Ultra Purge™ 1220

Ready-To-Use Purging Compound with Ultra-X™

Benefits

- High efficiency
- Rapid cleaning effect
- Easy to use
- Operator and equipment safe
- Wide application range
- According to FDA regulations (21 CFR) all components of the formulation of Ultra Purge™ 1220 are permitted for direct or indirect food contact
- The formulation of Ultra Purge™ 1220 is in compliance with European Plastics Regulation No 10/2011

Description

Ultra Purge™ 1220 with Ultra-X™ Technology is a ready-to-use granular purging compound for screw, barrel, nozzle, hot-runner and gate of injection moulding machines processing thermoplastic resins. Ultra Purge™ 1220 can also be used for cleaning sheet extrusion lines and blow moulding machines with and without accumulator. The active ingredients of the purging compound consist of highly efficient cleaning additives and the product does not contain abrasive substances.

Ultra Purge™ 1220 can be used at processing temperatures from 160 °C (320 °F) to 350 °C (662 °F).

The purging compound is especially recommended for colour and material change as well as for the removal of black specs, carbon residues and shut downs.

Ultra Purge™ 1220 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	Blend of grayish-brown and translucent white granules mixed with grayish-brown tablets

Special Notes

- Do not use on mirror polished surfaces with hardness lower than 45 HRC.
- 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 mould difficult- to-eject parts - when moulding 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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Issue: 09/2020 replaces 10/2018

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Cleaning of Screw and Barrel - Injection Moulding:

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 a 3 minute soak time.
7. Add the next production resin/colour 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 - Mould Open - Injection Moulding:

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 mould 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 a 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 - Mould Closed - Injection Moulding:

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 mould parts until 100% Ultra Purge™ is moulded into parts.
5. Add the next production resin directly after Ultra Purge™.
6. Continue moulding 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 Moulding:

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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Chem Trend
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PRODUCT DATA SHEET

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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 start-up.

Cleaning Blow Moulding Extruder with Accumulator:

1. Before starting the purging process, if possible, increase the accumulator temperature of at least 30°C/54°F.
2. The amount of Ultra Purge™ required (kg or lb) equals 7 times accumulator capacity - e.g. 4L accumulator needs 28 kg of Ultra Purge™ ready to use.
3. As soon as Ultra Purge™ is loaded in the machine, set the temperature of the accumulator back to normal production parameters.
   Please note that on large machines it usually takes more than 1 hour for the temperature to decrease.
4. Load Ultra Purge™ and make shots until Ultra Purge™ is ejected from the die.
5. Reduce the thickness of the parison and adjust accumulator shot size to the maximum allowed settings.
6. Let Ultra Purge™ soak in the barrel and accumulator for 5-10 minutes.
7. Add the next production resin directly after Ultra Purge™.
8. After 4-5 shots with thin parison, increase the parison thickness and make full shots with the production resin to flush away contamination.
9. Set all the parameters to the next production settings. If contamination persists, repeat steps.

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Cleaning for Shut-Down and Start-Up – Blow Moulding Extruder with Accumulator:

SHUT DOWN

1. Add Ultra Purge™ and make shots until the product is ejected from the die.
2. Reduce the thickness of the parison and adjust accumulator shot size to the maximum allowed settings.
3. After 4-5 shots with thin parison, increase the parison thickness and empty the system completely. 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 machine to production settings.
2. Load Ultra Purge™ until it is ejected from the die. Reduce the thickness of the parison and adjust accumulator shot size to the maximum allowed settings.
3. Let Ultra Purge™ soak in the barrel and accumulator for 5-10 minutes.
4. After 4-5 shots with thin parison, increase the parison thickness and make full shots with the production resin to flush away contamination.
5. Begin normal production, if contamination persists follow the standard cleaning procedure. It is normal to see contamination being flushed out on start-up.

Cleaning - Blow Moulding - Extruder without Accumulator:

1. We recommend keeping the barrel full of resin when adding Ultra Purge™ in the machine.
2. In case of difficult colour changes and black specks removal increase the head temperatures of about 30°C/54°F.
   For easy colour changes and thermo-sensitive material DO NOT increase the temperatures.
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™ (roughly 1.5 times the barrel capacity).
5. If present, open the purging valve located on top of the head to allow the resin to be flushed out during the purging process.
6. When Ultra Purge™ is ejected from the die let it soak in the barrel for 5-10 minutes. Add the next production resin directly after Ultra Purge™.
7. Increase and decrease alternatively the parison thickness (if possible) to flush away contamination.
8. If possible, replace the screen pack during this phase.
9. Set all the parameters to the next production settings. If contamination persists, repeat steps

Cleaning for Shut-Down and Start-Up - Blow Moulding - Extruder without Accumulator:

SHUT DOWN

1. 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™.
2. When all production resin has been used up, load 50% barrel volume capacity of Ultra Purge™.
3. If present open the purging valve located on top of the head to allow the resin to be flushed out during the purging process.
4. Extrude at slow screw rotation speed until the barrel is completely empty.
5. Turn off the machine completely (do not leave heaters in “Maintenance/Idle” mode).

START-UP

1. Turn on the machine to production settings.
2. Load Ultra Purge™, at slow screw rotation speed, until it is ejected from the die. Allow Ultra Purge™ to pass through the barrel in 5-10 min.
3. Add the next production resin directly after Ultra Purge™ and begin normal production.
4. If possible, replace the screen pack during this phase.
5. If contamination persists, follow the standard cleaning procedure. It is normal to see contamination being flushed out on start-up.

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Cleaning - Sheet Extrusion:

1. Before starting the purging process, decrease the temperatures in the head middle area (-20°C/-36°F) and increase the temperatures on the sides (+20°C/+36°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 all 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.

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

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Dosage
Please refer to specific cleaning process.

Storage/Handling
Ultra Purge™ 1220 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™ 1220 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.

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