

PlasACRYL™ T20 for use with EUDRAGIT® aqueous-based acrylic polymers

PlasACRYL™ T20 coating system additive

PlasACRYL™ T20 is a 20% emulsion of anti-tacking agent and plasticizer that eases the preparation of a robust spray suspension. It offers several advantages in preparation and decreases the amount of spray suspension without a negative effect on the functionality. PlasACRYL™ T20 is commonly used in conjunction with acrylic polymer coating systems for tablet, pellet and crystal coatings.

Applications

- Easy to use coating system additive
 - plasticizer
 - anti-tacking agent
- Enteric coating systems
- Sustained release systems

Features

- Eliminates the need for talc
- Will not settle in spray lines
- Prevents nozzle clogging
- No high shear mixing needed
- Widely accepted ingredients
- Aids in reducing tablet to tablet cohesion

Benefits

- Reduced preparation time and steps
- About 30% less spray suspension and coating time
- Decreased overall production costs

Benefits in switching from Talc to PlasACRYL™ T20

Example formulation for 100 kg tablets

Excipient	Talc formulation [kg]	PlasACRYL™ T20 formulation [kg]	on dry polymer substance [%]
EUDRAGIT® L 30 D-55	16.667	16.667	
Talc	2.500		50%
PlasACRYL™ T20		2.500	50%
TEC	0.500	0.250	10% / 5%
Water	12.333	3.983	
Total	32.000	23.400	

PlasACRYL™ T20 formulation is 73% of Talc formulation

TEC needs to be added, but no high shear mixing is required

- **No homogenizing necessary**
less preparation time = decreased preparation costs
- **Decreased coating costs**
27% less coating material = 27% less coating time

Physical properties

PlasACRYL™ T20 @ 25°C	Ingredients	CAS #
Appearance: uniform white cream	Water	7732-18-5
Thixotropic: viscosity decreases upon shaking/stirring	Glyceryl Monostearate	123-94-4
pH: 4 ± 1	Triethyl Citrate	77-93-0
Flash point: no flash point	Polysorbate 80	80 9005-65-6

Preferred storage conditions: Store in a well ventilated place. Store in tightly closed containers. Protect from freezing.

EUDRAGIT® L 30 D-55 enteric coating with PlasACRYL™ T20 as an Anti-Tacking Agent

Formulation

This formulation is calculated for a standard quantity of 1 kg spray suspension. The quantity for film coating of your substrate depends on the application and surface area of the substrate. Please contact us if you need assistance to calculate your individual formulation.

Function	Ingredient	Quantity based on dry polymer [%]	Quantity to be weighed [g]	Dry substance [g]
Polymer	EUDRAGIT® L 30 D-55		578.7	173.6
Plasticizer	Triethyl Citrate	5.2	9.0	9.0
Anti-Tacking	PlasACRYL™ T20*	10.0	86.5	17.3
Diluent	Water		325.8	
Total			1000.0	199.9

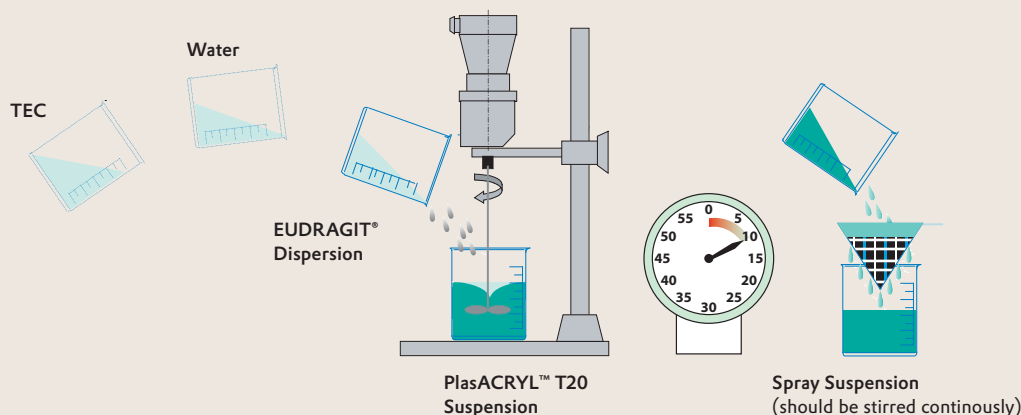
* PlasACRYL™ T20 contains Glycerol Monostearate, Triethyl Citrate and Polysorbate 80

Spray Suspension

PlasACRYL™ T20 needs to be shaken before use to transfer it in a liquid state, as it shows thixotropic behavior.

EUDRAGIT® dispersion, water and TEC are stirred into the PlasACRYL™ T20 suspension for 10 minutes by using a conventional propeller stirrer.

Pass the spray suspension through a 0.5 mm sieve.



Coating Parameters

The tables below give examples of process parameters for film coating. Please contact us if you need technical support to find the right parameters for your specific equipment, batch size and substrate combinations.

