NOVACHEM Tech Note

MIXING INSTRUCTIONS FOR SUPERNOVA™ and SUPERNOVA™ HT CHEMICAL PURGING COMPOUND CONCENTRATES

SuperNova™ Chemical Purging Compound *Concentrate* and SuperNova™ HT Chemical Purging Compound *Concentrate* include the active chemical ingredients for the purging process. The user must blend the Concentrate with an appropriate amount and type of carrier resin before purging.

What Carrier Resin?

The ideal carrier resin is a natural polyethylene that has the same or greater melt viscosity as the resin being purged.

For very soft resins like EVA, Flexible PVC, GP Styrene, LDPE or other low temperature resins processed below 425°F (except rigid PVC), use as a carrier for SuperNova™ *Concentrate* a LDPE or a LLDPE that is slightly stiffer than your production resin.

For most other resins that are processed up to 550°F, use as a carrier for SuperNova™ *Concentrate* a fractional melt (MI in the range of 0.4 to 0.9) HDPE.

For very stiff resins (e.g., fluoropolymers, very low MI PE or PP, low styrene Noryl, PEEK, RYTON, polysulfone, TORLON, ULTEM, other high temperature resins processed above 550°F, or rigid PVC with Shore D hardness of 80 or higher) use as a carrier for SuperNova™ HT *Concentrate* a HMW PE with a MI of 0.03 or less (or an HLMI of 6 or less).

If an appropriate PE is not available for use as a carrier resin, other resins can be used as carriers for color change and material change application only. In cases where the problem is degraded or carbonized polymer ("black specks") users of *Concentrates* should obtain guidance by calling NOVACHEM's toll-free product support number, 1-800-762-3984.

For cases where use of a non-PE carrier is appropriate, the following general rules apply:

1. For color changes use as a carrier natural resin (or resin of the next production color) of the same type being purged.
2. For material changes, refer to the chart on the reverse side for guidance in selecting a carrier.
3. Regrind or undried resin will be effective as a carrier as long as the guideline about melt viscosity is followed.
4. DO NOT use TPR's, Kraton, PVC, Acetate, polyacetals (e.g., CELCON or DELRIN) as a carrier. Use polyethylene or call NOVACHEM's toll-free product support number for further guidance.
5. For purging K-Resin, use natural polystyrene to flush the K-Resin from the system then use polystyrene as the carrier.

Current Production Resin	← New Production Resin →												
	ABS	Acrylic	NORYL	NYLON	Polycarb	Polyester	PE	PP	Styrene	Sulfone	Urethane	RYTON	SAN
ABS	same	either	ABS*	ABS*	ABS*	ABS*	either	either	ABS	ABS*	ABS	ABS*	either
Acrylic	Acrylic*	same	Acrylic*	Acrylic*	Acrylic*	Acrylic*	either	Acrylic	Acrylic	Acrylic*	Acrylic	Acrylic*	Acrylic
NORYL	NORYL*	NORYL*	same	NORYL*	NORYL	NORYL*	either	NORYL*	NORYL	NORYL	NORYL*	NORYL	NORYL
NYLON	NYLON*	NYLON*	NYLON	same	NYLON	either	either	NYLON*	NYLON	either	NYLON*	NYLON	either
Polycarb	PC*	PC*	PC	PC	same	PC	either	PC*	PC	PC	PC*	PC	PC
Polyester	Polyester*	Polyester*	either	either	Polyester	same	either	Polyester*	Polyester	either	Polyester*	either	either
PE	PE	PE	PE	PE	PE	PE	same	PE	PE	PE	PE	PE	PE
PP	PP	PP	PP*	PP	PP*	PP*	either	same	PP	PP*	PP	PP*	PP
Styrene	Styrene	Styrene	Styrene	Styrene	Styrene	Styrene	either	Styrene	same	Styrene	Styrene	Styrene	Styrene
Sulfone	PC*	PC*	PC*	PC	PC	PC	either	PC*	PC	same	PC*	PC	PC*
Urethane	either	either	PU*	PU*	PU*	PU*	either	either	PU	PU*	same	PU*	either
RYTON	RYTON*	RYTON*	RYTON	either	either	either	either	RYTON*	RYTON	either	RYTON*	same	RYTON
SAN	either	either	SAN	SAN	either	SAN	either	PP	SAN	SAN	SAN	SAN	same

To use the chart: Find the resin you want to purge out in the column at the left, and follow that row across to the column headed by the resin you are changing over to. The suggested carrier resin is shown in that block. The notation "either" means you can use either the current resin or the next resin as the carrier. An asterisk (*) means you will need to use a resin with wide temperature tolerance, such as HDPE, as a bridging material while changing to the new production temperature. For resins not shown, call NOVACHEM for further guidance.

What Proportions?

SuperNova™ Chemical Purging Compound *Concentrate* and SuperNova™ HT Chemical Purging Compound *Concentrate* should be blended initially in 45% by weight proportion to the appropriate carrier resin; a batch of purging blend should consist of 9 parts by weight *Concentrate* and 11 parts by weight carrier.

As you gain experience with Novapurge, you may find that you can reduce the percentage of *Concentrate* that you use while maintaining acceptable purging performance.

How Much Blend to Prepare?

For most applications, make up about 2 system volumes of purging blend; for hot manifold or injection blow molding systems, make up 5 system volumes.

Combine the Concentrate and carrier resin in a sturdy container and tumble-mix.

For instructions on how to perform the purge, read the Instructions for Using SuperNova™ Chemical Purging Compound.

A Technical Note from:

NOVACHEM
955 Connecticut Avenue
Bridgeport, Connecticut 06607-1222
1-800-7623984