

EMIL  OTTO



FLUX- AND SURFACE TECHNOLOGY

# PRODUCTS FOR THE ELECTRONIC INDUSTRY

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Granulate

# Flux concentrates

The flux concentrates from Emil Otto are of particular interest to customers who require large quantities of flux or manufacture abroad. All granulates can be transported without hazardous substance identification and with a significantly reduction in size.

A flux becomes a hazardous substance if it contains alcohol, among other things. The flux concentrates are free of this as the customer mixes the alcohol or the alcohol-water mixture on site. The mixing of the flux is very simple, because each concentrate contains the necessary information, which liquid has to be added to the concentrate and in which dosage.

The granulate quantities are sufficient for 10 or 20 liters.

Furthermore, the granulates can be packaged more easily and with less volume, which also reduces transportation costs. Due to this transport optimizations the flux concentrates can be transported economically over long distances, as freight carriers charge very low costs for non-hazardous goods.

The concentrates include fluxes for wave and selective soldering as well as manual and dip soldering.

# EO-B-001A (Multiflux)

No clean, alcohol-based flux, di-carboxylic acids, minimal resin content, halogen-free (WEEE/RoHS conformant)  
ISO-9454: 2231 // DIN EN 61190-1-1: LO (ORLO)

Like all multifluxes, the EO-B-001A can be used for wave (spray fluxes) as well as for selective, manual, and dip soldering. The A variant has a low 2.2% solids content. This variant was developed especially for full-tunnel nitrogen applications. It features a wide processing window and great temperature stability to guarantee a better soldering result than that obtained with traditional adipic acid solutions under full nitrogen.

#### Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (very high thermal stability, good activity over a long interval)

- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)
- Recommended for N<sub>2</sub>-systems
- Low solids content

#### Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless to light yellow, clear
Solids content:	2.2 Gew.-%
Density at 20 °C:	0.793 (+/- 0.003) g/ml
Acid number:	14–16 mg KOH/g
Activators:	di-carboxylic acids, low resin content
Solvents:	short-chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	12 months
Durability ready to use:	12 months



Packaging units:  Granulate for 10 l and 20 l

The picture may differ from the original product.

# EO-B-001B (Multiflux)

No clean, alcohol-based flux, di-carboxylic acids, minimal resin content, halogen-free (WEEE/RoHS conformant)  
ISO-9454: 2231 // DIN EN 61190-1-1: LO (ORLO)

Like all multifluxes, the EO-B-001B can be used for wave (spray fluxes) as well as for selective, manual, and dip soldering. The B variant complies with the standard version while having a 3% solids content. It is an all-round version. Soldering results and cleanliness are very good.

The B variant is also offered as a metering pen or metering bottle. It is thus ideal for manual and repair soldering.

#### Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)

- Broad process window (very high thermal stability, good activity over a long interval)
- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)

#### Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless to light yellow, clear
Solids content:	3.0 Gew.-%
Density at 20 °C:	0.796 (+/-0.003) g/ml
Acid number:	18–21 mg KOH/g
Activators:	di-carboxylic acids, low resin content
Solvents:	short-chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	12 months



Packaging units:  Granulate for 10 l and 20 l

The picture may differ from the original product.

# EO-B-001C (Multiflux)

No clean, alcohol-based flux, di-carboxylic acids, minimal resin content, halogen-free (WEEE/RoHS conformant)  
ISO-9454: 2231 // DIN EN 61190-1-1: LO (ORLO)

Like all multifluxes, the EO-B-001C can be used for wave (spray fluxes) as well as for selective, manual, and dip soldering. The C variant has a 4% solids content. It was specially developed for power electronics where large components have to be soldered at low mounting densities. EO-B-001C has also established itself for special applications in which greater amounts of flux are needed.

#### Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (very high thermal stability, good activity over a long interval)
- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)



Packaging units:  Granulate for 10 l and 20 l

The picture may differ from the original product.

#### Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless to light yellow, clear
Solids content:	4.0 Gew.-%
Density at 20 °C:	0.796 (+/- 0.003) g/ml
Acid number:	27-32 mg KOH/g
Activators:	di-carboxylic acids, low resin content
Solvents:	short-chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	12 months

# EO-B-002A (Multiflux)

No clean, alcohol-based flux, di-carboxylic acids, minimal resin content, halogen-free (WEEE/RoHS conformant)  
ISO-9454: 2231 // DIN EN 61190-1-1: LO (ORLO)

Like all multifluxes, the EO-B-002A can be used for wave (spray fluxes) as well as for selective, manual, and dip soldering. EO-B-002A is a flux intended for wave soldering with an alcohol-based solution system and halogen-free activators. The A variant has a low 2.0% solids content. This variant was developed especially for full-tunnel nitrogen applications. It features a wide processing window and great temperature stability to guarantee a better soldering result than that obtained with traditional adipic acid solutions under full nitrogen.

#### Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (very high thermal stability, good activity over a long interval)
- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)
- Recommended for N2-systems
- Low solids content



Packaging units:  Granulate for 10 l and 20 l

The picture may differ from the original product.

#### Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless to light yellow, clear
Solids content:	2.0 Gew.-%
Density at 20 °C:	0.794 (+/- 0.003) g/ml
Acid number:	16-19 mg KOH/g
Activators:	di-carboxylic acids, very low resin content
Solvents:	short-chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	12 months

# EO-B-002B (Multiflux)

No clean, alcohol-based flux, di-carboxylic acids, minimal resin content, halogen-free (WEEE/RoHS conformant)  
ISO-9454: 2231 // DIN EN 61190-1-1: L0 (ORLO)

Like all multifluxes, the EO-B-002B can be used for wave (spray fluxes) as well as for selective, manual, and dip soldering. The B variant is the standard version with a 3% solids content. It is an all-round version. Soldering results and cleanliness are very good. Even on pure copper surfaces good results are achieved—for instance when processing LEDs on heat sinks. Practice has shown, that no washing is needed for PCBA properly soldered with EO-B-002B.

The B variant is also offered as a metering pen or metering bottle. It is thus ideal for manual and repair soldering.

Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (very high thermal stability, good

- activity over a long interval)
- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)

## Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless to light yellow, clear
Solids content:	3.0 Gew.-%
Density at 20 °C:	0.794 (+/- 0.003) g/ml
Acid number:	23–26 mg KOH/g
Activators:	di-carboxylic acids, very low resin content
Solvents:	short-chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	12 months



Packaging units:  Granulate for 10 l and 20 l

The picture may differ from the original product.

# EO-B-002C (Multiflux)

No clean, alcohol-based flux, di-carboxylic acids, minimal resin content, halogen-free (WEEE/RoHS conformant)  
ISO-9454: 2231 // DIN EN 61190-1-1: L0 (ORLO)

Like all multifluxes, the EO-B-002C can be used for wave (spray fluxes) as well as for selective, manual, and dip soldering. The C variant has a 4% solids content. It was especially developed for power electronics where large components have to be soldered at low mounting densities. EO-B-002C has also established itself in special applications in which greater amounts of flux are needed.

Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (very high thermal stability, very

- high activity over a long interval)
- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)

## Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless to light yellow, clear
Solids content:	4.0 Gew.-%
Density at 20 °C:	0.797 (+/- 0.003) g/ml
Acid number:	31–35 mg KOH/g
Activators:	di-carboxylic acids, very low resin content
Solvents:	short-chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	12 months



Packaging units:  Granulate for 10 l and 20 l

The picture may differ from the original product.

# EO-B-006A (Multiflux)

Flux for wave- and selective-soldering processes with halogen-free activators (WEEE/RoHS-compliant)  
ISO-9454: 2131 // DIN EN 61190-1-1: LO (ORLO)

EO-B-006A is a no-clean flux, formulated to be free of halogen and resin/rosin. It is suitable for usage in the wave-selective domain as well as for manual-soldering processes. EO-B-006A leaves behind no staining and sticky residues. The activators are designed for higher temperatures without hindering their effectiveness. It can be applied via all of the usual application methods (except for foam fluxing). The solids content amounts to 2%.

#### Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (very high thermal stability, good activity over a long interval)
- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)
- Recommended for N2-systems
- Very low solids content



Packaging units:  Granulate for 10 l and 20 l

#### Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless, clear
Solids content:	2.0 Gew.-%
Density at 20 °C:	0.794 (+/- 0.003) g/ml
Acid number:	15-18 mg KOH/g
Activators:	non-halogen, di-carboxylic acids, no resin content
Solvents:	short-chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	24 months

The picture may differ from the original product.

