



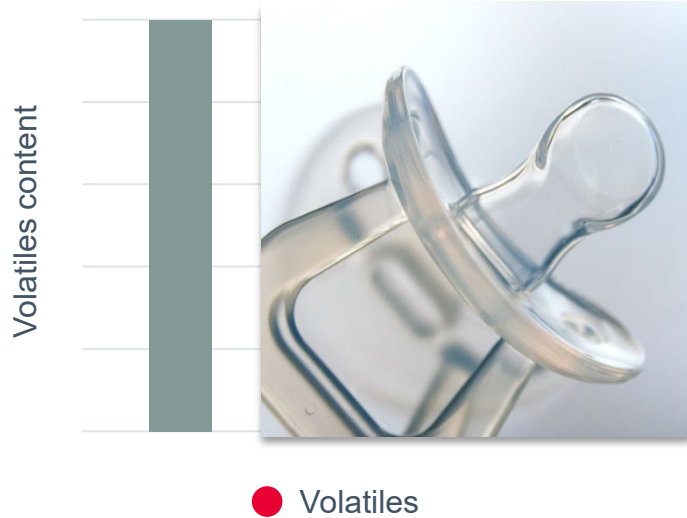
Consumer Solutions

**SiLASTIC™**

# LSR NEW PRODUCT INNOVATION — MARKET AND MATERIAL TRENDS

DR. PATRICK BEYER

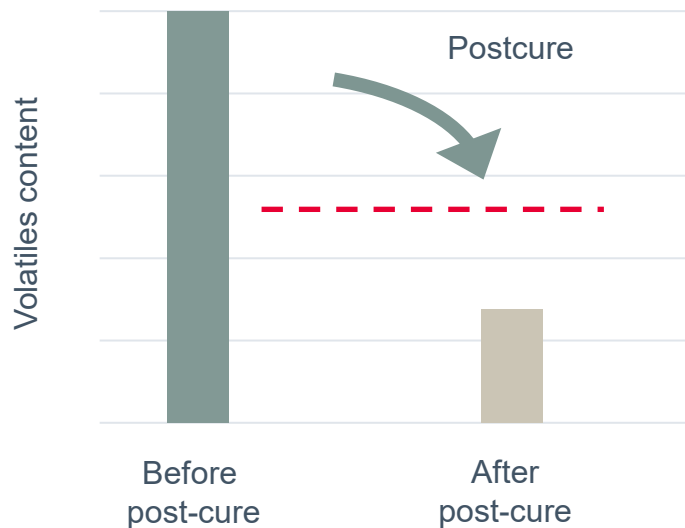
# LOW VOLATILE NON-POSTCURE LSR



- **Conventional LSR technology:** Must be post-cured to comply with food and infant care regulations

- EN 1400
- EN 14350
- BfR XV
- ...

# LOW VOLATILE NON-POSTCURE LSR

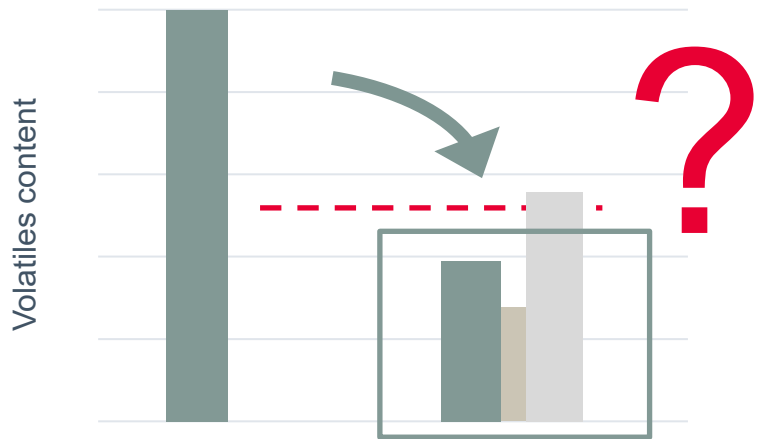


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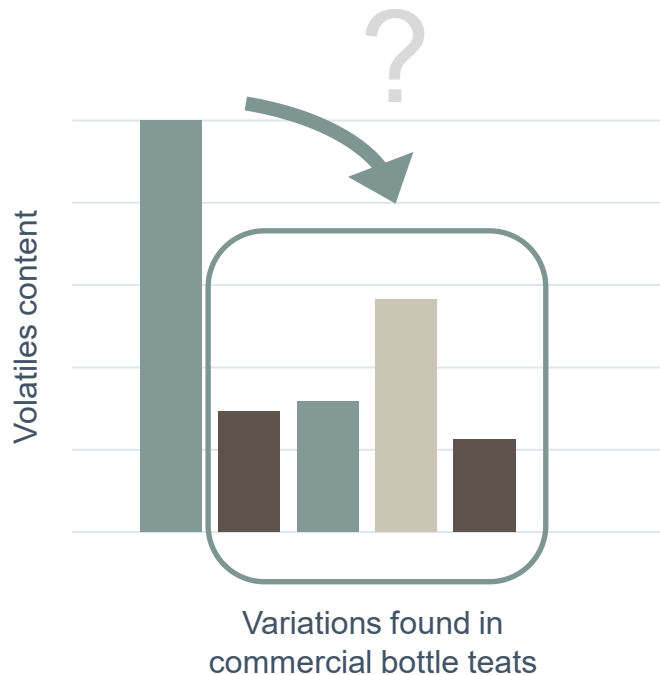
- **Additional process step and handling**

