



Precision-V 3710DL Solvent Product# 3710DL

Product Description

Techspray® has formulated Precision-V 3710DL to be a drop-in replacement for 3M Novec 7100DL.

Precision-V cleaners leave no residue and evaporate extremely fast, and are nonflammable with no flash-point. Electronics, optics, and metal parts are quickly and thoroughly cleaned, eliminating the need for further rinsing. Precision-V is non-ozone depleting, so ideal replacements for cleaners containing Freon, HFC-141b and AK225.

Precision-V 3710DL is a high purity version of Techspray Precision-V 3710 designed to meet most demanding needs of the electronic industry. It is neither reactive nor corrosive to metals commonly found in the construction of vapor-degreasers and deposition solvent. It is used for precision cleaning where high purity is needed. Product specification are tightly controlled for listed contaminants:

- Ions
- Particulates
- Metals
- Non-volatile residue

Exposure to Precision-V solvents is less hazardous than many other solvents commonly used in vapor-degreasers: e.g. TCE (Trichloroethylene, CAS #79-01-6), nPB (n-Propyl Bromide, CAS #106-94-5), and Perc (Perchloroethylene, CAS #127-18-4).

Features / Benefits

- Drop-in replacement for 3M Novec 7100DL
- Nonflammable
- Non-conductive
- Compatible with plastics
- Low toxicity
- Low global warming potential (GWP)
- Zero ozone depletion potential (ODP)
- VOC-exempt solvent (US EPA)
- Low surface tension for cleaning within tight areas

Applications

- Used in vapor-degreasers and general solvent cleaner
- Cleaning, Data Center Cooling
- Deposition Solvent
- Electronic Cooling
- Heat Transfer
- Immersion Cooling for Data Centers
- Oxygen System Cleaning
- Preservation for Biological Specimens



Typical Product Data and Physical Properties

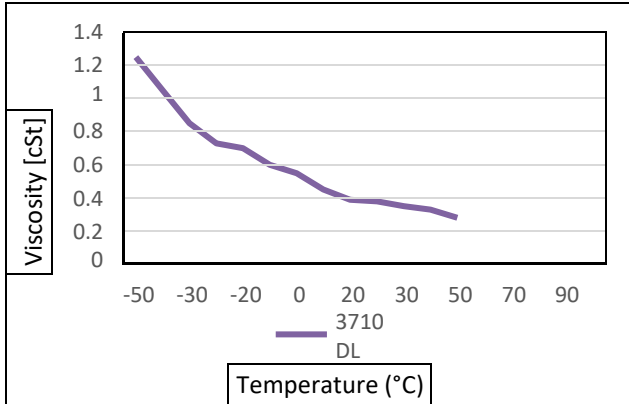
| | |
|--|-----------------------------------|
| Exposure Limit | >200 ppm |
| Physical State | Liquid |
| Odor | ethereal |
| Appearance | Clear, colorless liquid |
| Flash Point | none |
| Percent Volatile | 100 |
| Vapor Pressure | 202 mmHg |
| Initial Boiling Point | 142°F (61°C) |
| Freezing Point | -211°F (-135°C) |
| Density | 94.266 lb./ft ³ |
| Dielectric Strength | >25 kV |
| Dielectric Constant | 7.4 (@1kHz) |
| Specific Heat/ Heat Capacity | 1183 J/kg-K |
| Surface Tension | 13.6 dynes/cm |
| GWP | 297 |
| VOC | exempt (EPA) |
| Heat of Vaporization | 112 kJ/kg |
| Kinematic Viscosity | 0.38 cSt |
| Kauri-butanol Value | 10 Kb |
| Ozone Depletion Potential | 0 |
| Volume Resistivity | 1x10 ⁸ Ohm-m |
| Absolute Viscosity | 0.58 cps |
| OEL | 750 |
| Operational Range | -104°C to 50°C |
| Shelf life | 5 years |
| Atmospheric Life | 4.1 years |
| Liquid Thermal Conductivity | 0.069 W/m-k |
| NVR (ND @ method limit) (ppm) | <3.0 |
| Purity Elemental Analysis (ppm) | Na 0.9 |
| | B 0.4 |
| | Ca, K 0.1 |
| | Ag, Al, As, Ba, Be, Bi, Cd, |
| | Co, Cr, Cu, Fe, Ga, Ge, Hf, |
| | Hg, In, Li, Mg, Mn, Mo, P, |
| | Pb, Rb, Re, S, Sb, Se, Si, Sn, |
| | Sr, Ta, Ti, Tl, V, W, Zn, Zr <0.1 |

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Thermophysical Properties:

Precision -V solvents Kinematic viscosity [cSt] Vs Temperature Curve (°C)



Reclamation Process

The reclamation (ie. boil down) process utilizes the vapor-degreaser as a still to distill solvent from the dirty boil sump and allows you to reclaim and reuse this solvent.

When it is determined that the Boil Sump needs to be cleaned out, you should do the following things to boil down the solvent:

1. If you have a 2 sump vapor-degreaser, drain the rinse sump into a clean container for reuse. If you have a one-sump vapor-degreaser, drain the spray reservoir using the spray wand. This material should be collected in a clean container, so it can be reused.
2. Allow the solvent to continue to boil, and the vapors to condense, until such time as one of two things happens:
 - a. the High Temperature Control (HTC) trips and turns off the heat to the heating elements or b. the Liquid Level Control trips because the level in the Boil Sump is too low.
3. Drain the remaining solvent/soil mixture into a container that is labeled as Hazardous Waste. This material can be used in future "boil downs" to reclaim more of the solvent in the mixture.
4. Use the retained solvent (from step 1) to refill the vapor-degreaser and add whatever volume of solvent is necessary to completely fill the machine.

This process can be repeated as often as necessary, depending on the amount of usage of the vapor-degreaser and the amount of soil that is introduced into the vapor-degreaser.

When you "boil down", always put the solvent/soil mixture into the vapor-degreaser to reclaim additional amount of the solvent from this mixture.

Compatibility

Precision-V cleaners are generally compatible within normal operating conditions of vapor degreaser and with exposed materials normally found with the equipment. Specific plastic and elastomeric formulations vary with manufacturers; therefore, we recommend compatibility verification when required.

| Material | Compatibility |
|-------------------|---------------|
| Plastics | Excellent |
| Acrylics | Excellent |
| ABS/Polycarbonate | Excellent |
| Nylon | Excellent |
| PTFE | Excellent |
| Epoxy | Excellent |
| PEEK | Excellent |
| Silicones | Good |
| Ceramics | Excellent |
| Metals | Excellent |

Packaging and Availability

Precision-V Solvent available in the following sizes:

3710DL-G 1 gal (3.8L)

Environmental Policy

Techspray® is committed to developing products to ensure a safer and cleaner environment. We will continue to meet and sustain the regulations of all federal, state and local government agencies.

Resources

Techspray® products are supported by global sales, technical and customer services resources.

For additional technical information on this product or other Techspray® products in the United States, call the technical sales department at 800-858-4043, email tsales@techspray.com or visit our web site at www.techspray.com.

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