



SOLVAY

asking more from chemistry®



alve-one®

Sustainable Foaming Solutions for the
PVC PLASTISOLS INDUSTRY

ALVE-ONE® SOLUTIONS' CHARACTERISTICS

Chemical composition	Mineral based, endothermic decomposition
Physical form	Powder, Masterbatch
Resins *	PVC plastisol
Particle size range	Adapted to your process: From 5 µm to 50 µm
Processing temperature range	Adapted to your process: From 140° to 210 °C
Packaging	Supporting your needs

* Alve-One® is also suitable for use in other types of resins: rigid & flexible PVC, Polyolefin (linear & cross-linked) and Elastomer

LIGHTWEIGHT AND PERFORMANCE

Alve-One® solutions are based exclusively on **safe raw materials combinations**, 100% compliant with REACH regulations, and deliver efficient foaming performances.

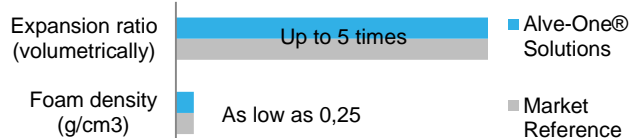


Fig 1. Performance comparison between ADCA & Alve-One® solutions in a PVC plastisol foam

✓ Alve-One® solutions found to be as efficient as the market reference for density reduction & expansion ratio.

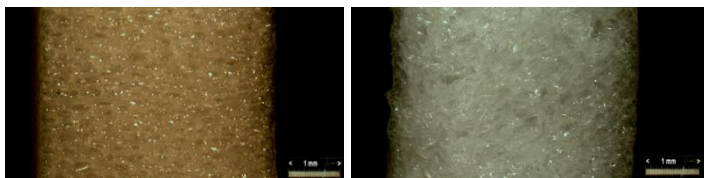


Fig 2. PVC plastisol foams' structures

✓ With similar cellular structures, a whiter color is obtained for the foam manufactured with Alve-One® without additional additives' use

AN EASY-TO-USE FOAMING SOLUTION

Easily adopted, simplified plastisol formulation that maintain foaming performance.

Raw material	Name	Formulations (%) of PVC plastisol foamed with	
		ADCA	Alve-One®
PVC resin	PVC K-value 67	33,0	32,2
Plasticizer	DINP	26,2	25,7
Filler	CaCO ₃	39,5	39,9
Kicker / Activator	ZnO + Zn stearate	0,4	-
Blowing Agent	ADCA	0,9	-
	Alve-One®	-	2,5*
Objective	Expansion ratio	3,6	3,5
	Cellular structure	Homogeneous	Homogeneous

* Usage of Alve-One® can be optimized, resulting in a better foaming performance and cost-competitive solution compared to the market reference

Fig 3. Comparison of standard plastisol's formulations foamed with ADCA and Alve-One® foaming solutions

✓ PVC plastisol's formula can be optimized thanks to the continuous development support of Alve-One® team in collaboration with customers



A READY-TO-USE AND SAFE FOAM

PVC plastisol foamed with Alve-One® do not emit any pungent gas smell (ammonia) and contain negligible quantities of VOCs (volatile organic compounds). Faster time-to-market, lower logistic costs and higher acceptance from end-users are possible to achieve.

Foaming Agent	Weight Loss @ 100 °C	Weight Loss @ 150 °C	Weight Loss @ 200 °C
ADCA	0%	0,17%	0,82%
Alve-One®	0%	0,03%	0,04%

Fig 4. Analysis of amount of volatiles released by foams produced with ADCA and Alve-One® solutions, measured by the weight loss at 3 different temperatures.

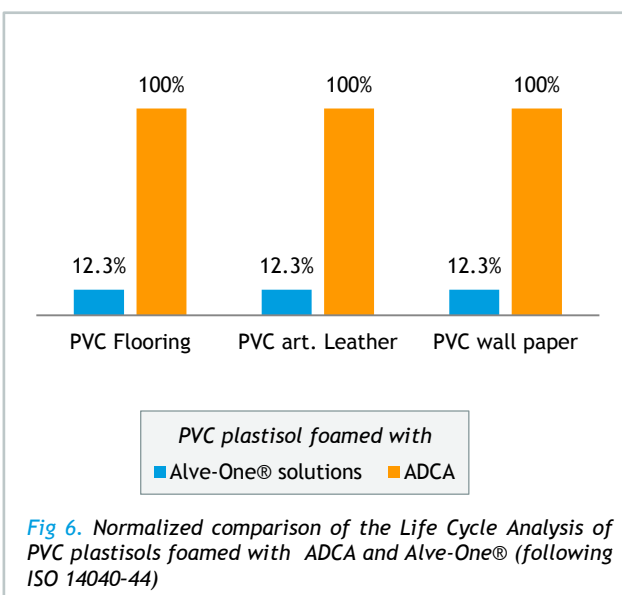
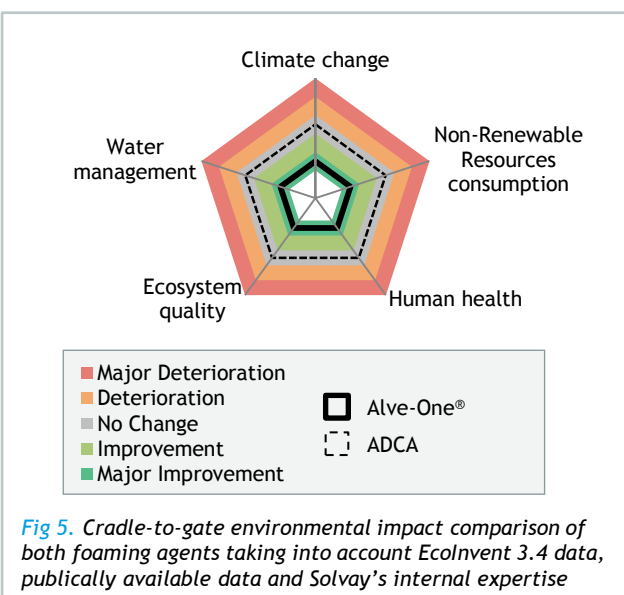
✓ Foams produced with Alve-One® solutions do not emit VOCs, a critical aspect:

- in the production of artificial leather for the automotive industry, promoting a high VIAQ* standard
- in the flooring** production.

*VIAQ: Vehicle Interior Air Quality – ISO 12219 and VDA standards
**ISO 16000

PROGRESSING ON SUSTAINABILITY

The substitution of ADCA for Alve-One® solutions in the production of every type of PVC plastisol results on a significant improvement on environmental impact: a manufacturing footprint up to 97% lower.



Alve-One® foaming agent solutions, bringing more value to your PVC plastisol applications



Matching the technical performances of the market reference with a cost-competitive solution



Enhancing sustainability performance of foamed products with a compliant and safe foaming agent



Simplifying logistics through a safe-to-use foaming agent, delivering foams containing no odor



Improving competitiveness by optimizing formulations or manufacture processes (if desired)



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