# LOW VOLATILE NON-POSTCURE LSR



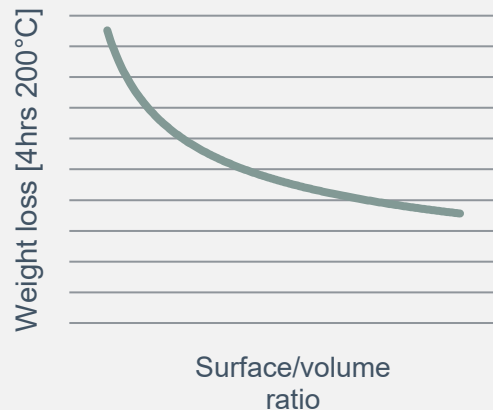
- **Conventional LSR technology:** Must be post-cured to comply with food and infant care regulations
  - EN 1400
  - EN 14350
  - BfR XV
  - ...
- **Additional process step and handling**
- **Source of article variability**

# LOW VOLATILE NON-POSTCURE LSR



Factors impacting volatile content in final article:

- Post-cure process
- LSR purity, initial volatiles concentration [Dx]0
- Product design, surface/volume ratio



# LOW VOLATILE NON-POSTCURE LSR

- Developed to meet requirements of food and infant care regulated applications (BfR, FDA) without post-cure
- Typical volatile compounds content **without** post-cure: **0.25%**

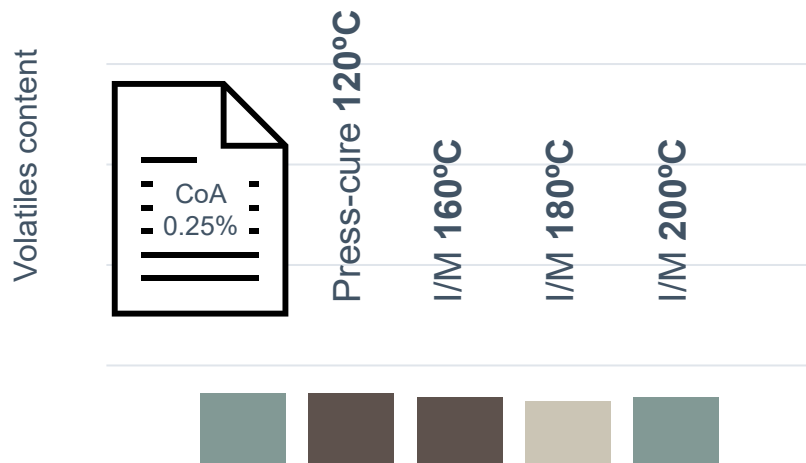


Volatiles content

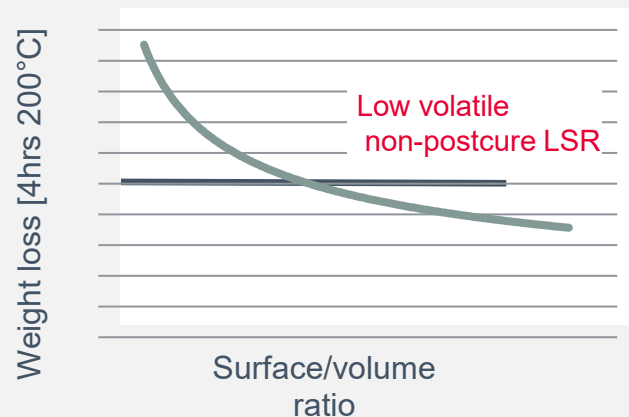


SILASTIC™  
NPC 9300-xx  
Liquid Silicone Rubber

# LOW VOLATILE NON-POSTCURE LSR



- LSR material supplied with low and specified volatiles content
- Volatiles content in molded article independent of processing conditions and article dimensions



## Features and benefits

- Formulated to meet food and infant care regulations
- High strength
- Unique rheology
- Low volatile contents eliminates post curing

## Applications

- Infant care (soothers, teats)
- Food contact (cookware, valves, diaphragms)
- General consumer and industrial articles

Standard	Property	Unit	SILASTIC™ NPC 9300-40	SILASTIC™ NPC 9300-50	SILASTIC™ NPC 9300-70	SILASTIC™ NPC 9310-50
CTM 1094 <sup>(1)</sup>	Viscosity Part A (10 s <sup>-1</sup> )	Pa·s	190	190	220	190
CTM 1094	Viscosity Part B (10 s <sup>-1</sup> )	Pa·s	190	190	210	190
	as molded <sup>(2)</sup>					
ASTM D792 <sup>(3)</sup>	Specific Gravity		1.11	1.11	1.12	1.11
ASTM D2240	Hardness	Shore A	40	50	67	50
ASTM D412	Tensile strength	MPa	8.8	8.9	9.6	9.5
ASTM D412	100% Modulus	MPa	1.09	2.12	4.00	1.65
ASTM D412	Elongation	%	560	500	320	500
ASTM D624 B	Tear Strength	kN/m	34	45	27	41
EN 1400:2013 <sup>(4)</sup> EN 14350-2:2014	Volatile Compounds contents	%	0.25	0.25	0.25	0.25

1 CTM: Dow Corporate Test Method

2 Press cured 10 minutes at 120°C. No post cure

3 ASTM: American Society for Testing and Materials

4 EN: European Standards by CEN (European Committee for Standardization)





Seek

Together™

# THANK YOU

KV Rubber meets science Aachen, 25 June 2019

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