



## MultiEx® VR-SP

Multifunctional aqueous alkaline broadband cleaning detergent for colophonium, flux and solder paste

Part No. 090678-RM25 // Contents: 25 l

**CLEANING TECHNOLOGY**  
Made in Germany

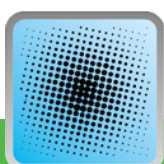


## Application overview



Most suitable

Assembled PCBs  
Hybrids  
Misprints



Most suitable

Stencils  
Screens, PumpPrints  
Misprints



Optional suitable

Solder frames  
Solder carriers  
Solder masks



Optional suitable

ESD boxes  
Containers  
Magazines



Optional suitable

Condensation traps  
Filters  
Steel sheets

### Technical data

Color	transparent
Odor	specific
ph-value at 20 °C	11,2
Melting point	-5 °C
Initial boiling point and range	100° C
Flash point	not determined
Density at 20 °C	0,996 g / cm <sup>3</sup>
Water solubility	fully soluble
Viscosity (kin.) at 20 °C	23 mm <sup>2</sup> / s
Application	pure
Application temperature	20 - 45 °C
Storing frost-free	in original container
EWC key number	070699
CLP / GHS	GHS 07

MultiEx® VR-SP is a broadband standard PCB cleaner (single phase) and cleans particularly colophonium and flux as well as solder paste quickly, thoroughly and with best material protection from PCBs, ceramic substrates, misprints, stencils, solder frames, magazines, aluminium, stainless steel.

ReadyMix for direct use in a cleaning system.

### Applications

SMD adhesive	o
Solder paste	++
Low voc flux	++
Colophonium flux	++
Waterbased flux	++
Solder paste (soldered)	++
Oil / Grease	++
Spray-in-air systems	++
Spray-in-immersion systems	++
Air-in-immersion systems	++
Ultrasonic systems	+
Manual application	o

**++ = ideal for application, + = recommended, o = optionally applicable, – = not recommended**

**Note:** The spreadsheet only shows a general overview of the product specifications.

Cleaning tests are reasonable to determine the optimum cleaner configuration. Such tests may be carried out directly at the **kolb** demonstration center in Willich / Germany or Shanghai / China or can be initiated by contacting your local **kolb** partner..



## MultiEx® VR-SP

Multifunctional aqueous alkaline broadband cleaning concentrate for colophonium, flux and solder paste

Part No. 090678-CN25 // Contents: 25 l

## CLEANING TECHNOLOGY

Made in Germany



### Application overview

Most suitable	Most suitable	Optional suitable	Optional suitable	Optional suitable
 Assembled PCBs Hybrids Misprints	 Stencils Screens, PumpPrints Misprints	 Solder frames Solder carriers Solder masks	 ESD boxes Containers Magazines	 Condensation traps Filters Steel sheets

Technical data	
Color	transparent
Odor	specific
ph-value at 20 °C	11,2
Melting point	-5 °C
Initial boiling point and range	100° C
Flash point	not determined
Density at 20 °C	0,996 g / cm³
Water solubility	fully soluble
Viscosity (kin.) at 20 °C	23 mm² / s
Application	effective from 10 %
Application temperature	20 - 45 °C
Storing frost-free	in original container
EWC key number	070699
CLP / GHS	GHS 07
MultiEx® VR-SP is a broadband standard PCB cleaning (single phase) concentrate and cleans particularly colophonium and flux as well as solder paste quickly, thoroughly and with best material protection from PCBs, ceramic substrates, misprints, stencils, solder frames, magazines, aluminium, stainless steel.	
Cleaning concentrate for mixing with tap water.	

Applications	
SMD adhesive	o
Solder paste	++
Low voc flux	++
Colophonium flux	++
Waterbased flux	++
Solder paste (soldered)	++
Oil / Grease	++
Spray-in-air systems	++
Spray-in-immersion systems	++
Air-in-immersion systems	++
Ultrasonic systems	+
Manual application	o
<b>++ = ideal for application, + = recommended, o = optionally applicable, – = not recommended</b>	
<b>Note:</b> The spreadsheet only shows a general overview of the product specifications.	
Cleaning tests are reasonable to determine the optimum cleaner configuration. Such tests may be carried out directly at the <b>kolb</b> demonstration center in Willich / Germany or Shanghai / China or can be initiated by contacting your local <b>kolb</b> partner..	



## MultiEx® VR-HPA

Multifunctional aqueous alkaline broadband cleaning detergent for colophonium, flux and solder paste

Part No. 090664-RM25 // Contents: 25 l

**CLEANING TECHNOLOGY**  
Made in Germany

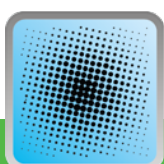


### Application overview



Most suitable

Assembled PCBs  
Hybrids  
Misprints



Most suitable

Stencils  
Screens, PumpPrints  
Misprints



Optional suitable

Solder frames  
Solder carriers  
Solder masks



Optional suitable

ESD boxes  
Containers  
Magazines



Optional suitable

Condensation traps  
Filters  
Steel sheets

### Technical data

Color	transparent
Odor	specific
pH-value at 20 °C	11,0
Melting point	0 °C
Initial boiling point and range	100 °C
Flash point	not determined
Density at 20 °C	0,965 g / cm <sup>3</sup>
Water solubility	fully soluble
Viscosity (kin.) at 20 °C	40 mm <sup>2</sup> / s
Application	pure
Application temperature	20 - 45 °C
Storing frost-free	in original container
EWC key number	070699
CLP / GHS	GHS07

MultiEx® VR-HPA is a broadband cleaner for PCBs with sensitive components (e.g. aluminium) and cleans particularly colophonium and flux as well as solder paste quickly, thoroughly and with best material protection from PCBs, ceramic substrates, misprints, stencils, solder frames, magazines, aluminium, stainless steel.

