



Ultra Purge™ PO

Ready-to-Use Chemical Purging Compound

Benefits

- High efficiency
- Rapid cleaning effect
- Easy to use
- Operator and equipment safe
- Wide application range

Description

Ultra Purge™ PO is a ready-to-use chemical purging compound. It can be used for cleaning injection molding, hot runners and extrusion and sheet extrusion applications. Ultra Purge™ PO can also be used for the cleaning of screw, barrel, nozzle, hot-runner and gate of injection molding machines processing thermoplastic resins. The purging concentrate consists of highly efficient cleaning additives and does not contain abrasives.

Ultra Purge™ PO can be used at processing temperatures from 170°C (338°F) to 300°C (572°F).

The purging compound is especially recommended for color and material change as well as for removal of black spots, carbon residues and shut-downs.

Ultra Purge™ PO is suitable for following thermoplastic resins:

Resin	Suitable
Amorphous resins	
Crystalline resins	++
PA, POM	
PET	
Polyolefins	++
PS	+
TPE-TPR	+
High-temperature engineering resins	
PVC	
TPU	
Transparent polyamides, CA, CAB, when switching from any resin to PMMA	
When switching from any resin to PC	
When switching from any resin to PMMA	

Typical Properties

Appearance

Translucent white granules mixed with grayish-brown tablets

Special Notes

- Do not load Ultra Purge™ through heated feeding line - Ultra Purge™ starts to melt at 80°C / 176°F.
- Do not allow a longer soak time than suggested.
- Do not use more than recommended quantities of Ultra Purge™ per cleaning.
- Do not increase temperatures when dealing with thermo-sensitive resins or additives.
- Do not mold difficult-to-eject parts - when molding Ultra Purge™ you may get a short shot.
- Do not use Ultra Purge™ outside its working temperature range.

Application

This document is a general description on how to use Ultra Purge™. Request your customized instructions by contacting your nearest sales office or local distributor.

Please read carefully the SDS before using Ultra Purge™.

We recommend the following cleaning procedures.





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Cleaning of Screw and Barrel – Injection Molding:

1. Move the injection unit to the back position. We recommend keeping the barrel full of resin when adding Ultra Purge™ in the machine.
2. Manually remove all possible contamination sources in the hopper/mixer/filters.
3. Add Ultra Purge™ (1 barrel capacity).
4. Make injections until you see Ultra Purge™ being ejected through the nozzle.
5. For machines larger than 500 tons, we recommend reducing the shot size to 20% of the maximum allowed shot size.
6. For best performance, we recommend 3 minute soak time.
7. Add the next production resin/color directly after Ultra Purge™ and make injections until Ultra Purge™ is displaced from the machine. *(In case of material change with different working temperatures, empty the barrel from Ultra Purge™ before adding the next production resin and set the temperatures to the next production settings.)*
8. Make 4-5 injections with the next resin to completely displace Ultra Purge™.
9. If contamination persists, repeat steps.

Cleaning of Hot-Runner System – Mold open – Injection Molding:

1. We recommend keeping the barrel full of resin when adding Ultra Purge™ in the machine.
2. We recommend increasing hot-runner temperatures (tips and manifold), if possible, and nozzle by 30 °C/54 °F.
3. Manually remove all possible contamination sources in the hopper/mixer/filters.
4. Add Ultra Purge™ (1 barrel capacity).
5. With mold open, make injections until you see Ultra Purge™ being ejected through the hot-runners.
6. For machines larger than 500 tons, we recommend reducing the shot size to 20% of the maximum allowed shot size.
7. For best performance, we recommend 3 minute soak time. Add the next production resin directly after Ultra Purge™.
8. Continue making injections with Ultra Purge™.
9. Make 4-5 injections with the next resin to completely displace Ultra Purge™. Set all the parameters to the next production settings.
10. If contamination persists repeat steps.

Cleaning of Hot-Runner System – Mold closed – Injection Molding:

1. We recommend keeping the barrel full of resin when adding Ultra Purge™ in the machine.
2. If possible, we recommend increasing hot runner temperatures (tips and manifold) by 30 °C/54 °F.
3. Manually remove all possible contamination sources in the hopper/mixer/filters.
4. Add Ultra Purge™ (1 barrel capacity) and mold parts until 100% Ultra Purge™ is molded into parts.
5. Add the next production resin directly after Ultra Purge™.
6. Continue molding parts out of the Ultra Purge™.
7. Make 4-5 cycles with the next resin to completely displace Ultra Purge™. Set all the parameters to the next production settings.
8. If contamination persists, repeat steps.

Cleaning for Shut-down and Start-up – Injection Molding:

SHUT DOWN

1. Move the injection unit to the back position. We recommend keeping the barrel full of resin when adding Ultra Purge™ in the machine.
2. Add half barrel capacity of Ultra Purge™.
3. Reduce the shot size and make injections until the barrel is completely empty. DO NOT ADD RESIN AFTER ULTRA PURGE™!
4. Turn off the machine completely (do not leave heaters in "Maintenance/Idle" mode).

