

FUNCTIONAL PRODUCTS INC.
Innovative Chemistry for Lubricants

Food Machinery Additives



Spice up your recipe with unique HX-1 options.



Select NSF HX-1 registered components to build and fine-tune food machinery lubricants and greases:

- Tack • Viscosity • Pour Point • Corrosion • AW/EP
- Water & Foam Control • Grease • *and More*

Explore more options at functionalproducts.com

8282 Bavaria Road, Macedonia, Ohio, USA 44056 • 1-330-963-3060 • August 2026

More Options on the Menu

NSF H1 lubricant formulation comes with a more limited toolbox, but performance requirements do not get any easier. Base fluid, viscosity, wear, corrosion, water, foam, and grease structure still need to be balanced while working within the available HX-1 registered chemistries.

Functional Products offers a diverse range of specialty components to help formulators fill those gaps and fine-tune performance. Whether you are working with white oil, PAO, synthetic esters, vegetable oils, or water-based fluids, this brochure provides options to help get where you're going.

Tackifiers

Tackifiers impart anti-fling and anti-mist behavior to improve product retention on equipment.

Product	Diluent Oil	Chemistry	Viscosity, @ 100°C, cSt	Typical Color	Shear Stability	String Length	Ecolabel LuSC?
V-422	H1 White Oil	PIB	3000	Colorless	Good	53	No
V-475	H1 White Oil	PIB	1650	Colorless	Fair	82	No
V-425	H1 White Oil	OCP	3000	Colorless	Best	15	No
V-188P2	PAO	OCP	9250	Colorless	Best	20	Yes
V-584	Veg Oil	Proprietary	2500 at 40°C	Orange	Good	10	Yes
V-802	Water/Glycol	Proprietary	60000 at 40°C	White	Good	20	No

FUNCTIONAL V-422 and **V-475** are polyisobutylene (PIB) tackifiers in white oil used to provide tack. Both tackifiers offer clear burn-off at high temperature and low varnish for ovens.

FUNCTIONAL V-425 and **V-188P2** are shear stable olefin copolymer (OCP) tackifiers which provide the most durable source of tack. OCP tackifiers withstand shear and heat for gear oils and fill-for-life.

Viscosity Modifiers

Viscosity modifiers can be used to tune the viscosity and viscosity index of lubricants and greases.

Product	Viscosity, @ 100°C, cSt	PSSI, D6278	Chemistry	Base Oil	Color	Use With	Ecolabel LuSC?
V-460	3000	25	OCP	White Oil	Colorless	H1 Hydrocarbon	No
V-160P2	1000	22	OCP	PAO	White	H1 Hydrocarbon	No
V-732	2000	0	EPO	None	Yellow	H1 Petroleum, PAO, Ester	Yes
V-731	1100	0	EPO	None	Yellow	H1 Petroleum, PAO, Ester	Yes
V-736	600	0	EPO	None	Yellow	H1 Petroleum, PAO, Ester	No
V-508M	2500	29	Proprietary	Veg Oil	Yellow	Veg Oil, Synthetic Ester	Yes

FUNCTIONAL V-460 (in MOAH-free white oil) and **V-160P2** (in MOSH/MOAH-free PAO) are specialty OCP viscosity modifiers to build viscosity efficiently in light-duty applications.

FUNCTIONAL V-730 Series products are pure liquid ethylene-propylene oligomers (EPO) with excellent shear stabilities and no MOAH or MOSH content.

FUNCTIONAL V-508M is a biobased viscosity modifier (29 SSI) in vegetable oil with several variants.

Pour Point Depressants

PPDs extend the operating temperature of base fluids by suppressing waxy gelation at low temperature.

Product	Role	Suggested wt%	Chemistry	Use With	Max NSF wt%
PD-440	PPD	1.1%	Proprietary	Light white oil (up to ISO 22)	Any
PD-574	PPD	1.1%	Proprietary	Vegetable oils	Any

FUNCTIONAL PD-440 is a proprietary NSF HX-1 PPD designed for low viscosity white oils and performs best in oils up to 100 SUS (ISO 22). **FUNCTIONAL PD-574** is a petroleum-free alternative.