# EO-B-006B (Multiflux)

Flux for wave- and selective-soldering processes with halogen-free activators – WEEE/RoHS-compliant  
ISO-9454: 2131 // DIN EN 61190-1-1: LO (ORLO)

EO-B-006B is a no clean flux, formulated to be free of halogen and resin/rosin. It is suitable for usage in the wave-selective domain as well as for manual-soldering processes. EO-B-006B leaves behind no staining and sticky residues. The activators are designed for higher temperatures without hindering their effectiveness. It can be applied via of the usual application methods (except for foam fluxing). The solids content amounts to 3%.

#### Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (very high thermal stability, good activity over a long interval)
- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)



Packaging units:  Granulate for 10 l and 20 l

#### Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless, clear
Solids content:	3.0 Gew.-%
Density at 20 °C:	0.795 (+/- 0.003) g/ml
Acid number:	23-26 mg KOH/g
Activators:	non-halogen, di-carboxylic acids, no resin content
Solvents:	short-chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	24 months

The picture may differ from the original product.

# EO-B-006C (Multiflux)

Flux for wave- and selective-soldering processes with halogen-free activators – WEEE/RoHS-compliant  
ISO-9454: 2131 // DIN EN 61190-1-1: LO (ORLO)

EO-B-006C is a no-clean flux, formulated to be free of halogen and resin/rosin. It is suitable for use in the wave-selective domain as well as for manual-soldering processes. EO-B-006C leaves behind no staining and sticky residues. The activators are additionally designed for higher temperatures without impairing their effectiveness. Application can proceed via all of the usual application methods (except for foam fluxing). The solids content amounts to 4%.

#### Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (very high thermal stability, good activity over a long interval)
- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)

#### Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless, clear
Solids content:	4.0 Gew.-%
Density at 20 °C:	0.796 (+/- 0.003) g/ml
Acid number:	32–35 mg KOH/g
Activators:	non-halogen, di-carboxylic acids, no resin content
Solvents:	short-chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	24 months



Packaging units:  Granulate for 10 l and 20 l

The picture may differ from the original product.

# EO-B-007A (Multiflux)

No clean, alcohol-based flux, di-carboxylic acids, very low resin content, halogen-free (WEEE/RoHS conformant)  
ISO-9454: 2231 // DIN EN 61190-1-1: LO (ORLO)

Like all multi-fluxes, the EO-B-007A can be used for wave (spray fluxes) as well as for selective, manual, and dip soldering. The A version has a low 1.9% solids content. This variant was developed especially for full-tunnel nitrogen applications. It features a wide processing window and great temperature stability to guarantee a better soldering result than that obtained with traditional adipic acid solutions under full nitrogen. Soldering results and cleanliness are very good.

#### Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (very high thermal stability, good activity over a long interval)
- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)
- Recommended for N<sub>2</sub>-systems
- Very low solids content

#### Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless to light yellow, clear
Solids content:	1.9 Gew.-%
Density at 20 °C:	0.793 (+/- 0.003) g/ml
Acid number:	15–18 mg KOH/g
Activators:	di-carboxylic acids, very low resin content
Solvents:	short-chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	12 months



Packaging units:  Granulate for 10 l and 20 l

The picture may differ from the original product.

# EO-B-007B (Multiflux)

No clean, alcohol-based flux, di-carboxylic acids, very low resin content, halogen-free (WEEE/RoHS conformant)  
ISO-9454: 2231 // DIN EN 61190-1-1: LO (ORLO)

Like all multi-fluxes, the EO-B-007B can be used for wave (spray fluxes) as well as for selective, manual, and dip soldering. The B variant is the standard version with a 3% solids content. It is an all-round version.

The B variant is offered as a metering pen or metering bottle. It is thus ideal for manual and repair soldering.

#### Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (very high thermal stability, good activity over a long interval)

- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)

#### Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless to light yellow, clear
Solids content:	3.0 Gew.-%
Density at 20 °C:	0.796 (+/-0.003) g/ml
Acid number:	22–25 mg KOH/g
Activators:	di-carboxylic acids, very low resin content
Solvents:	short-chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	12 months



Packaging units:  Granulate for 10 l and 20 l

The picture may differ from the original product.

# EO-B-007C (Multiflux)

No clean, alcohol-based flux, di-carboxylic acids, very low resin content, halogen-free (WEEE/RoHS conformant)  
ISO-9454: 2231 // DIN EN 61190-1-1: LO (ORLO)

Like all multi-fluxes, the EO-B-007C can be used for wave (spray fluxes) as well as for selective, manual, and dip soldering. The C variant has a 4% solids content. It was especially developed for power electronics where large components have to be soldered at low mounting densities.

#### Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (very high thermal stability, good activity over a long interval)

- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)

#### Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless to light yellow, clear
Solids content:	4.0 Gew.-%
Density at 20 °C:	0.797 (+/-0.003) g/ml
Acid number:	30–36 mg KOH/g
Activators:	di-carboxylic acids, very low resin content
Solvents:	short-chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	12 months



Packaging units:  Granulate for 10 l and 20 l

The picture may differ from the original product.

# EO-B-009A (Multiflux)

Flux for wave- and selective-soldering processes with halogen-free activators – WEEE/RoHS-compliant  
ISO-9454: 2231 // DIN EN 61190-1-1: L0 (ORLO)

EO-B-009A is a no-clean flux, formulated to be free of halogen and resin/rosin. This flux was especially designed for selective-soldering processes and is just as usable for the wave-soldering area. It can be applied via all usual application methods (except for foam fluxing). EO-B-009A has a solids content of 2%.

#### Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (very high thermal stability, good activity over a long interval)

- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)
- Recommended for N2-systems
- Very low solids content

#### Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless, clear
Solids content:	2.0 Gew.-%
Density at 20 °C:	0.793 (+/- 0.003) g/ml
Acid number:	17–20 mg KOH/g
Activators:	di-carboxylic acids, no resin content
Solvents:	short-chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	12 months



Packaging units:  Granulate for 10 l and 20 l

The picture may differ from the original product.

# EO-B-009B (Multiflux)

Flux for wave- and selective-soldering processes with halogen-free activators – WEEE/RoHS-compliant  
ISO-9454: 2231 // DIN EN 61190-1-1: L0 (ORLO)

EO-B-009B is a no-clean flux, formulated to be free of halogen and resin/rosin. This flux was especially designed for selective-soldering processes but is just as usable for the wave-soldering area. It can be applied via the usual application methods (except for foam fluxing). EO-B-009B has a solids content of 3%.

#### Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)

- Broad process window (very high thermal stability, good activity over a long interval)
- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)

#### Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless, clear
Solids content:	3.0 Gew.-%
Density at 20 °C:	0.795 (+/- 0.003) g/ml
Acid number:	25–28 mg KOH/g
Activators:	non-halogen, di-carboxylic acids, no resin content
Solvents:	short-chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	12 months



Packaging units:  Granulate for 10 l and 20 l

The picture may differ from the original product.

# EO-B-009C (Multiflux)

Flux for wave- and selective-soldering processes with halogen-free activators – WEEE/RoHS-compliant  
ISO-9454: 2231 // DIN EN 61190-1-1: LO (ORLO)

EO-B-009C is a no-clean flux, formulated to be free of halogen and resin/rosin. This flux was especially designed for selective-soldering processes but is just as usable for the wave-soldering area. It can be applied via the usual application methods (except for foam fluxing). EO-B-009C is strongly activated and has a solids content of 4%.

#### Customer added value:

- Wide range of applications (multiflux)
- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (very high thermal stability, good activity over a long interval)

- Very good residue behaviour (very clean, high SIR)
- Successful passing of internal test (SIR selective)



Packaging units: Granulate for 10 l and 20 l

#### Technical Data:

Application area:	Wave- and selective soldering, manual- and repair soldering, dip soldering
Appearance/smell:	colorless, clear
Solids content:	4.0 Gew.-%
Density at 20 °C:	0.796 (+/- 0.003) g/ml
Acid number:	34–38 mg KOH/g
Activators:	non-halogen, di-carboxylic acids, no
Solvents:	resin content
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	12 months

The picture may differ from the original product.

# EO-Y-004

No clean, alcohol-water based flux, di-carboxylic acids, resin free, halogen-free (WEEE/RoHS conformant)  
Type 2131 // ORLO acc. ISO 9454 // DIN EN 61 190-1-1

The hybrid EO-Y-004 flux was developed to be used in wave and selective soldering. It exhibits a solids content of 3.5% to 3.7%. It has been developed for a very broad range of applications. The soldering properties are very good, particularly with rise-through and circuit-board wetting. The processing window is very broad with great thermal stability. Practice has shown that with proper application, no washing of circuit boards soldered with this flux is needed. The circuit boards are visually clean. The flux is available as a ready-to-use-mix or in a granulate-based concentrate.

