

# NOVACHEM

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## WHAT IS **SUPERNOVA**™

*SuperNova*™ is NOVACHEM's brand of ammonia-free and powder-free chemical purging compound. It removes the residue of old, oxidized and carbonized thermoplastics from cylinder walls, screws, runners and dies. The FDA regards all of the ingredients in *SuperNova* purging compound as "Generally Recognized as Safe". The by-products of the *SuperNova* chemical process are carbon dioxide, and water vapor.

### INSTRUCTIONS FOR USE IN EXTRUSION EQUIPMENT

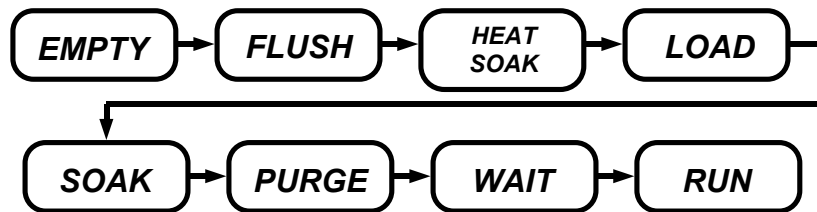
***Supernova*™ Purging Compound will work effectively for all thermoplastic resins and all processing equipment...**

- Instructions for screw-type extruders without multi-layer dies or vented barrels, processing all thermoplastics except temperature sensitive materials are on Page 2.
- Instructions for temperature sensitive materials such as PVC, ABS, acetal (Delrin, Celcon, etc.), TPR's, SARAN, EVOH (Eval), EVA, etc. are on Page 3.
- Further instructions for Multi-layer Dies are on Page 3.
- Further instructions for Vented Barrels are on Page 3.

IF THERE ARE ANY QUESTIONS ABOUT USING  
**SUPERNOVA**, CALL NOVACHEM TECHNICAL SUPPORT,  
TOLL FREE AT: 1-800-762-3984

**BASIC INSTRUCTIONS**

1. **EMPTY** the extruder of the production resin. DO NOT REMOVE THE DIE. Raise heats in all zones after the extruder, especially low velocity areas, dead spots and the die about 100°F (55°C) above production temperature, but don't exceed the safe processing temperature of the production resin. (*SuperNova* is heat activated, and best results are obtained between 500°F and 600°F (between 260°C and 315°C).) Make sure to clean all production material out of the feed area.
2. **FLUSH** the machine by running clean natural HDPE (at least a full system volume of material - but no more than 4 system volumes) to push most of the residual production resin out of the machine. Run the machine empty again.
3. **HEAT SOAK** the machine with the system empty for 15 minutes after temperatures have lined out.
4. **LOAD** the machine with *SuperNova* purging compound. Fill the system until *SuperNova* material emerges uniformly from the die. Keep the heats lip - *SuperNova* is Heat Activated!
5. **SOAK** the system with the screw turning at minimum RPM for 20 to 30 minutes. Keep the throat full of *SuperNova* purging compound.
6. **PURGE** the system empty of the *SuperNova* material. If the machine was heavily contaminated, and you can see visible contamination or black specks as the last of the *SuperNova* empties from the machine, another purge is needed, preferably at high temperature (500°F to 600°F (260°C to 315°C)). Raise heats and repeat steps 4,5 and 6.
7. **WAIT** 5 to 10 minutes after emptying *SuperNova* material from the machine, so that the last residues of *SuperNova*'s chemical ingredients can break down. If this is a shutdown purge, stop now and cut the heats. Otherwise, reset temperatures for normal operation.
8. **RUN** new production material through the system until all traces of *SuperNova* purging compound are removed. Then, begin normal production.



*If your operation is not as described on the previous page, please refer to the appropriate sections on the following page for additional specific instructions.*

**INSTRUCTIONS FOR TEMPERATURE SENSITIVE MATERIALS**

For temperature sensitive materials like PVC, acetal (Delrin, Celcon, etc.), ABS, TPR's, SARAN, EVOH (Eval), EVA, etc., proceed as follows:

T-1. **EMPTY** the machine of the temperature sensitive production resin. Keep your heats at operating temperature. Make sure to clean all production material out of the feed area.

T-2. **FLUSH** the machine by running clean, natural HDPE (at least a full system volume of material - but no more than 4 system volumes) to push most of the residual production resin out of the machine. Run the machine empty again. (If you've been running PVC at low temperature, raise the heats in all zones except the throat to 380°F (195°C).)

T-3. **LOAD** the machine with *SuperNova* material. Fill the system until *SuperNova* extrudes uniformly from the die; keep the throat opening filled with *SuperNova*. Keep the heats at operating temperature.

T-4. **SOAK** the system with the screw turning at minimum RPM for 20 to 30 minutes. Keep the throat full of *SuperNova* purging compound!

T-5. **PURGE** the system empty of the *SuperNova* material. If carbon is present, a second purge will be needed (otherwise, finish up with steps 7 and 8 of the Basic instructions on Page 2).

T-6. **RAISE** heats in all zones after the extruder, especially low velocity areas, dead spots and the die about 100°F (55°C) above production temperature. Best results are obtained between 500°F and 600°F (between 260°C and 315°C). Perform steps 3 through 8 of the Basic Instructions on Page 2.

**INSTRUCTIONS FOR MULTI-LAYER DIES**

Each layer of a multi-layer die can be purged separately. During the purge procedure, run HDPE or other natural, non-heat sensitive material slowly through extruders not being purged.

**INSTRUCTIONS FOR VENTED BARRELS**

Because the gases released by *SuperNova* purging compound are essential to its cleaning action, barrel vents must be capped. Take the following steps:

V-1. **CLEAN** vent opening manually and close the vent with a cap.

V-2. **RAISE** the decompression zone heats about 25°F (15°C).

V-3. Perform steps 1 through 8 of the Basic Instructions, Page 2. In step 3, **VARY** the speed of the screw while running *SuperNova* in the machine. This changes the speed of the material as it flows past the vent opening and ensures complete and even filling.

CAUTION: *SuperNova* purging compound releases carbon dioxide and water vapor during the cleaning process, and these gases can cause pressure build-up under improvised vent caps. Use caution in capping vents and in keeping clear of vent caps during the purge.

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**WRITTEN INQUIRIES CAN BE FAXED TO US AT  
1-203-367-0647.**