



ISOLENE® 400-S

ISOLENE® 400-S is a low molecular weight liquid polymer derived from synthetic polyisoprene rubber. It offers the performance and processing characteristics of natural rubber with the added benefit of lighter color and none of the natural impurities inherent in natural rubber products.

ISOLENE® 400-S is a high viscosity liquid at room temperature. It is a translucent, honey-colored liquid in bulk form and virtually clear in a thin film.

| | |
|-------------------------|-------------------------------|
| Technology / Base | Polyisoprene |
| Type of Product | Elastomer |
| Appearance / Color | Light Amber |
| Typical Viscosity Range | 300,000 to 500,000 cps @ 38°C |
| Consistency | Liquid |

Features and Benefits

ISOLENE® 400-S provides many performance properties in adhesive formulations and other compounds.

- Softens the resin
- Improves low-temperature tack
- Improves the resistance to bleed through
- Acts as an efficient vehicle for powdered additives and curatives into a rubber compound
- ISOLENE® liquid synthetic rubber cures by the same mechanism as polyisoprene rubber. It can replace rubber 1:1. A slight increase in curative levels may provide optimum performance when using levels above 15-20 phr of ISOLENE®.

Recommended For

ISOLENE® 400-S is ideal for pressure sensitive adhesive (PSA) formulations based on block copolymers.

Typical applications include the following:

- Rubber and polymer processing aid.
- Reactive vehicle for powdered additives.
- Rheology modifier for lubricants.
- Polymer base for molding and tooling systems.
- Polymer base for electrical encapsulants.
- Production of pressure sensitive adhesives.

H.B. Fuller offers a Compounding Guide with starting point formulas for these and other applications.

Handling

ISOLENE® products are viscous polymers. Heating the drums lowers the viscosity for easier handling. Vent the drums before heating to avoid pressure build up.

Avoid exposing ISOLENE® products to temperatures above 121°C (250°F). The polymer may form a skin and it may darken.

ISOLENE® polymers can be compounded with virtually any type of rubber processing equipment. Processing requirements vary with the desired finished properties and with the other formulation ingredients

Storage and Shelf Life

Store in a dry environment to prevent damage to the packaging. The liquid rubber products are stable over a wide temperature range. They are not damaged by freezing temperatures or occasional short-term exposure to temperatures of 66°C (150°F). The shelf life is a minimum of two years if stored properly in an unopened container.



Typical Packaging

ISOLENE® 400-S is available in the following standard packages:

- 330 Lb. steel drum

Safety and Disposal

Prior to working with this or any product consult product label and Safety Data Sheet (SDS) for necessary health and safety precautions.

Technical Data

| Property | Typical Value | Test Method |
|---------------------------------|---------------|----------------|
| Specific Gravity | 0.92 | ASTM D1875 |
| Density (lb/gal) | 7.7 | ASTM D1875 |
| Avg Molecular Wt. | 65,000 | GPC |
| Volatiles (Wt %) | 0.47 | ASTM D1416 |
| Ash (Wt %) | 0.1 | ASTM D1416 |
| Unsaturation (Mole %) | 92 | Ozone Analysis |
| Solids (%) | 100 | |
| Color, Gardner | 8 Max | Visual |
| Glass transition temp. (Tg. °C) | -65 | |

Viscosity

ISOLENE® 400-S is a low molecular weight grades of synthetic polyisoprene. They are viscous liquids at typical processing temperatures. The following table indicates the viscosity (cp) at typical conditions.

| Temperature | Viscosity (cP) |
|-------------|----------------|
| 25°C/77°F | 1,000,000 |
| 38°C/100°F | 380,000 |
| 52°C/125°F | 170,000 |
| 66°C/150°F | 110,000 |
| 80°C/175°F | 50,000 |
| 93°C/200°F | 23,000 |
| 121°C/250°F | 13,000 |
| 149°C/300°F | 8,000 |

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Connecting what matters.™

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