START-UP

1. Turn on the machines to production settings, load half barrel capacity of Ultra Purge™ followed by your production resin and begin normal production.
2. If contamination persists, follow the standard cleaning procedure. It is normal to see contamination being flushed out on startup.





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Cleaning of Screw and Barrel – Extruder:

1. We recommend keeping the barrel full of resin when adding Ultra Purge™ in the machine.
2. We recommend removing the finest layer of the screen pack. Make sure that the pressure or torque force remains within safety limits when running Ultra Purge™.
3. Add Ultra Purge™ (approximately 1.5 times the extruder barrel capacity).
4. Extrude at low speed until Ultra Purge™ is ejected from the machine.
5. We recommend letting Ultra Purge™ soak in the barrel for 5 minutes. Allow for a 10 minute soak time for difficult applications.
6. Add the next production resin directly after Ultra Purge™.
(In case of material change with different working temperatures, empty the barrel from Ultra Purge before adding the next production resin and set the temperatures to the next production settings.)
7. Extrude the next production resin at high speed to completely displace Ultra Purge™.
8. If possible, replace the screen pack during this phase.
9. If contamination persists, repeat steps.

Cleaning for Shut-down and Start-up – Extruder:

SHUT DOWN

1. We recommend keeping the barrel full of resin when adding Ultra Purge™ in the machine.
2. We recommend removing the finest layer of the screen pack. Make sure that the pressure or torque force remains within the safety limits when running Ultra Purge™.
3. Add Ultra Purge™ (1 barrel capacity).
4. Purge out until the barrel is completely empty. **DO NOT ADD RESIN AFTER ULTRA PURGE™!**
5. Turn off the machine completely (do not leave heaters in "Maintenance/Idle" mode).

START-UP

1. Turn on the machines to production settings, load half barrel capacity of Ultra Purge™ followed by your production resin and begin normal production.
2. If possible, replace the screen pack during this phase.

3. If contamination persists, follow the standard cleaning procedure. It is normal to see contamination being flushed out on startup.

Cleaning – Sheet Extrusion

1. Before starting the purging process, decrease the temps in the head middle area (-20°C/-40°F) and increase the temps on the sides (+20°C/+40°F).
2. Manually remove all contaminations from the feeding area.
3. We recommend keeping the barrel full of resin when adding Ultra Purge™ in the machine.
4. We recommend removing the finest layer of the screen pack. Make sure that the pressure or torque force remains within the safety limits when running Ultra Purge™.
5. Add Ultra Purge™; the amount required for the purging process equals 1 full system capacity (barrel and head).
6. Reduce the screw rotation speed in order to allow Ultra Purge™ to pass through the barrel in 5-10 minutes.
7. Load the next production resin directly after Ultra Purge™.
8. When Ultra Purge™ starts to be ejected, increase the screw rotation to the maximum safe speed to flush out all contaminations.
9. Set the parameters to the next production settings and begin normal production.
10. If possible, replace the screen pack during this phase.
11. If contamination persists, repeat steps.



Don't just purge...ULTRA PURGE!™



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Cleaning for Shut-down and Start-up – Sheet Extrusion:

SHUT DOWN

1. We recommend keeping the barrel full of resin when adding Ultra Purge™ in the machine.
2. Manually remove all contaminations from the feeding area.
3. We recommend removing the finest layer of the screen pack. Make sure that the pressure or torque force remains within the safety limits when running Ultra Purge™.
4. Add Ultra Purge™. The amount of Ultra Purge™ required for the purging process equals 50% of the system volume capacity (barrel and head).
5. Purge out until the barrel is completely empty. **DO NOT ADD RESIN AFTER ULTRA PURGE™!**
6. Turn off the machine completely (do not leave heaters in "Maintenance/Idle" mode).

START-UP

1. Turn on the machine to production settings.
2. Add Ultra Purge™. The amount of Ultra Purge™ required for the purging process equals 50% of the system volume capacity (barrel and head). Load the next production resin directly after Ultra Purge™.
3. Reduce the screw rotation speed. When Ultra Purge™ starts to be ejected, increase the screw rotation to the maximum safe speed to flush out all contaminations.
4. Set all the parameters to production settings and begin normal production.
5. If possible, replace the screen pack during this phase. If contamination persists, follow the standard cleaning procedure. It is normal to see contamination being flushed out on startup.

Dosage

Please refer to specific cleaning process.

Storage/Handling

Ultra Purge™ PO should be stored in a dry indoor area at room temperature. For further information on storage, handling, hazards, etc. please refer to safety data sheet.

Shelf Life

18 months

Packaging

Ultra Purge™ PO is available in a variety of package sizes. Please contact Chem-Trend customer service for details.

Further Information

Please request information on our complete range of materials for this industry.

While the technical information and suggestions for use contained herein are believed to be accurate and reliable, nothing stated in this bulletin is to be taken as a warranty either expressed or implied.



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