

# Ecoclear - Non Solvent Cleaning Fluid



## Introduction:

Logitech Ecoclear is a non-flammable, biodegradable, 100% pure-D-Limonene Oil intended to remove wax, pitch from optical electronic components of glass, ceramic or metal. It is also suitable for demounting ultra-thin semiconductor wafers.

In the preparation of optical components, Ecoclear may be substituted directly for toluene, xylene or chlorinated hydrocarbons, such as trichloroethane (TCE), with not other alteration in protocol. Wax adhered to lenses, optical components, polished wafers or photoresists, removable by chlorinated hydrocarbons such as TCE, may be cleared equally as well in Ecoclear.

With Ecoclear, residual films are virtually eliminated and product throughput is greatly increased. Ecoclear is also miscible in all proportions with acetone, ethanol and isopropanol, any of which may be used as a post wash.

During the cleaning process, the Ecoclear is heated to 50°C and the sample is placed in the fluid. At this working temperature, Ecoclear quickly and simply removes all the Logitech waxes. As Ecoclear has an oily consistency, it is necessary to wash or rinse the sample with alcohol or acetone as a final cleaning stage.

## Product Data

Ecoclear: **0CON-178**

## Ecoclear product properties:

|                     |                                  |
|---------------------|----------------------------------|
| Product type        | Logitech Ecoclear Cleaning Fluid |
| Appearance          | Colourless, mobile fluid         |
| pH                  | Neutral (aqueous extraction)     |
| Boiling point       | 350 °F                           |
| Flash point         | 118 °F TCC (44 °C)               |
| Viscosity (cps)     | 6                                |
| Refractive Index    | 1.47                             |
| Water content (ppm) | <50                              |
| Colour APHA         | <50                              |

## Typical Analysis:

Substance: Food oil distillates Solvents, manufactured from plant by-products

Ecoclear is the result of an intensive research effort to develop a non-toxic optical cleaning agent to replace toluene, xylene and TCE. With a flash point in excess of 100 °F (TCC), Ecoclear exceeds the requirements for classification as a non-flammable solvent by the US Department of Transportation, the Environmental Protection Agency and the National Fire Protection Association. In addition, Ecoclear is biodegradeable and not categorised as a hazardous waste.

**Logitech Ecoclear is designed to be compatible** with many types of material. When used correctly, Ecoclear will not affect the following:

Metals and metal alloys, glasses and ceramics, inorganic crystals, phenolics, epoxies, melamine, alkydes, fibreglass.

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## Typical times for wax removal from samples using Logitech Ecoclear

| Code     | Type of wax             | Time (dependent on wax consistency) |
|----------|-------------------------|-------------------------------------|
| 0CON-193 | Thin Film Bonding Wax   | 5 - 10 minutes                      |
| 0CON-199 | Plasticised Bonding Wax | 5 - 10 minutes                      |
| 0CON-200 | Quartz Wax              | 15 - 20 minutes                     |
| 0CON-196 | High Melting Point Wax  | 90 - 120 minutes                    |
| 0CON-286 | Wax Cement              | 60 minutes                          |

### Ecoclear will moderately affect:

Polyethylene (tendency to swell under prolonged exposure, but will not dissolve).

### Ecoclear will dissolve the following:

Waxes, pitch, grease, tar, polystyrene.



Certificate No. FM 12025



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