PPG TESLIN® Substrate: A “specialty polymeric microporous sheet material” for critical and essential uses

Comments to the Office of Management and Budget on U.S. EPA’s Rulemaking on Trichloroethylene (TCE) under TSCA; RIN: 2070-AK83

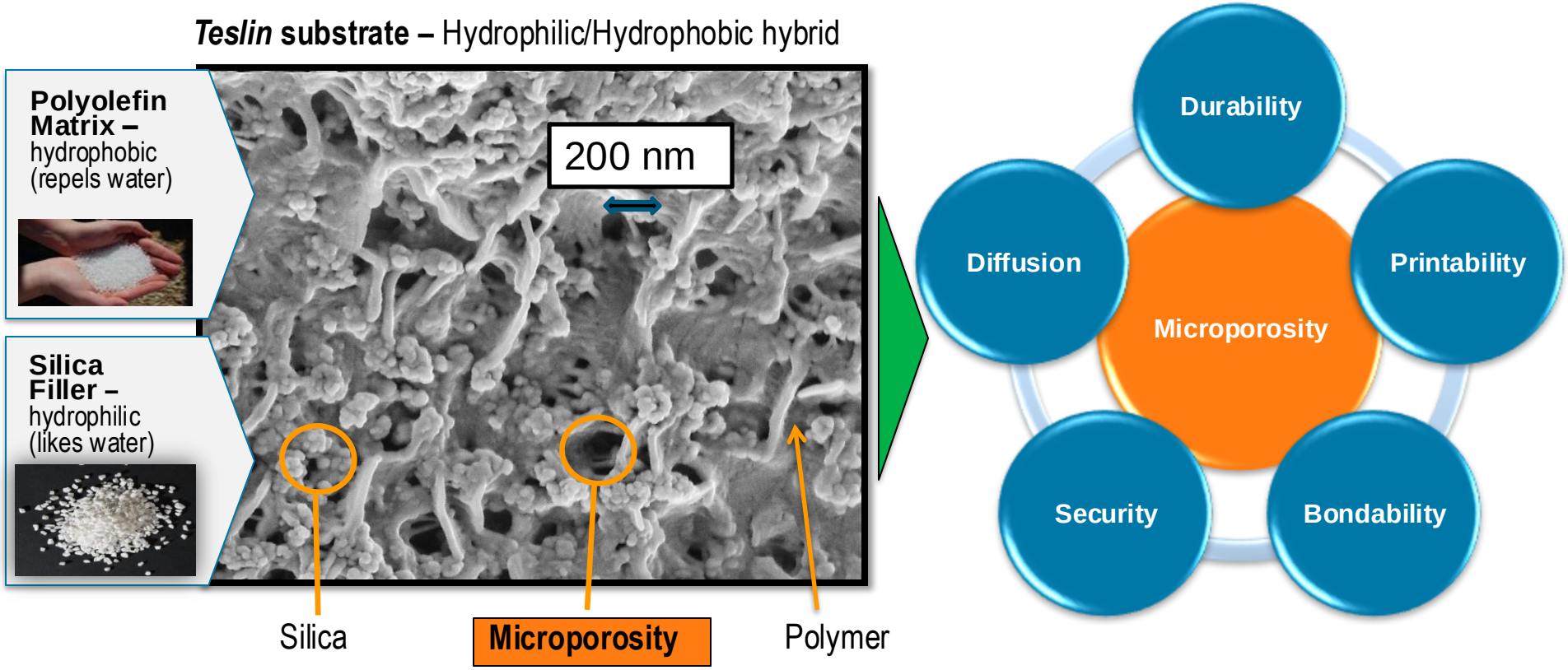
September 24, 2024

Agenda

- Intro to PPG TESLIN® substrate / business
  - What is *Teslin*?
  - Where is *Teslin* made and sold?
  - How is *Teslin* used, and why?
  - How is *Teslin* made, and why is TCE used?
- PPG's TSCA 6(g) exemption request

What is PPG TESLIN® substrate?

***Teslin* is a "specialty polymeric microporous sheet material" made of polyethylene (PE) and silica.**
***Teslin* is similar to PE-silica lead-acid battery separators made by ENTEK and Microporous.**



Unique Composition and Process ⇨ Unique Features and Benefits

Where is PPG TESLIN® substrate made and sold?