#### Customer added value:

- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (high thermal stability, good activity over a long interval)

- Very good residue behaviour (optically very clean, high SIR)



Packaging units: Granulate for 10 l and 20 l

#### Technical Data:

Application area:	Wave- and selective soldering
Appearance/smell:	clear, colourless to light yellow
Solids content:	3.5–3.7 Gew.-%
Density at 20 °C:	0.9–1.0 g/ml
Acid number:	28–32 mg KOH/g
Activators:	di-carboxylic acids
Solvents:	short-chain alcohols and water
Flash point concentrate:	not easily flammable °C
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	24 months

The picture may differ from the original product.

# EO-B-011

Special Flux for wave-, selective-, hand-soldering, low-solids  
(WEEE/RoHS-compliant)  
ISO-9454: 2231 (2.2.3.A) // DIN EN-61190-1-1: (IEC) ORLO

EO-B-011B is a low-solids universal flux suitable for wave-, selective- and hand-soldering of PCBs and complies with specification DIN-EN 61190-1-1: L0. Accordingly, it contains organic, halogen-free activating additives with synthetic resin in a combination specially tuned to the thermal requirements of the soldering processes. EO-B-011B can be applied by brushing, spraying, dipping etc.. The solids content is 3 % by weight.

EO-B-011B is totally free from corrosion action.

Customer added value:

- Very good soldering properties (capillarity, wetting)
- Available as concentrate (granulate)
- Broad process window (high thermal stability, good activity over a long interval)
- Very good residue behaviour (optically very clean, high SIR)

## Technical Data:

Application area:	Wave-, selective- and hand-soldering
Appearance/smell:	transparent, yellowish liquid
Solids content:	3.0 Gew.-%
Density at 20 °C:	0.796 (+/- 0.003) g/ml
Acid number:	19 - 22 mg KOH/g
Activators:	dicarboxylic acids, synthetic resin complex
Solvents:	short chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	36 months
Durability ready to use:	12 months



Packaging units:  Granulate for 10 l and 20 l

The picture may differ from the original product.

# GSP-25 AF/OVAP

Cat.-No. 2129

Flux for wave- and selective-soldering processes with halogen-free activators – WEEE/RoHS-compliant  
ISO-9454: 1231 // DIN EN 61190-1-1: LO (RELO)

After the EO-flux of the „GSP series“ had proven itself so well in the local market, we were also able to record inquiries from abroad to an increasing extent. However it turned out, that with shipment overseas, in some cases the freight costs considerably exceeded the value of the goods. Since these conventional fluxing agents are known to be hazardous goods in the sense of the transport regulations, requirements had to be fulfilled, which made the product even more expensive. A shipment by air freight was virtually impossible, as the flux was only allowed to be freighted in small containers. To be able to circumvent these problems, we developed the EO flux concentrate „GSP-25/AF/OVAP“. The flux manufactured from this concentrate in self-preparation is only suitable for the spray flux application.

A complete package consists of the granulate. The granulate is designed for the respective preparation of 20 litres of flux. If you prefer the preparation of larger or smaller volumes, we can design the packs accordingly. When mixing larger volumes, we recommend the preparation in a suitable stainless steel container (with lid) using an ex-protected agitator or compressed-air stirrer. Before installation of this production equipment, the room is to be checked or arranged accordingly, under consideration of the valid regulations for work safety. During preparation the applicable safety provisions and our manufacturing instructions (see annex) are to be observed without fail.

Among other things, the use of flux concentrate „GSP-25/AF/OVAP“ offers the following benefits:

- Inexpensive
- No hazardous material when shipping
- Good soldering results
- Clean circuit boards after soldering

If there are further queries about the handling of the finished product or about the manufacture of the same, please contact us.



## Technical Data:

Application area:	Spray fluxes
Appearance/smell:	transparent liquid - slightly reddish
Solids content:	2.5 Gew.-%
Density at 20 °C:	0.794 (+/- 0.003) g/ml
Acid number:	19 - 22 mg KOH/g
Activators:	di-dicarboxylic acid
Solvents	short chain alcohols
Flash point concentrate:	no flash point
Flash point ready to use:	12 °C
Durability concentrate:	12 months
Durability ready to use:	12 months

Packaging units:  Granulate for 10 l and 20 l

The picture may differ from the original product.

