

## 3M™ Dyneon™ PTFE Micropowder TF 9201Z

### Product Description

3M™ Dyneon™ PTFE Micropowder TF 9201Z is a white, non-free flowing agglomerate of fine, low molecular PTFE micropowder. The agglomerate features a particle size of around 9 µm.

### Special Features

- Agglomerate
- Almost universal chemical resistance
- Good non-stick properties
- Reduced friction resistance
- Large operating temperature range
- Increased degree of abrasion resistance
- Low molecular PTFE
- Easy deagglomeration
- U.S. Food and Drug Administration (FDA) approved up to 20 % weight in polymer formulations

Properties	Test method	Unit	Value
Mean Particle Diameter	ISO 13320	µm	9
Primary Particle Size	DIN ISO 13321	nm	200
Bulk Density	DIN EN ISO 60	g/l	350
Special Surface BET	DIN ISO 9277	m <sup>2</sup> /g	10
Melt Flow Index (372 °C / 10 kg / 2.095 mm)	DIN EN ISO 1133	g/10 min	< 2
Melting Point	DIN EN ISO 12086	°C	330

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### Typical Properties

Due to its highly specific particle surface, 3M™ Dyneon™ PTFE Micropowder TF 9201Z can be effective as a rheological additive and significantly increases viscosity when added to liquids. This effect is not temperature-dependent. If TF 9201Z is added to solids or coatings, it can lead to a significant reduction in friction resistance and can also have a positive influence on the non-stick effect of the surface.

### Typical Applications

3M™ Dyneon™ PTFE Micropowder TF 9201Z can be added to oils, fats, polymers, paints, elastomers and coatings. Typical additional quantity can vary between < 1 % and 20 % and depends on the selected matrix and the desired properties. Plastics that can benefit from the properties of TF 9201Z include polyacetal, polyamide, polycarbonate, polyester, polyimide, polysulfide and polysulfone. Elastomers include fluoroelastomers, neoprenes, nitriles and silicones.

### Processing Recommendations

3M™ Dyneon™ PTFE Micropowder TF 9201Z is an agglomerate. With suitable processing techniques it can be broken up and then divided further. This process can take place with the use of bead mills, Turrax roller mills or during extrusion in an extruder. Deagglomeration should always take place during compounding and / or in the intended matrix.

These mixing processes ensure that the micropowder is distributed as evenly as possible within the matrix so as to achieve the desired effect. Due to the difficult dosing properties of the micropowder, Dyneon recommends carrying out dosing when the material temperature is less than 19 °C. With thermoplastic materials it should be added directly to the melt.

As PTFE is an extremely inert substance, precautionary measures must be taken to ensure that the polymer remains within the matrix in the desired quantity. In liquids, this can be achieved by adding surfactants or by adjusting the viscosity. In solids, enriching the PTFE on the surface is often desired so as to adjust the ideal reduction of the friction resistance or to improve the non-stick effect.

### Storage and Handling

3M™ Dyneon™ PTFE Micropowder TF 9201Z can be stored for a relatively long period of time. It should be kept in a clean, dry place at temperatures below 30 °C.

### Safety Instructions

Follow the normal precautions observed with all fluoropolymer materials.

Please consult the Material Safety Data Sheet and Product Label for information regarding the safe handling of the material. By following all precautions and safety measures, processing these products poses no known health risks. General handling/processing precautions include: 1) Process only in well-ventilated areas. 2) Do not smoke in areas contaminated with powder/residue from these products. 3) Avoid eye contact. 4) If skin comes into contact with these products during handling, wash with soap and water afterwards. 5) Avoid contact with hot fluoropolymer.

Potential hazards, including release of toxic vapours, can arise if processing occurs under excessively high temperature conditions. Vapour extractor units should be installed above processing equipment. When cleaning processing equipment, do not burn off any of this product with a naked flame or in a furnace.

### Delivery Form

3M™ Dyneon™ PTFE Micropowder TF 9201Z is delivered in agglomerate form.

Packaging sizes are:

- 25 kg cardboard box, containing one PE-bag with 25 kg content
- 300 kg cardboard box, containing 12 PE-bags each with 25 kg content

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### Important Notice

All information set forth herein is based on our present state of knowledge and is intended to provide general notes regarding products and their uses. It should not therefore be construed as a guarantee of specific properties of the products described or their suitability for a particular application. Because conditions of product use are outside Dyneon's control and vary widely, user must evaluate and determine whether a Dyneon product will be suitable for user's intended application before using it.

The quality of our products is warranted under our General Terms and Conditions of Sale as now are or hereafter may be in force.

Technical information, test data, and advice provided by Dyneon personnel are based on information and tests we believe are reliable and are intended for persons with knowledge and technical skills sufficient to analyze test types and conditions, and to handle and use raw polymers and related compounding ingredients.

No license under any Dyneon or third party intellectual rights is granted or implied by virtue of this information.

General recommendations on health and safety in processing, on work hygiene and on measures to be taken in the event of accident are detailed in our material safety data sheets.

You will find further notes on the safe handling of fluoropolymers in the brochure "[Guide for the safe handling of Fluoropolymers Resins](#)" (download link) by PlasticsEurope, Box 3, B-1160 Brussels, Tel. +32 (2) 676 17 32.

You can also download it with your smartphone using the QR code below.



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Web Site: [www.dyneon.eu](http://www.dyneon.eu)

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