Darien, WI
- Conversion of master rolls
- Coating

Barberton, OH
- **Production of master rolls**

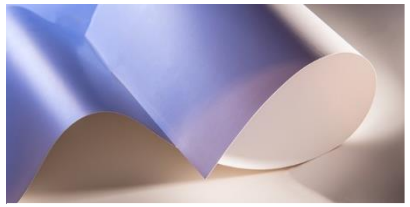
Monroeville, PA
- Business offices
- Customer service
- R&D and application labs
- Analytical services

The Netherlands
- Customer service
- Warehousing
- Conversion of master rolls

Thailand
- Warehousing
- Conversion of master rolls

***Teslin* is only produced by PPG, at the Barberton, OH facility, using TCE**

How is PPG TESLIN® substrate used, and why?

	IDENTITY & SECURITY	LOYALTY & RETAIL	LABELS	GRAPHICS	MEMBRANE
						
End-Use Examples	**e-Passports, national IDs, driver's licenses**	**Loyalty, membership, and insurance cards**	**Chemical drum labels, blood bag labels, other**	**Menus, maps, durable signs, luggage tags**	**Complex filtration elements and cartridges, energy recovery ventilators; fragrance**
Key Function	Security Substrate	Card Body Material	Face Stock	Print Media	Breathable Film
Key Benefits	• Tamper-evident security • Exceptional durability • Protects and cushions electronics	• Processing and manufacturing efficiency • Exceptional durability • High-resolution, vibrant graphics	• Exceptional durability • On-demand printing (digital) • Tamper-evident security • Static-dissipative	• Exceptional durability • Broad printing compatibility • Enable digital printing w/o treatment	• High moisture transfer rate • Broad chemical compatibility • Stretchable for optimized porosity

***Teslin* is a fundamental component in a wide range of critical and essential products**
The total addressable market for *Teslin* across all end-use applications is ~$1 Billion and growing at ~GDP+

How is TESLIN® substrate made, and why is TCE used?

- The unique features and benefits of *Teslin* substrate result from microporosity created by the incorporation and subsequent extraction of a process oil with a process solvent (TCE).
- The unique properties of TCE enable efficient removal of process oil, as well as recovery and reuse of the vast majority of both the process oil and the TCE:
  - non-flammable
  - rapidly extracts process oil
  - amenable to separation from process oil via distillation allowing reuse of TCE and oil
  - low solubility in water and higher density than water that enables water / solvent separation for recovery
  - vapor pressure that allows for evaporation but can be condensed from steam atmosphere
- No technically and economically feasible safer alternative to TCE has been identified by us (or others) due to concerns regarding flammability, toxicity, and PFAS among others

TCE is an essential and irreplaceable process aid for the manufacturing of *Teslin* substrate

PPG's TSCA 6(g) exemption request

- PPG has requested an exemption under TSCA Sections 6(g)(1)(A) and 6(g)(1)(B) for the industrial and commercial use of TCE as a processing aid for the manufacturing of specialty polymeric microporous sheet materials i.e. *Teslin* substrate.
- PPG has also requested that an exemption apply to all end-use applications for specialty polymeric microporous sheet materials.
- Rationale behind PPG's TSCA 6(g) exemption request:
  - PPG's use of TCE is critical and essential and no safer, feasible alternative has been identified.
  - PPG uses TCE in a controlled manufacturing environment where worker exposure potential is limited.
  - Limiting an exemption to certain end-use applications would not enable a viable business.
  - Restricting or prohibiting the use of TCE as a processing aid for the manufacturing of specialty polymeric microporous sheet materials would cause PPG to discontinue *Teslin* substrate, with significant adverse consequences, in particular for national (and international) security.
  - PPG's inability to produce *Teslin* substrate would also hinder supply chains for multiple other sectors, significantly disrupting the national economy.

PPG's TSCA 6(g) exemption request

- EPA's proposed conditions for an exemption are a *de facto* ban on the continued use of TCE for the manufacturing of specialty polymeric microporous sheet material i.e. TESLIN® substrate.
- PPG has respectfully requested that EPA reconsider the proposed conditions for an exemption, including adopting an ECEL that reflects the best available science and the weight of the scientific evidence, and which is achievable.
  - PPG believes that using the current PPG IPEL of 5 ppm, over an 8-hour TWA, and an Action Level of 2.5 ppm are reasonable starting points to use in the WCPP.
- PPG has also respectfully requested that EPA include the following conditions for exempted uses:

1. **Exemption Period:** use of TCE until a safer feasible alternative becomes available
2. **Manufacturing: import:** access to TCE, including imports
3. **Disposal:** discharge of wastewater pursuant to permits issued in compliance with Clean Water Act
4. **Processing: incorporation into articles:** distribution of articles containing de minimis amounts (0.1%) of TCE

Thank you for your time and consideration.

For additional information, please contact:

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