EUDRAGIT® L 30 D-55 on tablets (1 kg) in O'Hara LabCoat

Equipment set-up

Drum speed	20 rpm
Number of spray guns	1
Nozzle bore	1.2 mm
Distance product/spray gun	10 cm
Internal tube diameter	2.0 mm

Process parameter set-up

Atomizing air pressure	1.0 bar
Flat pattern air pressure	1.0 bar
Drying air volume	120 - 125 m ³ /h
Drying air capacity	2.0 - 2.1 m ³ /min/kg product

Process data

Inlet air temperature	50 - 55 °C
Exhaust air temperature	30 - 35 °C
Product temperature	29 - 31 °C
Pan diff. pressure	-0.4 mbar
Spray rate	6 - 8 g/min/kg
Final drying at 40°C (air oven)	2 hrs

EUDRAGIT® L 30 D-55 on particles (800 g) in Glatt GPCC 1.2, top spray

Equipment set-up

Nozzle bore	1.2 mm
Distance nozzle/product	10 cm
Internal tube diameter	2.0 mm

Process parameter set-up

Atomizing air pressure	2.0 bar
Filter rattling time	5 s
Filter rattling interval	30 s
Drying air volume	70 - 80 m ³ /h
Drying air capacity	1.4 - 1.7 m ³ /min/kg product

Process data

Inlet air temperature	40 - 50 °C
Exhaust air temperature	27 - 30 °C
Product temperature	26 - 29 °C
Spray rate	8 - 15 g/min/kg
Final drying at 40°C (air oven)	2 hrs

EUDRAGIT® FS 30 D colon targeting with PlasACRYL™ T20 as an Anti-Tacking Agent

Formulation

This formulation is calculated for a standard quantity of 1 kg spray suspension. The quantity for film coating of your substrate depends on the application and surface area of the substrate. Please contact us if you need assistance to calculate your individual formulation.

Function	Ingredient	Quantity based on dry polymer [%]	Quantity to be weighed [g]	Dry substance [g]
Polymer	EUDRAGIT® FS 30 D		606.1	181.8
Anti-Tacking	PlasACRYL™ T20*	10.0	90.9	18.2
Diluent	Water		303.0	
Total			1000.0	200.0

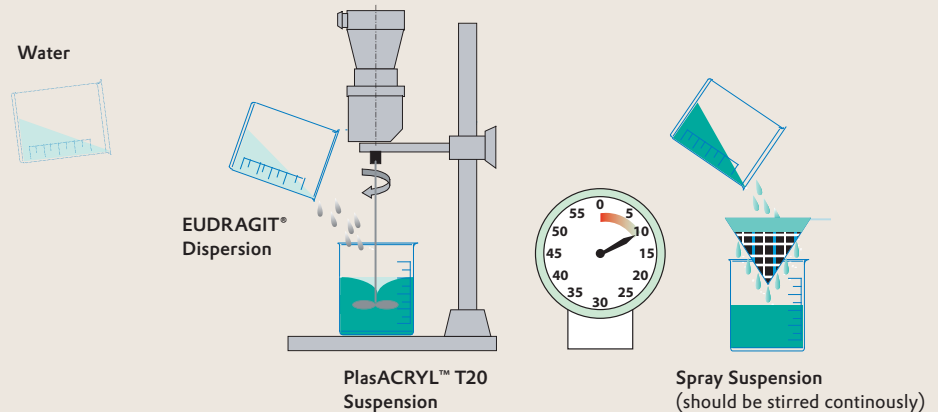
* PlasACRYL™ T20 contains Glycerol Monostearate, Triethyl Citrate and Polysorbate 80

Spray Suspension

PlasACRYL™ T20 needs to be shaken before use to transfer it in a liquid state, as it shows thixotropic behavior.

The EUDRAGIT® dispersion and water are stirred into the PlasACRYL™ T20 suspension for 10 minutes by using a conventional propeller stirrer.

Pass the spray suspension through a 0.5 mm sieve.



Coating Parameters

The tables below give examples of process parameters for film coating. Please contact us if you need technical support to find the right parameters for your specific equipment, batch size and substrate combinations.

EUDRAGIT® FS 30 D on tablets (1 kg) in O'Hara LabCoat

Equipment set-up

Drum speed	20 rpm
Number of spray guns	1
Nozzle bore	1.2 mm
Distance product/spray gun	10 cm
Internal tube diameter	2.0 mm

Process parameter set-up

Atomizing air pressure	1.0 bar
Flat pattern air pressure	1.0 bar
Drying air volume	120 - 125 m ³ /h
Drying air capacity	2.0 - 2.1 m ³ /min/kg product

Process data

Inlet air temperature	45 - 50 °C
Exhaust air temperature	30 - 33 °C
Product temperature	29 - 31 °C
Pan diff. pressure	-0.4 mbar
Spray rate	5 - 7 g/min/kg
Final drying at 40°C (air oven)	2 hrs

EUDRAGIT® FS 30 D on particles (400 g) in Hüttlin Microlab, bottom spray

Equipment set-up

Nozzle bore	0.8 mm
Internal tube diameter	2.0 mm

Process parameter set-up

Atomizing air pressure	3.0 bar
Filter blowing time	0.3 s
Filter rattling interval	3 s
Drying air volume	40 m ³ /h
Drying air capacity	~ 1.7 m ³ /min/kg product

Process data

Inlet air temperature	~ 35 °C
Exhaust air temperature	22 - 25 °C
Product temperature	21 - 25 °C
Spray rate	10 - 15 g/min/kg
Final drying at 40°C (air oven)	2 hrs

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