

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 BLOW MOLDING EQUIPMENT

The Basic Instructions on Page 2 for using SuperNova will work effectively for:

- Extrusion blow molding machines without accumulators or vented barrels.
- All thermoplastics except temperature sensitive materials such as PVC, ABS, acetal (Delrin, Celcon, etc.), TPR's, etc.

For specific instructions in other cases see the following:

- For Temperature Sensitive Materials, see Page 3.
- For Accumulators, see Page 3.
- For Vented Barrels, see Page 4.

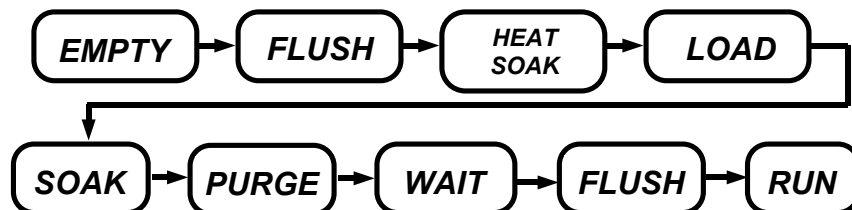
**IF THERE ARE ANY QUESTIONS ABOUT USING
SUPERNOVA, CALL NOVACHEM TECHNICAL
SUPPORT, TOLL FREE AT:**

1-800-762-3984

WRITTEN INQUIRIES CAN BE FAXED TO US AT

BASIC INSTRUCTIONS

1. **EMPTY** the machine of the production resin. Raise heats in all zones after the extruder, especially low velocity areas, dead spots and the heads, about 100°F (55°C) above production temperature but do not exceed the safe processing temperature of the production resin. Remember, *SuperNova* is heat activated and best results are obtained at 500°F to 600°F (260°C to 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 heads. Keep the heats up — *SuperNova* purging compound is Heat Activated!
5. **SOAK** the system with the screw stopped and in the forward position for 30 minutes. Take a shot every 5 to 10 minutes during the soak to keep the heads full of *SuperNova*. Keep the throat full of *SuperNova*!
6. **PURGE** the system empty of the *SuperNova* material. If the machine was heavily contaminated, and you 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.
8. **FLUSH** the machine at elevated temperature with HDPE to remove all traces of *SuperNova*. If this is a shutdown purge, stop now and cut the heats. Otherwise, reset temperatures for normal operation.
9. **RUN** the new production material to begin normal production.



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

INSTRUCTIONS FOR TEMPERATURE SENSITIVE MATERIALS

For temperature sensitive materials like PVC, acetal (Delrin, Celcon, etc.), ABS, TPR's, 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* purging compound. Fill the system until *SuperNova* extrudes uniformly from the heads; keep the throat opening filled with *SuperNova*. Keep the heats at operating temperature.

T-4. **SOAK** the system with the screw stopped and in the forward position for 30 minutes. Take a shot every 5 to 10 minutes during the soak to keep the heads full of *SuperNova* material. Keep the throat full of *SuperNova* material.

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 SYSTEMS WITH ACCUMULATORS

A-1. Increase the shot size by 10% (if possible, move the ram back).

A-2. While **LOADING** the machine with *SuperNova* purging compound (Step 4) run the accumulator on automatic. Operate the accumulator at least 2 – 4 times to ensure that the system is completely filled with *SuperNova* material.

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 9 of the Basic Instructions, Page 2. In step 4, **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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