



CLEANING

# TOPKLEAN™ EL 20P

REMOVAL OF FLUX RESIDUES  
CO-SOLVENT PROCESS

VERY HIGH CLEANING POWER & SUSTAINABLE SOLUTION

## BENEFITS

TOPKLEAN EL 20P is especially designed to clean solder flux residues after reflow. It's an upscaled formulation of TOPKLEAN EL 20A with improved sustainability and a reduction of surface tension to allow better cleaning under very low stand-off components. Its excellent ability to solubilize organic and minerals compounds allows to remove almost any solder flux residues used in the electronic industry today. It leaves no white residues and also provides a shiny effect on alloys & metals.

It is used in co-solvent process to offer a fast & sustainable cleaning process with very high cleaning efficiency. In this process, TOPKLEAN EL 20P is rinsed perfectly with Hydrofluoroethers (HFE) based rinsing fluids from 3M™ Novec™ or our own PROMOSOLV™ range. Thanks to the very low surface tension of HFE, the rinsing penetrate into the very tight spaces and under low stand-off components. It will dissolve any remaining flux residues, resulting in very low ionic contamination levels. Besides, compared with a water-based cleaning system, there is no risk of corrosion due to the absence of residual water left on the boards.

The co-solvent process has been a game changer for over 15 years now and is qualified and used by several actors in the electronic industry.

PERFORMANCE	<ul style="list-style-type: none"> <li>▪ Excellent solubility organic &amp; mineral residues</li> <li>▪ Very low surface tension to allow excellent cleaning under low stand-off components.</li> <li>▪ Excellent compatibility with materials used on PCB's</li> <li>▪ Allows shining effect to sensitive alloys &amp; soldered surfaces</li> <li>▪ Waterless process - reduces risk of corrosion</li> </ul>
COST	<ul style="list-style-type: none"> <li>▪ Fast process allows increase in production capacity</li> <li>▪ Rinsing fluid is constantly recycled, limiting consumption.</li> <li>▪ No water consumption &amp; no need for wastewater treatment</li> </ul>
HSE	<ul style="list-style-type: none"> <li>▪ Low toxicity &amp; non-corrosive product (refer to the SDS)</li> <li>▪ No Ozon Depletion Potential (ODP) &amp; no Global Warming Potential (GWP)</li> <li>▪ High flash point - safe to use, storage &amp; transport</li> <li>▪ No aromatics &amp; halogenated compounds</li> </ul>

## SPECIFICATIONS

SPECIFICATIONS	VALUES	METHODS
Aspect	Transparent, colorless	Visual
Density at 20°C (g/ml)	0.880 ± 0.020	BRY MO 028

## CHARACTERISTICS

CHARACTERISTICS	VALUES	METHODS
Flash Point (PMCC)	62.5°C / 144.5 °F	ASTM D93
Surface tension at 20°C (dynes/cm)	38	ASTM D971
Relative evaporation rate : nBuAc=1	0,077	ASTM D3539
Miscibility in water	Partially miscible	Internal
Presence of aromatic compounds (% weight)	< 0.1	SMS 2728
Water content (% weight)	< 0.1	ASTM E1364
Boiling range (°C / °K)	180-210 °C / 356-410 °F	ASTM D1078

## PROCESS RECOMMENDATION

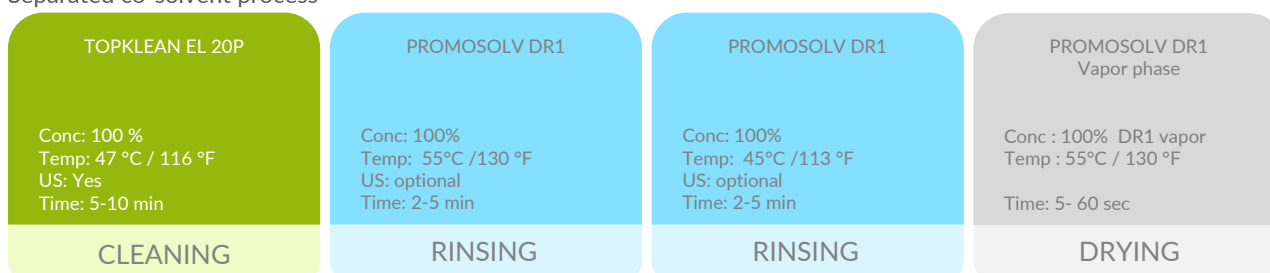
The best process will depend on factors such as operating conditions, equipment, desired cleaning time and the nature of contaminants. Our team is ready to advise you.

