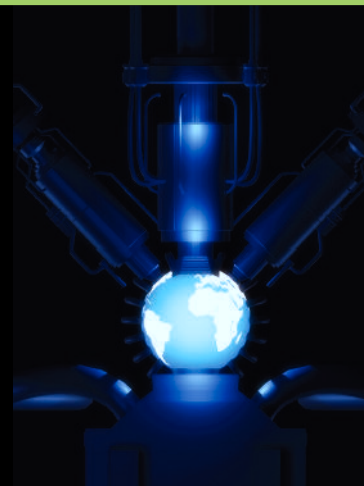
OLEOCHEMICALS
MULTIFUNCTIONAL LUBRICITY

VOLTRION®
ELECTRO IONIZATION OF OILS & FATS

Contact us for more
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NATURAL ADDITIVE SOLUTIONS

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About us

production of ionized vegetable oil additives by an in-house improved electric polymerization process.

Research & Innovation

Strong industrial and research partners work hand in hand to develop new applications for the future.



Products

The ionization of vegetable (and/or animal) oils like soy, palm, canola, fish oils etc., enables us to obtain a wide range of natural ingredients in different viscosities, oxidation resistancies, lubricity, stability, and solvency.

The nature of products obtained through electro ionization is very different from that of thermally or catalytically polymerized oils.

Physico-Chemical property ranges

	From	To
Viscosity range of products @ 40°C	160 cSt	2100 cSt
Viscosity range of products @ 100°C	25 cSt	300 cSt
Acid Value	Max. 3mg KOH/g	Max. 3mg KOH/g
Iodine Value (Wij's)	50g I/100g	90g I/100g
Saponification Value	150mg KOH/g	185mg KOH/g
Aniline point	45°C	85°C
Viscosity Index (V.I.)	>260	>260
Refractive index @ 20°C	1.472	1.478

Note: the above values are for familiarization purposes only. Exact values are to be defined per tailor-made product. A Technical data sheet may be requested for our standard products.

Advantages & effects of Ionized Vegetable Oil (IVO) blended in lubricants & greases

SUPER-LUBRICITY (boundary lubricity)	Friction & Wear reduction resulting from strong adsorption of the polar molecules to metal surfaces. Improvement of lubricity in base oils & formulations.
SYNERGY with common EP additives	Expansion of operating conditions at which lubricating film is maintained when combined with most common EP (extreme pressure additives). Expanded machining tool life.
DISPERSION & DETERGENCY Power (DDP)	Exceptional & natural Dispersion and Detergency thanks to unique molecular forces resulting from the electric polymerization process.
MISCIBILITY / SOLVENCY	With aniline point starting at 45°C, IVOs are readily soluble (solvency improvers) in most common bases (NS8, Yubase4, PAOs, etc).
OXIDATION resistancy stability & compatibility	Ionized vegetable oils have a natural mild anti-oxidant effect in formulation of endproducts and show complete compatibility with common synthetic anti-oxidants.
CLEANLINESS Sludge control & Surface finish	Resistance to sludge formation , even under toughest operating conditions. Increased surface finish and cleanliness.
VISCOSITY Viscosity Index Improver (HIGH V.I.)	Natural viscosity stabilizer. High temperature & pressure stability. Concentrates have a high viscosity and a V.I. >250.

Applications

- automotive (motor & gear oils, aftermarket additives)
- metalworking & industrial lubricants and greases
- fuels & ULSD (Ultra Low Sulfur Diesel)
- cosmetics, inkst, paints, rubber & personal care products.

Typical %WT

- 5% - 15%
- 0.5% - 25%
- 0.05% - 1%
- on demand

Conclusion

Blending with VOLTRION additives brings extraordinary qualities to the finished products: super-lubricity reducing friction & wear, detergency-dispersancy power, high viscosity index, high oxidation resistance. This leads to:

- Lower fuel & oil consumption
- Better surface finish & increased machine tool life
- Environmentally safe formulation alternatives
- Cost-efficient pricing strategies of formulations