

# TOPKLEAN™ EL 20P



**Defluxing cleaner in co-solvent process  
to remove new soldering materials residues  
in difficult access areas**

## BENEFITS

**TOPKLEAN™ EL 20P** is a new generation cleaner especially formulated to remove all types of baked-on flux residues and contaminants (fingerprints, dust, etc) left on printed circuit board assemblies or semiconductor modules. Its high wetting performance permits to efficiently remove new lead free soldering pastes and fluxes found in the market and to clean miniaturized designs.

Overall benefits of **TOPKLEAN™ EL 20P**

<b>PERFORMANCE &amp; RELIABILITY</b>	<ul style="list-style-type: none"><li>• Best co-solvent solution with 3M™ Novec™ 711PA</li><li>• Leaves no white residues</li><li>• Excellent cleaning results I low stand off components, tight areas and miniaturization</li></ul>
<b>COST</b>	<ul style="list-style-type: none"><li>• Long consumption rate extends bath life</li></ul>
<b>ENVIRONMENT</b>	<ul style="list-style-type: none"><li>• Non-flammable, no flashpoint</li></ul>

Recommended for markets and applications demanding high reliability in their electronics such as Aerospace, Military & Defense, Transportation, Energy, Medical, among others.

## SPECIFICATIONS

Properties	Value	Methods
Appearance	Colourless liquid	Visual
Density at 20°C	877 Kg/m <sup>3</sup>	ASTM D 4052
Flash Point	62.5 °C	ASTM D 93
Vapour pressure at 20°C	NA	No standard
Vapour pressure at 50°C	NA	No standard
Viscosity at 25°C	NA	ASTM D 445
Boiling range	180.5 - 210	ASTM D 1078
Water content	Max 0.1	ASTM E 1364
Aromatics	Max 0.1	SMS 2728
Non volatile residue	NA	ASTM D 1353
Relative evaporation rate	0.077	ASTM D 3539

## CHARACTERISTICS

TOPKLEAN™ EL 20P has a very low environmental impact. It does not harm the ozone layer and it is easily biodegradable.

Properties	TOPKLEAN™ EL 20P
Water solubility	Partially soluble
ODP	0
GWP	None

## PROCESS PARAMETERS

INVENTEC has designed a non flammable solvent based process in vapour phase equipment for defluxing of solder paste residues after die attach, flip chip or SMT reflow process.

### Application guideline and Recommendations – Mixed Co solvent process

Step 1 : CLEANING	Topklean™ EL 20P (70%) and 3M Novec™ 71IPA (30%) at 70°C
Step 2 : RINSING	3M Novec™ 71IPA pure at 50°C
Step 1 : DRYING	3M Novec™ 71IPA vapour phase at 55°C

### Application guideline and Recommendations – Separated Co solvent process

Step 1 : CLEANING	Topklean™ EL 20P pure
Step 2 : RINSING	3M Novec™ 71IPA pure at 50°C
Step 3 : DRYING	3M Novec™ 71IPA vapour phase at 55°C

PCBA defluxing is a best practice recommended prior to the application of Conformal Coating. Boards are completely dried after co-solvent process. No need for additional baking or curing

Cleaning performance complies with the following standards: IPC-A-610E Visual Cleanliness/ J-STD-001 Ionic cleanliness/ SIR by IPC-TM 650 2.6.3.7 and DIN 32513

## PACKAGING

Drum container

20 Lt and 200 Lt

## STORAGE & SHELF LIFE

Product should be stored in sealed original container below 50°C. Shelf life in sealed container: 18 months

## HSE

No issues when used as recommended.

INVENTEC Material Safety Data sheets can be found at [www.quickfds.com](http://www.quickfds.com)

Please refer to Material Safety Data Sheet before use

***Although the conformity to ROHS 2002/95CE applies EQUIPMENT put on the market and not a component in particular, we warranty that this product contains less than 0.1% of mercury, lead, chromium VI, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE) and less than 0.01% for the cadmium, in accordance with the decision of The European Commission dated 18/08/2005, fixing the maximal concentration values.***

*This data is based on information that the manufacturer believe to be reliable and offered in good faith. In no event will INVENTEC be responsible for special, incidental and consequential damages. The user is responsible to the Administrative Authorities (regulations for the protection of the Environment) for the conformity of his installation.*

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