



LINEPLUS PF 355-RBH

P.T.F.E. FLUORO ADDITIVE PFOA FREE



DESCRIPTION

Lineplus PF 355-RBH is a micronized PTFE additive, which is PFOA free, designed to enhance the wear resistance and lubricity of a variety of materials.

Lineplus PF 355-RBH can be used over a wide temperature range from -260°C to $+260^{\circ}\text{C}$.

TYPICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD	VALUE
APPEARANCE	-	VISUAL	White powder
(1) BULK DENSITY	g/L	ASTM D4895	900
(1) MOISTURE CONTENT	% b.w.	ASTM D4895	< 0,10
(2) AVERAGE PARTICLE SIZE	μm	ISO 13320	20,0
SPECIFIC SURFACE AREA	m^2/g	ASTM D4567	1,5
(1) MELTING POINT	$^{\circ}\text{C}$	ASTM D4591	326,0
MELT FLOW INDEX (372 $^{\circ}\text{C}$ / 2,16 Kg)	g/10'	ASTM D1238	10,0
HF CONTENT	ppm	INTERNAL	< 0,05
(3) PFOA CONTENT	ppb	INTERNAL*	< 25,0

* Based on ISO 25101:2009 and IEC 62321-2:2013

(1) Part of certificate of analysis

(2) Part of certificate of analysis with D10, D50 and D90 values

(3) Certified report available under request and after commercial agreement

OVERALL BENEFITS

- Improve wear characteristics
- Improve non-stick and antifriction properties
- Reduce friction coefficient
- Increase scratch resistance
- Improve corrosion resistance
- Improve thermal stability
- Improve UV resistance
- Inert to practically all chemicals and solvents
- Do not absorb moisture

APPROVALS

The product is approved in the production of articles intended to come in contact with foodstuffs, according to the following normative requirements:

- **China GB9685-2016 – Appendix A1**, "Permitted additives for plastic food contact materials and articles";
- **EU Regulation 10/2011/EC**, "Plastic materials and articles intended to come into contact with food" and following amendments;
- **FDA 21 CFR 175.300**, "Resinous and polymeric coatings";
(Manufacturer or seller must verify the final application approvals with regard to limitations and migration values)

FEATURES

Maflon PTFE (polytetrafluoroethylene) lubricant range of products are finely divided powders with different low molecular weight, particle size distribution, shapes and morphology. PTFE lubricant powders are designed to be mixed with other solid or liquid material to achieve some of the unique properties of PTFE polymer.

PTFE polymer has a wide working temperature range, it is inert to almost all chemicals and solvents, it is hydrophobic, it is a good electrical insulator and it has excellent weathering and ageing characteristics.

PTFE lubricant powders are ideal as additives because they can influence the behavior of many hosting materials without reacting with them, but with the benefit to reduce the coefficient of friction, increase wear resistance, improve non-stick properties and enhance anti-dripping properties. When PTFE lubricant powders are used alone as powder or in paste can be regarded as solid lubricants for high performance sealants and for wear surfaces in hostile environment, while added in spray formulation they act as mold release agent. Further, they can be dispersed in water or in organic solvent for direct usage or as an intermediate additive for later formulation.

■ Thermoplastics, thermosetting resins and elastomers

Maflon PTFE lubricant powders can be incorporated into a wide variety of hosting materials like thermoplastics / thermosettings (e.g. polyacetals, polyamides, polycarbonates, polyesters, polyimides, polysulfides, polysulfones / epoxy, phenol-formaldehyde, melamine resin) at concentrations typically from 5-20 % b.w. to enhance the tribological properties. While in case of elastomers (e.g. fluoroelastomers, neoprenes, nitriles and silicones) are added at level of 10-25% b.w. to improve tear strength and abrasion resistance.

■ Printing inks

Maflon PTFE lubricant powders are suggested in printing inks formulations (e.g. lithographic, flexographic, gravure) as additives, in reason of 1-5% b.w. for scuff-resistant, for better image protection and for higher productivity or in combination with polyethylene waxes to reach the required level of characteristics (5-15% b.w.).

■ Paints and coatings

Maflon PTFE lubricant powders are developed for a large range of industrial coating formulations (Powder coating, can and coil coating, wood coating) to enhance surface properties (e.g. scratch resistance, matting effects, slipping) when added in reason of 5-15% b.w.

■ Oil and greases

Maflon PTFE lubricant powders are designed for dispersing in oils and greases formulation to adjust the viscosity (up to 15% b.w.) in the applications that require both high and low temperature lubricity.

STORAGE

Lineplus PF 355-RBH if properly hold in the sealed original package in a clean and dry place at temperature below 30°C they can be stored for a relatively long period of time (up to 24 months). The mechanical stresses (vibrations) due to the transport, above all if combined with too high temperatures or long storage periods at high temperatures, can lead the Lineplus micropowder grades (dispersion grades are the most sensitive) to agglomerate inside the packages with a subsequent increase of the bulk density. Therefore, in such cases, it is good practice, and we highly recommend it, to store the packages below 17°C and at least for 48 hours before processing, to recover the original fluffiness of the powder.

RECOMMENDED PROCESSING CONDITIONS

The homogeneous incorporation of PTFE lubricant powders is the main and more important factor to impart at the hosting material the enhancements due to the PTFE polymer properties.

For thermoplastics blends, PTFE lubricant powders can be directly introduced into the melt. In case of others materials and depending on the application a variety of mixing equipment can be used, like high speed mixers and tumble mixers for dry blends, while propeller mixers are preferred for wet formulations. In presence of relatively high viscosity formulations, it is recommended to use glass bead mill while for very high viscosities substances like oils and greases it is suggested the roll mill (triple roll mill).

Specifically for elastomer, the PTFE lubricant powders are mixed by banbury or a two-rolls mixer.

SAFETY & HANDLING

Lineplus PF 355-RBH is a PTFE resin, which require well-ventilated areas when the containers are opened to process the powder. While in case PTFE resin is heated to temperatures above 400°C there are potential hazards, including the evolution of toxic vapors and fumes. Before processing this product and for further information refer to the Lineplus PTFE material safety data sheet.

SUPPLY FORM

Lineplus PF 355-RBH is packaged in moisture and dust proof double PE liners inside a 25 Kg plastic drum (500 Kg) or 25 kg cardboard box (450 kg) for easy shipping, handling and storage.

The data provided in this data sheet are typical values obtained under standard test conditions and should not be regarded as binding product specifications. We recommend that you contact the technical or sales department for official product specifications. Maflon S.p.A. is not responsible for the misuse of the data presented in this data sheet as official specifications and accepts no liability.

For additional information or other specific request, please contact our customer service office at:

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(Società Socio Unico soggetta all'attività di direzione e coordinamento ex art. 2497 bis C.C. da parte di Mazza Holding srl)

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