Detergent ReadyMix for direct use in a cleaning system.

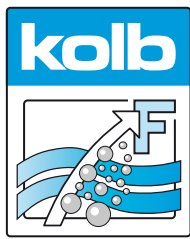
### Applications

SMD adhesive	o
Solder paste	++
Low voc flux	++
Colophonium flux	++
Waterbased flux	++
Solder paste (soldered)	++
Oil / Grease	++
Spray-in-air systems	++
Spray-in-immersion systems	++
Air-in-immersion systems	++
Ultrasonic systems	+
Manual application	o

**++ = ideal for application, + = recommended, o = optionally applicable, – = not recommended**

**Note:** The spreadsheet only shows a general overview of the product specifications.

Cleaning tests are reasonable to determine the optimum cleaner configuration. Such tests may be carried out directly at the **kolb** demonstration center in Willich / Germany or Shanghai / China or can be initiated by contacting your local **kolb** partner..



## MultiEx® VR-18

Multifunctional aqueous alkaline broadband ready to use cleaning detergent for colophonium, flux, paste and adhesive

Part No. 090655-RM25 // Contents: 25 l

## CLEANING TECHNOLOGY

Made in Germany



### Application overview



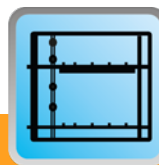
Most suitable

Assembled PCBs  
Hybrids  
Misprints



Most suitable

Stencils  
Screens, PumpPrints  
Misprints



Optional suitable

Solder frames  
Solder carriers  
Solder masks



Optional suitable

ESD boxes  
Containers  
Magazines



Optional suitable

Condensation traps  
Filters  
Steel sheets

### Technical data

Color	transparent
Odor	specific
ph-value at 20 °C	11,2 - 50g / 1 l water
Melting point	-5 °C
Initial boiling point and range	100° C
Auto-ignition temperature	not applicable
Density at 20 °C	0,996 g / cm³
Water solubility	fully soluble
Viscosity (kin.) at 20 °C	23 mm² / s
Application	pure
Application temperature	20 - 45 °C
Storing frost-free	in original container
EWC key number	070699
CLP / GHS	GHS 07

MultiEx® VR-18 is a special cleaner for hard to clean fluxes and PCBs (e.g. after several soldering processes) and cleans particularly colophonium and flux as well as solder paste and adhesive quickly, thoroughly and with best material protection from PCBs, ceramic substrates, misprints, stencils, solder frames, magazines, aluminium, stainless steel.

ReadyMix for direct use in a cleaning system.

### Applications

SMD adhesive	++
Solder paste	++
Low voc flux	++
Colophonium flux	++
Waterbased flux	++
Solder paste (soldered)	++
Oil / Grease	++
Spray-in-air systems	++
Spray-in-immersion systems	++
Air-in-immersion systems	++
Ultrasonic systems	+
Manual application	o

**++ = ideal for application, + = recommended, o = optionally applicable, – = not recommended**

**Note:** The spreadsheet only shows a general overview of the product specifications.

Cleaning tests are reasonable to determine the optimum cleaner configuration. Such tests may be carried out directly at the **kolb** demonstration center in Willich / Germany or Shanghai / China or can be initiated by contacting your local **kolb** partner..



## MultiEx® VR-20

P & N free multifunctional aqueous alkaline broadband ready to use cleaning detergent for colophonium, flux and solder paste

Part No. 090621-RM25 // Contents: 25 l



### Application overview

<b>Most suitable</b>	<b>Most suitable</b>	<b>Optional suitable</b>	<b>Optional suitable</b>	<b>Optional suitable</b>
Assembled PCBs Hybrids Misprints	Stencils Screens, PumpPrints Misprints	Solder frames Solder carriers Solder masks	ESD boxes Containers Magazines	Condensation traps Filters Steel sheets

Technical data	
Color	transparent
Odor	specific
pH-value at 20 °C	11,2 - 50g / 1 l water
Melting point	-5 °C
Initial boiling point and range	100 °C
Flash point	not determined
Density at 20 °C	0,996 g / cm³
Water solubility	fully soluble
Viscosity (kin.) at 20 °C	23 mm² / s
Application	pure
Application temperature	20 - 45 °C
Storing frost-free	in original container
EWC key number	070699
CLP / GHS	GHS 07
MultiEx® VR-20 is a phosphor and nitrogen free broadband cleaner for PCBs cleans particularly colophonium and flux as well as solder paste quickly, thoroughly and with best material protection from PCBs, ceramic substrates, misprints, stencils, solder frames, magazines, aluminium, stainless steel.	
ReadyMix for direct use in a cleaning system.	

Applications	
SMD adhesive	o
Solder paste	++
Low voc flux	++
Colophonium flux	++
Waterbased flux	++
Solder paste (soldered)	++
Oil / Grease	++
Spray-in-air systems	++
Spray-in-immersion systems	++
Air-in-immersion systems	++
Ultrasonic systems	+
Manual application	o
<b>++ = ideal for application, + = recommended, o = optionally applicable, – = not recommended</b>  <b>Note:</b> The spreadsheet only shows a general overview of the product specifications.  Cleaning tests are reasonable to determine the optimum cleaner configuration. Such tests may be carried out directly at the <b>kolb</b> demonstration center in Willich / Germany or Shanghai / China or can be initiated by contacting your local <b>kolb</b> partner..	