



Formulated Solutions Drives Customer Success with Solstice[®] Propellant

“For applications requiring nonflammable*, nonvolatile organic compounds and broad compatibility, Solstice[®] Propellant is an excellent alternative to HFC-134a. It is enabling us to help our customers differentiate their products with improved performance, enhanced safety and minimal environmental impact. Line conversion was easy and inexpensive, and we can avoid the risks associated with HFC phase-outs and supply.”

Eric Dann, President,
Formulated Solutions

Market Trends

Companies around the world are increasingly replacing hydrocarbon-based formulations with alternatives that meet long-term needs for regulatory compliance. Key challenges include selecting a replacement that sustains product performance, retains throughput rates, improves safety and minimizes conversion costs. Increasingly, Solstice[®] Propellant from Honeywell is meeting or exceeding those challenges in a variety of applications.

Customer Challenge

Formulated Solutions, a contract development and manufacturing organization (CDMO) serving the consumer healthcare market, is a case in point. A new customer, Mission Pharmacal, had been trying to convert their Dr. Smith's[®] Diaper Rash Ointment into an aerosol barrier spray for babies, and also for adult care use in institutional and nursing home settings to address incontinence-associated dermatitis.

They wanted to achieve four key goals with the spray: improve ease and speed of application, provide better coverage, help reduce cross-infection and improve consumer safety with a nonflammable propellant. This required a fast-acting formulation that could spray onto skin, have good adherence, accommodate at least 10% zinc oxide (the active ingredient), not stain fabrics and importantly – be compatible with the propellant.

The Solution

As part of its innovation thrust, Formulated Solutions had already been researching the value of Solstice Propellant in various systems and applications. The company was attracted to its nonflammable properties, nonvolatile organic compound (VOC) status and low global warming potential (GWP). It was also drawn to the product's regulatory staying power – all benefits that could be passed along to customers.

Although Honeywell had subjected Solstice Propellant to rigorous product stewardship reviews, Formulated Solutions still conducted an independent, internal research audit, validating everything from product performance and safety to manufacturing qualifications. Consequently, by the time Mission Pharmacal asked for help, Formulated Solutions had completed its due diligence and was confident it could deliver.

“The customer had a clear vision of what they wanted and we had a clear vision of what could be delivered with Solstice Propellant, so the timing was perfect,” said Eric Dann, president of Formulated Solutions. “This allowed us to create a formulation that made a great system in a can, actually improving product performance while also meeting needs for nonflammability. We couldn’t have succeeded without Solstice Propellant, a product that is allowing us – and customers – to stay ahead of the game.”

The spray products are being marketed as Dr. Smith’s® Rash+Skin Spray™, Dr. Smith’s® Diaper Rash Spray and Dr. Smith’s® Adult Barrier Spray at various retail locations.

An Easy Conversion

Formulated Solutions has a large and diverse operation, with 220 employees and just under 200,000 square feet of manufacturing space. It has the capacity to produce nearly 600 million units of products annually, with five aerosol lines alone producing 150 million units. Blending and filling of the product is performed in controlled, clean room stations, after which the filled cans are sent to an aerosol line to be charged with the propellant.

When converting to a new propellant, it’s imperative to have as seamless a conversion as possible. Formulated Solutions chose to convert an aerosol line that was already electrically classified, even though they determined that the added safety features were no longer necessary for Solstice Propellant. Equipment modifications were minimal, and included emptying, cleaning and preparing the existing bulk storage tank for

Solstice Propellant, and switching out a few gaskets and valves for compatibility.

“The conversion only took one to two weeks and was painless, thanks to the support from Honeywell and our propellant distributor, Diversified CPC,” Dann said. “Next time, I’m sure it will go even faster due to the learnings from this experience. Not only can we convert quickly, but we are able to retain our operating rates while improving the safety of our operations and the end-use product.”

Good Return on Investment

Solstice Propellant is compatible with most existing filling equipment. This can significantly reduce or avoid large capital expenses related to equipment and labelling for companies looking to build new aerosol lines, or to convert existing lines.

“For us, the main return on investment with Solstice Propellant rests in our ability to improve product performance and safety, and apply this success to other opportunities,” Dann said. “Secondary to that, is the fact that we can potentially reduce capital and operating expenses in the future and avoid concerns about HFC phase-outs. With Solstice Propellant, we have a longer, more secure runway of acceptable use and supply.”

About Formulated Solutions

Formulated Solutions, founded in 1999 as a product development consulting firm, is known as one of the most innovative contract development and manufacturing organizations in North America. With over 600 million units of annualized production capacity, Formulated Solutions exists to enhance consumer healthcare products through creativity and invention, delivering its marketing partners unmatched formulations, innovative packaging and a cost-effective, reliable supply of semi-solids, aerosols and barrier aerosol package forms. See www.formulatedsolutions.com for more information.

*Solstice Propellant is a UN class 2.2 nonflammable liquefied gas. It is designated as nonflammable by U.S. DOT, GHS, IATA and IMDG standards, and by ASTM E-681, ISO 10156 and EU-A11 methods.

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