

# Pano Blueseal<sup>®</sup>-Compound E

## Migrationdata according VO EU 10/2011

**Designation:** Provalin<sup>®</sup> **Manufacturer:** Actega DS, Bremen, Germany

**Description:** Sealing-gasket based on thermoplastic elastomers (TPE).

### 1. Closure-specific global migration

**For closures with the designation:** RUP, RUB, T, Ts, TWS, TSB; DTO, DOB

**Conditions:** 10 d 60 °C

Closure type	Diameter [mm]	Simulant A 10% Ethanol		Simulant B 3% Acetic acid		Simulant D1 50% Ethanol	
		Average global migration [mg]	Minimum jar volume 60 mg/kg [ml]	Average global migration [mg]	Minimum jar volume 60 mg/kg [ml]	Average global migration [mg]	Minimum jar volume 60 mg/kg [ml]
RUP/RUB	38	n.d.	>5	n.d.	>5	5,7	95
T/Ts	45	n.d.	>5	n.d.	>5	7,7	130
TWS/TSB DTO/DOB	48	n.d.	>5	n.d.	>5	7,2	120
	53	n.d.	>5	n.d.	>5	8,5	140
	58	n.d.	>5	n.d.	>5	9,3	155
	63	n.d.	>5	n.d.	>5	10,5	175
	66	n.d.	>5	n.d.	>5	11 (M)	180
	70	n.d.	>5	n.d.	>5	11,8	200
	77	n.d.	>5	n.d.	>5	13,7	230
	82	n.d.	>5	n.d.	>5	14,7	250

**n.d.:** not detectable, with the current limit of Quantification (LOQ) of 1 mg/kg **no migration** could be confirmed.

For no jar size it can be expected that the migration-limit may be exceeded with simulant A and B.

**(M): Measured value;** the numbers for the other diameters are calculated based on compound contact areas.

**Conditions:** 10 d 60 °C

Closure type	Diameter [mm]	Simulant D2 Olive oil	
		Average global migration [mg]	Minimum jar volume 60 mg/kg [ml]
RUP/RUB	38	n.d.	>5
T/Ts	45	n.d.	>5
TWS/TSB DTO/DOB	48	n.d.	>5
	53	n.d.	>5
	58	n.d.	>5
	63	n.d.	>5
	66	n.d.	>5
	70	n.d.	>5
	77	n.d.	>5
	82	n.d.	>5

**n.d.:** not detectable, with the current limit of Quantification (LOQ) of 1 mg/kg **no migration** could be confirmed.

For no jar size it can be expected that the migration-limit may be exceeded with simulant D2.

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### 2. Specific Migration

Blueseal<sup>®</sup>-Compounds do not contain PVC nor phtalates.

#### Substances with a specific migration limit

The compound contains following substances which have been assigned with a specific migration limit:

FCM	PM-Ref	Designation	CAS-No.	restriction
223	13630	Butadiene	106-99-0	QM = 1mg/kg FP; SML = n.d.
264	22660	1-Octene	111-66-0	SML = 15 mg/kg
402	96240	Zincoxide	1314-13-2	SML = 5 mg/kg as Zn
433	68320	Octadecyl-3-(3,5 Di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	SML = 6 mg/kg

The compound contains furthermore components where the generic SML of 60 mg/kg according art. 11 (2) can be applied. The identity of these components is confidential but may be communicated to independent testing institutes in necessary cases.

**Based on the amount of substances in the compound listed above even in case of a total migration it is not expected that the specific limits may exceed.**

### 3. Final Evaluation of the Migration-results

Assumed, that the compound is used for closures with a diameter of 66 mm on a 200 ml jar with a total inner surface of 195 cm<sup>2</sup> and a food contact area of 5 cm<sup>2</sup> following results can be calculated:

**Conditions: 10 d 60 °C**

Simulant	mg/closure	mg/dm <sup>2</sup>	mg/kg food
A 10% ethanol	n.d. (LOQ <1 )	Not applicable	Not applicable
B 3% acetic acid	n.d. (LOQ <1 )	Not applicable	Not applicable
D1 50% ethanol	11 (M)	2,2	22
D2 olive oil	n.d. (LOQ<5)	Not applicable	Not applicable

**n.d.:** not detectable, with the current limit of Quantification (LOQ) **no migration** could be confirmed.

**(M): Measured value;** the numbers for the other diameters were calculated based on compound contact areas.

In general every type of compound has to be tested on its suitability for the individual food.

### 4. DUAL USE Additives

The compound contains according recipe following food ingredients:

FCM	PM Ref	Designation	CAS-No.	E-No.
106	89040	Sodium-, Potassium- and Calciumsalts of fatty acids	--	E470a
504	86240	Silicon dioxide	7631-86-9, 112945-52-5	E 551
615	92080	Talc	14807-96-6	E553b