### PROCESS EXAMPLE

#### Mixed co-solvent process



#### Separated co-solvent process



- A dedicated PCA Kit to monitor the bath status and compatibility report with different materials are available on request.

## PACKAGING, STORAGE & SHELF LIFE

- Keep products in closed original packaging and store at room temperature.
- Shelf life is minimum 18 months from production date when kept in recommended conditions.



20 L CANISTER

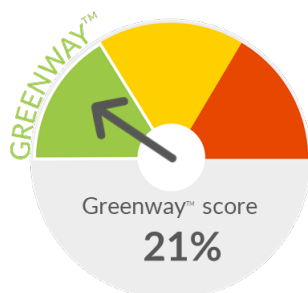


200 L DRUM

## HEALTH, SAFETY & ENVIRONMENT

TOPKLEAN EL 20P is a **GREENWAY** product.

More info on our Greenway concept via this [link](#)



### MAIN CONTRIBUTORS WHICH REDUCE IMPACT:

#### HUMAN HEALTH & SAFETY

- Non-toxic
- Low corrosive impact
- Non-flammable & high flashpoint

#### ENVIRONMENT PROTECTION & RESOURCES SAVINGS

Low environmental impact: no H labelling regarding environment  
No GWP  
Non-corrosive for equipment

Contains no Reach Substances (on Candidate list, Annex XIV & XVII) / Contains no persistent organic pollutant (EC 850/2004) / Contains no Import/Export Hazardous substances (EU 649/ 2012)

Please refer always to the Safety Data Sheet (SDS or MSDS) prior to use. Our SDS can be downloaded at [www.quickfds.com](http://www.quickfds.com). We will request to provide your email address, so we can automatically send you a new version of the SDS when a future update would occur.

## TECHNICAL SUPPORT & FREE-OF-CHARGE TESTING

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Inventec has a worldwide dedicated Technical Support team to help you along the different stages of our cooperation.

Depending on your request, we provide online or onsite support

- to select the right product based on your specific needs
- to assist you in your product qualification process
- to guide you with the initial set up of your process at all your worldwide manufacturing facilities
- to provide fast response on technical issues which could occur at any time during mass production.

Customers are also welcome in our CLEANING CENTERS to see the process in action and to get convinced by our solutions. We cover water- and solvent based processes.

Inventec is unique in the world by developing not only cleaning materials but also soldering and coating solutions. These materials are very closely linked with each other from a process point of view. Talking to our Technical Team, who understands very well these 3 different product groups, will help you greatly to overcome technical challenges within your overall process.

Contact our technical support via [contact@inventec.dehon.com](mailto:contact@inventec.dehon.com) or your local sales representative.

## ABOUT INVENTEC

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Inventec is a global provider of CLEANING, SOLDERING & COATING materials for Electronic, Semiconductor and Industrial applications. For over 60 years we have shown leadership in innovation by putting HEALTH IMPACT, SUSTAINABILITY and RELIABILITY at the core of our product development.

With ISO 9001 & 14001 production sites in France, Switzerland, USA, Mexico, Malaysia and China we can guarantee a smooth and cost-effective supply chain.

We supply to many industries but the excellent performance of our products in applications which demand high reliability, leads us to focus especially on the AUTOMOTIVE, AEROSPACE, SEMICONDUCTOR, ENERGY and MEDICAL industry.

[www.inventec.dehon.com](http://www.inventec.dehon.com)



S O L D E R I N G • C L E A N I N G • C O A T I N G

In accordance with the Annex II of Directive 2011/65/UE (RoHS), including its amendments, we certify that this product does not contain quantities above 0.1% of Hg, Pb, Cr VI, PBB, PBDE, DEHP, BBP, DBP, DIBP and above 0.01% of Cd

This data is based on information that the manufacturer believes to be reliable and offered in good faith. In no event will INVENTEC PERFORMANCE CHEMICALS 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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