Corrosion Inhibitors

Corrosion inhibitors for corrosion of iron, steel, and other ferrous metals.

Product	Role	Chemistry	Application Notes	Max NSF wt%
CI-426	AW/EP/CI	Amine Phosphate	Multipurpose rust and wear protection	0.5%
CI-427	AW/EP/CI	Amine Phosphate	Legacy amine phosphate chemistry	0.5%
CI-428	AW/EP/CI	Amine Phosphate	Amine phosphate with extra alkalinity (TBN)	0.5%
CI-498	AW/CI	Proprietary	Water corrosion	Any

Antiwear and Extreme Pressure

Functional Products Inc. manufactures a wide range of multifunctional ashless antiwear/EP additives for use as the primary antiwear chemistry in a formulation or as a top treat to boost wear performance.

Product	Role	Chemistry	Diluent Oil	Application Notes	Max NSF wt%
GA-400	HF/Gear Package	Proprietary	White Oil	Hydraulic, gear	1.1%
AW-116	AW/EP	Amine Phosphate	None	Gear oil, grease	0.65%
CI-426EP	AW/EP/CI	Amine Phosphate	Veg Oil	Chain oils, grease	2.0%

FUNCTIONAL CI-426EP is an enhanced neutral amine phosphate for improved lubricity in extreme pressure conditions which is popular in both industrial and NSF H1 chain oils.

Demulsifiers and Defoamers

Demulsification and defoaming are critical to the success of industrial and specialty lubricants.

Product	Role	Suggested wt%	Chemistry	Use With	Max NSF wt%	Ecolabel LuSC?
DM-400	Demulsifier	0.2%	Sulfonate	Petroleum oils, synthetics, esters	Any	Yes
DM-410	Demulsifier	0.2%	PAG	Petroleum oils, synthetics, esters	Any	No
DF-400	Defoamer	0.1%	Silicone	Petroleum oils, synthetics, esters	Any	Yes

FUNCTIONAL DM-400 is a powerful and versatile demulsifier for industrial, NSF H1, and Ecolabel base stocks in ASTM D1401 and ASTM D2711 water separability tests. **FUNCTIONAL DM-400** is not ashless and contains 0.7 TBN.

FUNCTIONAL DM-410 is a highly effective ashless alternative to **DM-400** and provides exceptional water separation.

Grease Polymers

Grease polymers are used to provide water resistance, tack, mechanical strength, and improved yield to grease. These products help to overcome the technical limits of H1 calcium sulfonate, calcium sulfonate complex, aluminum complex, clay, and silica greases.

Product	Suggested wt%	Form	Polymer Type	Recommended Use
V-211	0.5wt%	Flake	Temp. Sensitive	Industrial grease; H1 greases (white oil, Gr. III)
V-4064	2wt%	Pellet	Temp. Sensitive	H1 greases (PAO, mPAO)

FUNCTIONAL V-211 is a styrene olefin copolymer which offers water washout and water spray-off improvement. **FUNCTIONAL V-4064** is best suited for improving low solvency PAO grease for NSF H1.

CERAMAX

CERAMAX products utilize boron nitride, a low color ceramic material able to withstand extreme heat.

Product	Suggested wt%	Form	Role	Recommended Use
CERAMAX	1%	Powder	Solid lubricant	Micronized boron nitride; high temp. solid EP
CERAMAX PASTE AF	5%	Paste	Solid lubricant	Convenient paste form with extra lubricity

FUNCTIONAL CERAMAX is a highly durable extreme pressure and solid lubricant additive for improving the EP properties of greases, coatings, metal forming lubricants, and anti-seize compounds.

FUNCTIONAL CERAMAX PASTE AF contain 20wt% boron nitride powder suspended in an ester-based, animal-free gellant; the ester adds additional antiwear and friction reduction benefits to foundry lubricants, greases, and more.

Not finding exactly what you need?
We can help you navigate your options –
sales@functionalproducts.com