



**THE PVC-FREE SOLUTION**

SAFE, SECURE, RELIABLE

# BY ACTEGA DS PROVALIN®

## THE PVC-FREE SOLUTION

High performance safety and security for your foodstuffs packaged in glass jars

### ACTEGA DS as a world leader in Quality and Innovation introduces its new PROVALIN® range of lining compounds

Setting new standards in meeting migration limits PROVALIN® is your answer to ensure compliance with the new requirements as set out in the 4th amendment of the Plastics Directive in direct contact with foodstuffs 2007/19/EG, which came into effect in April 2009.

With this directive certain Phthalates which were commonly used in PVC lining compounds for closures, have been banned and the use of others has been seriously restricted especially, when in contact with high fatty or oily foods. The directive dictates that the total permitted migration from the packaging (compound) into such filling goods must be reduced from 300mg per kilogram, to a maximum of 60mg/kg of foodstuffs. Failure to comply with this directive can become a very costly operation for the complete food chain, as the packaged goods can be subjected to testing and rejection not only at national borders but also at any other stage during the storage, distribution and or sales of the product during its complete life cycle (up to several years shelf life in some cases).

ACTEGA DS helps deliver, with our innovative PROVALIN® range of lining compounds, a package which will keep your filling goods safe and secure at every stage of their shelf life. Our PVC and Phthalate free solutions provide you with the peace of mind that your package will always comfortably meet even the most exacting migration requirements.

The PROVALIN® range of compounds has variants suitable for compression and injection molding in to the full range of different closure sizes, types and designs including Press Twist or P/T, Metal Lug Caps and Composite Closures, etc.

The PROVALIN® range provides

- A PVC free solution
- A plasticizer free solution (as with no plasticizers you have minimal migration)
- Global migration levels comfortably met during the shelf life of high fatty or oily filling foods
- Pasteurize able versions
- Sterilize able solutions
- Optimum and consistent opening and re-opening torques.
- Safe vacuum retentions

ACTEGA DS a world leader and innovator in safe secure and value added lining compounds.

## Overview

Provalin® is a range of PVC free granulate lining compounds, especially developed for use in Vacuum Closures, Lug Caps, Twist Off® Closures, Press Twist Closures, Metal Plastic Composite Closures, etc. Different variants have been tailor made for use in compression and injection lining technologies. The PROVALIN® range is engineered to meet even the most challenging migration requirements demanded by many of the worlds regulatory bodies.

**PROVALIN® 1241**

**PROVALIN® 1231**

**PROVALIN® 1631**

**PROVALIN® 1288** *coming soon*

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## PROVALIN<sup>®</sup> 1241

A TPE granulate lining compound, designed for use in Lug Caps. This compound is suitable for all filling goods, where pasteurization is employed.

As PROVALIN<sup>®</sup> 1241 contains no plasticizers of any kind it is exceptionally positioned to meet the most stringent migration requirements for direct food contact with high fatty and oily foods.

### General

- Typical uses: Twist Off<sup>®</sup> Metal and Composite Closures, Metal Lug Caps etc.
- Typical applications include: compression and injection molding.
- Typical filling goods: all filling goods where pasteurization is employed.

### Material Properties

- Steam closable with pasteurization at 95 °C for 60 min
- Typical shore hardness: A 78
- Typical Melt Flow Index (MFI): 8 g/10 min (5 kg, 190 °C)

### Variants

- Standard colors: un-pigmented, Blue or White
- Various lubricant packages to optimize opening torques on different packages, glass and closure combinations.

## PROVALIN<sup>®</sup> 1231

A TPE granulate compound with the softness and elasticity of a comparable PVC material. This compound is designed for use with sterilization, although in its original version it is not usually recommended for use with high fatty foods.

### General

- Typical uses: Twist Off<sup>®</sup> Metal and Composite Closures, Metal Lug Caps, Press Twist (P/T) Closures etc.
- Typical applications include: compression and injection molding
- Filling goods: all, except high fatty and oily foods.

### Material Properties

- Steam closable with sterilization at 121 °C for 60 min or 131 °C for 30 min.
- Typical shore hardness: A 68
- Typical Melt Flow Index (MFI): 19 g/10 min (5 kg, 190 °C)

### Variants

- Standard colors: un-pigmented, Blue or White.
- Specialized versions being developed for use with sterilization with high fatty and oily foods.
- Versions available for Press Twist Closures.

## PROVALIN<sup>®</sup> 1631

A TPE granulate compound, especially designed for use in Metal and Plastic Composite Type Closures.

### General

- Typical uses: Bandguard<sup>®</sup> Type Closures
- Typical application: injection molding
- Filling goods: all, but not usually recommended for high fatty or oily foods

### Material Properties

- Steam closing with sterilization at 131 °C (with cooling)
- Typical shore hardness: A 60

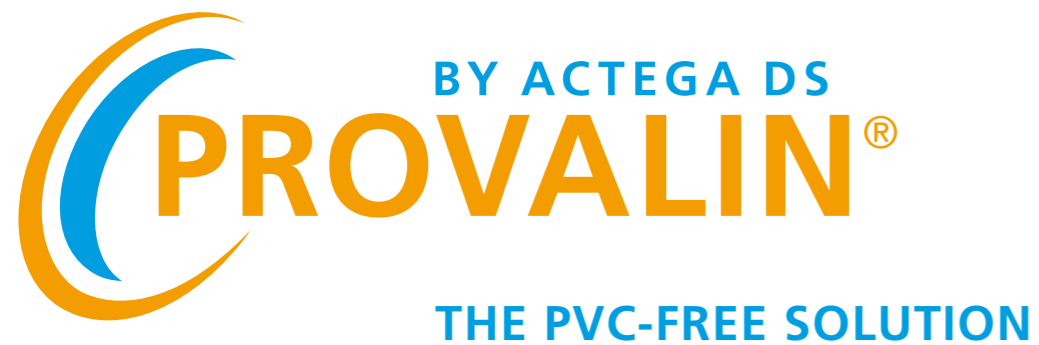
### Variants

- Standard color available: un-pigmented

## PROVALIN<sup>®</sup> 1288 *coming soon*

### The Next Generation

Under development and testing is a new compound designed for sterilization with high fatty and oily foods. This compound exhibits a good CO<sub>2</sub> barrier and is suitable for all filling goods utilizing all filling, closing and processing conditions.



Safety and Innovation in closure lining technologies with ACTEGA DS

#### About ACTEGA DS

**ACTEGA DS is a member company of ACTEGA Coatings and Sealants a division of the ALTANA AG group of companies. We are specialists in closure and packaging technologies and for many years we have supported and supplied the global packing industry.**

With our modern and highly automated production facilities we at ACTEGA DS see our selves as innovative solution providers to the ever evolving requirements of the world wide metal and plastics closure business.

This combined with our continuous investments in Research and Development as well as our participation and active involvement in various industry and regulatory bodies and associations, ensures that ACTEGA DS have all the necessary resources and information to assist you our valued customer stay ahead of the game.

With the introduction of our PROVALIN® range of compounds, we have as global players once again demonstrated our ability and determination to lead the world in new and innovative sealing solutions. PROVALIN® is a registered trademark and patents pending.

A member of  **ALTANA**

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