

# INSTAPURGE™

## CLEANING COMPOUND FOR INJECTION MOULDING AND EXTRUSION EQUIPMENT

### What is InstaPurge™?

InstaPurge™ Commodity-Grade Cleaning Compound from Engineering Chemicals B.V. is a mechanical purging agent that dislodges the residues of previous production colors and resins that remain on cylinder walls and screws after the barrel is run empty. It permits these residues to be quickly removed from the machine and is then readily purged from the barrel by the next production colour or resin. The machine is back to producing good parts within minimum downtime.

### Instructions for use in injection moulding equipment

InstaPurge™ Cleaning Compound is recommended for the following situations:

- Conventional reciprocating screw injection moulding systems. If equipped with hot runner systems, refer to the separate instructions – see Note 2.
- All thermoplastics processed at temperatures between 175°C and 332°C. For elevated temperatures see the Note 1.

### Instructions for using InstaPurge™

1. **VERIFY** that the temperature of each heating zone is at an appropriate level (at least 175°C, but not above 330°C – see Note 1).
2. **EMPTY** the machine of the production resin as thoroughly as possible: if backpressure and screw speed are adjustable you can use maximum backpressure and high screw speed to empty the barrel most effectively. Results may be enhanced by pre-flushing the machine with clean natural resin. If you choose to pre-flush, refer to Note 2.
3. **LOAD** the hopper with the required amount of InstaPurge™ Cleaning Compound. In a typical purging situation, about one to two barrel capacities of InstaPurge™ should be needed. More or less material may be required, depending on such things as the difficulty of the application and the condition of the equipment. Start with one barrel capacity and adjust as conditions dictate.
4. **FILL** the barrel with InstaPurge™ Cleaning Compound by rotating the screw. For best results, keep the reciprocating screw forward, and backpressure at maximum. Use normal screw RPM until InstaPurge™ begins to emerge from the nozzle – then increase to maximum safe RPM.
5. **PURGE** the system empty of InstaPurge™ when the material emerging from the nozzle is almost clean. Do this by dropping the backpressure (if raised) tot normal level and performing high-velocity purge shots. If the machine was heavily contaminated and contamination is still visible as the last of the InstaPurge™ empties from the machine, repeat steps 3 through 5. If nozzle or check-ring hang-up is suspected, see Note 3.
6. **RUN** new production material through the system until all traces of InstaPurge™ are removed. Removal will be most thorough and efficient if maximum backpressure and maximum safe screw RPM are used. Then, begin normal production.

FOR TECHNICAL SUPPORT OF InstaPurge™ CLEANING COMPOUND, CONTACT  
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## Instructions for use in hot manifolds

1. **EMPTY** the systems of the production resin as thoroughly as possible. Results may be enhanced by pre-flushing the machine with clean natural resin. If you choose to pre-flush, refer to Note 2. Retract the screw and barrel from the mould.
2. **RAISE** the manifold temperature 30°C to increase flow *provided this can be done without exceeding temperature limitations of the equipment of the materials involved*. Otherwise, leave heats at operation temperature.
3. **PRE-PURE** the screw and barrel (while retracted from the mould) using steps 3 through 5 of the basic instructions. Then, move the screw and barrel back to the mould.
4. **LOAD** the hopper with required amount of InstaPurge™ Cleaning Compound. Start with ½ of the barrel capacity and adjust as conditions dictate.
5. **INJECT** InstaPurge™ through the manifold, ejecting the parts immediately (while warm). De-moulding of the purge material may be easier if a mould release is used and shot size is reduced (See Note 4 for an alternate method.) Continue until InstaPurge™ parts are visually free from colour and/or carbon contamination. Then, inject parts until the system runs empty.
6. **PURGE** the residual InstaPurge™ from the system by running the next production resin, moulding parts until no InstaPurge™ can be detected. Then restore any changed temperature settings and resume normal production.

## ADDITIONAL NOTES AND INFORMATION

### NOTE 1 – ELEVATED TEMPERATURES

It is recommended that you avoid subjecting InstaPurge™ Cleaning Compound to temperatures above 330°C. In this thermal environment some polymers used in InstaPurge™ may begin to decompose and release irritant vapours. This should not be an issue if exposure to temperatures near 330°C is brief (a few minutes). For regular use with materials processed well above 332°C, contact Engineering Chemicals B.V. to discuss alternative products.

### NOTE 2 – PRE-FLUSHING

For some difficult changeovers, results may be enhanced by pre-flushing with clean natural resin before loading the cleaning compound. This will push most of the residual production resin out of the machine. If you choose to pre-flush, use resin as stiff as, or stiffer than the production resin that is being displaced and of a resin type similar to either the initial or succeeding production resin. Flush at least one full system volume of material – but no more than 4 system volumes – through the system.

### NOTE 3 – NOZZLE AND CHECK RING HANG-UP

Occasionally colour or degraded resin particles will hang up stubbornly in the nozzle or check ring area. This should be addressed with modest use of heat and increased agitation. If the nozzle is the problem, raise the temperature of the nozzle 30°C. If the check ring is the source of the problem, drop the backpressure and with the screw rotating, retract it in quick “pulses” to lift the check ring and dislodge contamination. In both instances, follow up with short high pressure purge shots to complete cleaning.

#### NOTE 4 – VENTED BARRELS

In system design permits, a hot manifold may be purged by extruding InstaPurge™ through the mould at a safe velocity with little or no backpressure, using maximum safe screw RPM.

#### NOTE 5 – GRADE SELECTION

InstaPurge™ is available as a filled or unfilled product. The filler gives the product additional “scrubbing” effectiveness for difficult changeovers, but extensive use over a long period may cause wear in soft material finishes. Engineering Chemicals B.V. recommends use of the unfilled grade where: (1) the more aggressive nature of the filled material may cause concern, (2) the equipment has narrow passages (less than 1.0mm) that might become blocked, or (3) the next production resin is of such low viscosity (e.g., flexible PVC, LDPE, etc) that removal of a filled cleaning compound could be difficult. Otherwise, the filled grade can be used. *Use of the filled grade is not recommended for hot manifolds.*

#### NOTE 6 – OPERATING PRINCIPLES

InstaPurge™ gains its purging effectiveness from three factors:

- The proprietary formulation works in combination with a high level of agitation during the purging process to dislodge contaminants.
- The formula includes resins and other ingredients that are effective in providing mechanical “push” over a wide temperature range.
- An exclusive ingredient in InstaPurge™ causes it to be much less tenacious than other resins of similar viscosity in its adhesion to internal metal surfaces.



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