Technical Data Sheet

DOWSIL™ 1250 Surfactant

Silicone profoamer for mechanically frothing vinyl plastisols

Features & Benefits

- Better water resistance and less odor than those made with alkali metal soap surfactants
- May be coated on heat sensitive substrates

Applications

- DOWSIL™ 1250 Surfactant may be used in plastisol formulations with large amounts of low temperature or primary plasticizers such as DOP, DIDP, HS3, HS4, or Santiciser 214.
- Surfactant-plasticizer relationships should be thoroughly investigated before formulating, since the profoaming ability of the surfactant is related to its solubility in the plasticizer. By proper selection of a surfactant, formulations containing almost any plasticizer can be mechanically frothed.

Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Property	Unit	Result
Viscosity at 25°C	mm^2/s	6
Specific gravity at 25°C/15.6°C		1.00
Color		Very light straw
Silicone content	%w/w	50
Solvent		Xylene
Flash point - closed cup	°C	27

Description

Because they contain no chemical blowing agents which must be decomposed, mechanically whipped vinyl foams may be fused at low temperatures. Processing temperatures and times are less critical than for chemically blown foams, and mechanically whipped foams may be coated on many heat-sensitive substrates.

Plastisol Formulation

Plastisol paste viscosity is important in formulating for mechanical frothing. Low viscosity plastisols give low density foams for greater ease in coating applications. These foams can be coated by a “knife over roll” technique on various substrates, then fused at 143°C to 204°C.

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Description (Cont.)

A typical DOWSIL™ 1250 Surfactant-plastisol formulation with low fusion point characteristics would be:

Copolymer Dispersion	
Grade Resin	70 to 100 parts
Blending-Grade Resin	0 to 30 parts
Stabilizer	3 parts
Filler	0 to 40 parts
Plasticizer	70 to 110 parts
DOWSIL™ 1250 Surfactant	3 to 8 parts

A level of 4 parts surfactant to 100 parts of resin will generally provide foam stability at densities of 240 to 960 kg/cubic meter. By increasing the surfactant concentration, foam density may be decreased while stability is increased.

Foam Processing

Vinyl plastisols can be mechanically frothed by the batch on a Hobart mixer, or continuously on an Oakes mixer for varied foam properties. See Table 1.

Table 1:

Comparison of properties after mixing.

Physical Property	Hobart Mixer	Oakes Mixer
Minimum froth density (kg/m^3)	270 to 350	160 to 260
Reproducibility (kg/m^3)	±16	±8
Cell size	Large, uniform	Small, more uniform
Sensitivity	Sensitive to plastisol paste Viscosity	Fairly insensitive to plastisol paste Viscosity up to 1500 cps

Handling Precautions

Keep away from heat, sparks and open flames. Use only with adequate ventilation. Avoid (breathing the vapor) eye contact, and prolonged or repeated skin contact.

Protective gloves and safety glasses should be worn when handling this product.

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Usable Life and Storage

When stored at or below 20°C in the original unopened containers, this product has a usable life of 36 months (1080 days) from the date of production.

Limitations

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

Health and Environmental Information

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, dow.com or consult your local Dow representative.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

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