FluoSolv® Eleven-X

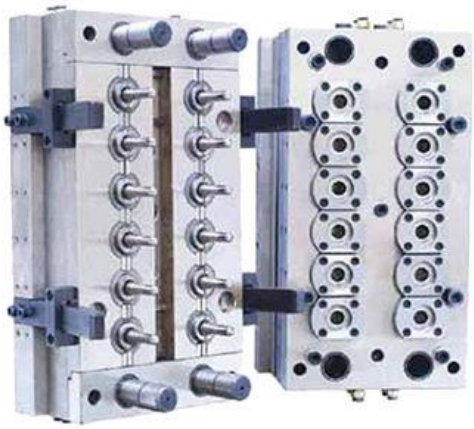
Technical Data Sheet

High-Performance Cold Cleaning Solvent - Injection Molding

High-performance cleaning solvent ideal for use in injection mold cleaning on hot, inline press cleaning or cold, offline press cleaning. Fast evaporating, non-flammable, high-solvency, residue-free, and non-carcinogenic - ideal replacement for n-propyl bromide (nPB), methylene chloride (DCM), trichloroethylene (TCE) and perchloroethylene (PERC).

Description:

NuGeneration Technologies' FluoSolv Eleven-X was developed as a drop-in replacement for nPB, TCE and PERC cold-cleaning applications. As these solvents are being banned for environmental, health and safety reasons, a suitable alternative that meets the desirable properties of fast-evaporation, non-flammability, high-solvency and improved worker health and safety is more needed than ever. After two years of careful development and testing, **FluoSolv Eleven-X** was created to be able to meet of these criteria. **FluoSolv Eleven-X** is a powerful cleaner, and ideal for injection molding cleaning both inline and offline, on hot or cold molds where perfect cleaning and limited down time is absolutely crucial



Characteristics:

FluoSolv Eleven-X was formulated to be used at both ambient temperatures for cold-cleaning/wipe applications as well as at elevated temperatures up to 47 °C (117 °F). **FluoSolv Eleven-X** is not listed on the IARC's Monographs as "Carcinogenic", or "Possibly Carcinogenic" like nPB, DCM, TCE and PERC. With a Kb value of 111, **FluoSolv Eleven-X** has incredible solvency, making it a suitable drop-in replacement for nPB, DCM, TCE and PERC. **FluoSolv Eleven-X** is 2000x less toxic than nPB, 20x less toxic than TCE, and 8x less toxic than PERC, and 4x less toxic than DCM according to the ACGIH.

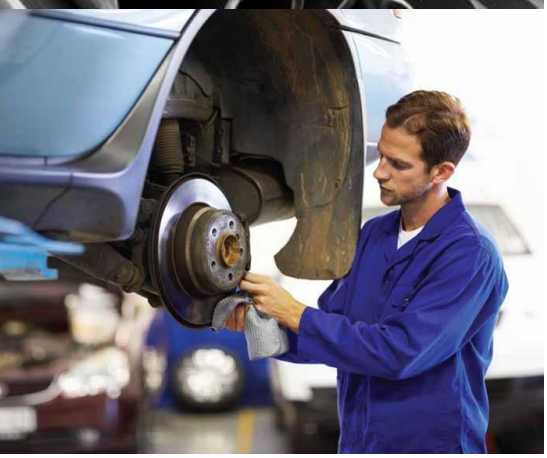
Directions for Use:

FluoSolv Eleven-X is used at 100% concentration, and is effective at ambient temperatures in cold cleaning and wipe applications. However, it can also be used up to 47 °C (117 °F) for improved cleaning. The parameters can vary due to the type and extent of soils to be removed.

Product Benefits

- High-performance, non-flammable, low toxicity solvent blend.
- Removes all polycarbonate, ABS and other plastics, degraded resins, gas deposits, greases, dirt and moisture from injection molds
- Non-flammable - safe in hot, inline wipedowns between injection shots

FluoSolv® Eleven-X Physical Properties



Physical Properties

Use concentration	100% by volume
Bulk Density	10.6 lbs/gal
Operating Temps	Ambient to 47 °C
Boiling Point	47 °C
pH, @100%	N/A
VOC	1200 g/L
Flash Point	None
Cleaning Strength	High
Ozone Impact (ODP)	Zero
Global Warming Potential (GWP)	3.4
Kb Value	111
Vapor Pressure (mm Hg)	326
Regulatory Information	VOC US EPA SNAP Approved
Exposure Limit Information (ppm)	ACGIH: 200 ppm OSHA PEL: 200 ppm

Availability: 1-gallon, 5-gallon, 55-gallon, 275-gallon totes and bulk tankers.

Shipment: Non-regulated material, liquid

Storage: Keep out of direct sunlight. Keep from freezing.
Store between 40 °F - 120 °F.

Disposal: Dispose of in accordance with local, state, and federal regulations. For assistance with disposal contact NuGeneration Technologies at 888-99-NuGen or email: salesteam@nugentec.com.

Regulatory: This product is classified and labeled according to the Globally Harmonized System (GHS).

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EMERGENCY OVERVIEW:

Product may be harmful if swallowed. May be harmful if inhaled.

SAFETY:

Please make sure you have read and understand the product label and SDS before using this product. Avoid breathing vapors, spray or mists. Use only with adequate ventilation. Wash thoroughly after handling. Observe label precautions.

FluoSolv® Eleven-X

Property Comparison

Technical Properties	FluoSolv Eleven-X	nPB	TCE	PERC
Azeotrope	N/A	N/A	N/A	N/A
Flash Point ASTM D-93	None	None	None	None
Initial Boiling Point	47 °C (117 °F)	71 °C (160 °F)	87 °C (189 °F)	121 °C (250 °F)
Specific Gravity (g/ml)	1.270	1.323	1.460	1.620
VOC Content (g/L)	1200	1323	1460	0
Chemistry	Chlorinated	Brominated	Chlorinated	Chlorinated
Vapor Pressure (mm Hg @ 25 °C)	326	111	60	18
Specific Heat (BTU/lb-°F)	0.25	0.27	0.23	0.21
Kauri Butanol Value	111	130	125	90
Hansen Parameters (Disperse / Polar / H2 Bond)	12.9 / 13.7 / 7.2	16.4 / 7.9 / 4.8	8.8 / 1.5 / 2.6	19.0 / 6.5 / 2.9
Surface Tension (dynes/cm @ 25 ° C)	23.8	25.3	28.7	31.8
Cleaning Strength	High	High	High	High
Global Warming Potential (GWP)	3.5	0.3	0.1	0.2
Exposure Limit Information (ppm)	ACGIH: 200 ppm OSHA PEL: 200 ppm	ACGIH: 0.1 ppm OSHA PEL: 5 ppm	ACGIH: 10 ppm OSHA PEL: 100 ppm	ACGIH: 25 ppm OSHA PEL: 100 ppm
Regulatory Information	VOC US EPA SNAP Approved	VOC US EPA SNAP Approved	NESHAP Applies HAP VOC Content	NESHAP Applies HAP VOC Content
Hazardous Air Pollutant (HAP)	No	No	Yes	Yes
DOT Shipping Classification	Non-regulated	Non-regulated	Hazard Class 6.1	Hazard Class 6.1
IARC Cancer Classification	Not listed	2B	2A	2A