



## SELVOL POLYVINYL ALCOHOL AS A PVC DISPERSING AGENT

Polyvinyl alcohol (PVOH) has long been utilized as a primary dispersing agent in polyvinyl chloride (PVC) suspension polymerization. The use of specific PVOH grades can influence the droplet stability & particle morphology, contributing to the properties of the PVC particles, e.g. porosity, bulk density, and thermal characteristics.

Selvol 540 is the most popular grade used as a primary dispersing agent in PVC suspension polymerization. Its continued demand over the past decade highlights the consistent, high quality product the PVC industry has come to depend on. See Table 1.

In addition to Selvol 540, Sekisui Specialty Chemicals also offers Selvol E605, Selvol E635 and Selvol E640 as primary dispersing agent options. These Selvol PVOH grades provide unique properties needed for PVC suspension polymerization via optimized degree of hydrolysis and particle size. See Table 2 for an example of SELVOL E635 in a K-67 PVC formulation.

While we offer several products into the existing PVC market, Sekisui Specialty Chemicals is always looking to develop new solutions, specifically for primary dispersing agent applications. We look forward to collaborating with customers in this growing market, and being a part of tomorrow's innovative materials.



TABLE 1:

	Units	SELVOL 540	SELVOL E605	SELVOL E635	SELVOL E640
<b>Degree of Hydrolysis</b>	Mol %	87.0 - 89.0	78.5 - 82.0	78.5 - 81.5	78.5 - 81.5
<b>Viscosity (4% solution)</b>	cPs	45.0 - 55.0	4.0 - 5.0	32.0 - 38.0	36.0 - 42.0
<b>Ash</b>	Wt %	0.50 Max	0.50 Max	0.50 Max	0.50 Max
<b>Volatiles</b>	Wt %	5.00 Max	5.00 Max	5.00 Max	5.00 Max

**TABLE 2:**  
**SELVOL E635 EXPERIMENTAL DATA - "K-67" TYPE FORMULATION**

	Unit	SELVOL E635	Market Standard A	Market Standard B
<b>Mean Particle Size</b>	µm	162	159	157
<b>48 mesh</b>	%	100	100	100
<b>60 mesh</b>	%	99.0	99.8	99.8
<b>100 mesh</b>	%	54.7	54.2	67.1
<b>200 mesh</b>	%	4.6	6.4	6.2
<b>Bulk Density</b>	g/ml	0.571	0.566	0.577
<b>Porosity</b>	%	16.2	17.1	16.7



## Sekisui's CPVC Capabilities

Durastream is Sekisui Chemical's high performance CPVC compound product, replacing tin and lead as a more consciences and less hazardous stabilizer for CPVC compounds.

In July of 2013, Sekisui Chemical established its CPVC resin production capacity through investment in TOKUYAMA SEKISUI COMPANY (Tokuyama Sekisui). This facility increased Sekisui's CPVC resin production capacity from 33,000 metric tonnes to 40,000 metric tonnes per year. Tokuyama Sekisui is continuing to improve competitiveness through research into compound design technology and efforts to improve CPVC compound quality. Sekisui Chemical has also established a new production and sales company for CPVC compounds in Thailand.

## About Sekisui

Sekisui Specialty Chemicals (SSC) manufactures Selvol, a complete line of polyvinyl alcohol (PVOH) polymers and copolymers for construction and various specialty applications. Our high performance Selvol polymers are produced at three ISO certified manufacturing facilities located in the US and Spain. SSC's Houston Technology Center develops unique, new polymers and copolymers, while also supporting our global customers' new product development. Between our own global business offices and our distributors, SSC's customer support network reaches all corners of the world.

Sekisui Chemical Group, Sekisui Specialty Chemical's parent company, is a multibillion dollar global company that delivers a wide range of products and services to enrich people's lives. Sekisui has been striving to 'produce a better world with creative technologies' since its formation in 1947. The company is comprised of core businesses and technologies in housing, social infrastructure, and chemical solutions. Selvol Polyvinyl Alcohol as a PVC dispersant is the latest addition to the depth and breadth of Sekisui Chemical Group's innovative contributions to these key business fields.

# SEKISUI

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