

STRAIGHT to the POINT

Special Handling Takes on Special Meaning with Maleic Anhydride

Maleic Anhydride, $C_4H_2O_3$ (MA), is a workhorse chemical used in the making of many products that are part of our daily lives—among them paper, lacquer, cookware, pharmaceuticals, polyester and agricultural chemicals. And while it touches our lives in many ways, this chemical isn't something we'd want to touch ourselves. Come into contact with it and you can suffer third-degree burns. Breathe it and you risk lung damage.



SITUATION

So, when Ventura Transfer Company® was asked to transfer and transport large batches of this compound, they first did a lot of experimentation. "It's classified as a Level 2 respiratory hazard," says Charlie Ring, VTC's business development manager who oversaw the Maleic Anhydride project. "It requires full face respirators and full body protective equipment, the same as for liquid acids. In fact, as a hazardous material, it's rated greater than most acids due to the corrosive nature and the elevated temperature. This is nasty stuff."

The value of **THE EXTRA MILE**

Companies faced with handling maleic anhydride can also face danger, delays and dollars down the drain, unless Ventura Transfer Company is on the job.

See *The Extra Mile* inside>



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The MA is manufactured in Asia, then heated to liquid form and loaded into insulated ISO tanks for the cross-water journey to the United States. During transit, the MA congeals into a white, wax-like form and must be heated back to a liquid state upon its arrival in the US. This reheating requires getting the job done right the first time.

MISTAKES CAN BE COSTLY

As Trudi Leddy, operations manager of Miljac Inc., a specialty chemical distributor in New Canaan, CT, points out, “If there are four ISOs on the bill of lading, and one gets tied up in customs, the four are not going anywhere. And if the product doesn’t get to the customer in a timely fashion, their plant can shut down.”

Bill Boydston, business manager, performance chemicals, of JLM Marketing, Inc., a Tampa, Florida-based manufacturer/distributor/marketer of commodity chemicals, adds, “The Maleic Anhydride solidifies at room temperature and must be carefully heated for the loading and

unloading of the tanks. Maintaining temperature is important. Allowing it to cool too much or be heated too much can result in the loss of the entire tankful, which equates to approximately \$40,000.”

Obviously, there’s a lot riding on how efficiently, and how well, the MA is brought back to shipping temperature. And since the cost of a ruined tankful is the responsibility of the transfer company,

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VTC’s Charlie Ring took special precautions before accepting an MA assignment. “Over a three-month period, we experimented with 40–50 loads—300 hours of testing,” he recalls. “It has a melting point that ranges between 130°–140° F and we deliver it at temperatures from 150° to 170°, depending on customer specs.”

CHALLENGE >>>



The value of
THE EXTRA MILE

EXTRA SAVINGS

Specialized handling equipment—unique to VTC—lifts a filled ISO from its chassis and moves it to storage, offering huge savings over chassis rental and dock storage.

The Maleic Anhydride had to be heated in stages to prevent it from building up moisture. The heating process also posed the potential for altering the substance's color. "One use of MA is as a bonding agent for products like premium cookware, where a snow-white color is very important," says Charlie Ring. "Overheating it and turning its hue to amber just isn't in the specs." The material was also corrosive, which created handling challenges, and the MA's viscous nature required the use of steam pressure to get it to flow efficiently.

SOLUTION >>> VTC devised a proprietary process to address all these issues. It included incremental heating stages, the use of steam pressure to promote efficient flow of the MA, and the use of a unique rig in which an air bag tilted the chassis forward and back. "No huge thing, maybe," says Bill Boydston, "but VTC just seems to be a company that sweats the details."

RESULTS >>> In the end, the VTC handling process decreased the number of heating hours, while offering a substantial bonus: "We were actually able to remove more product than was possible following manufacturer's recommendations," says Charlie. In fact, using traditional transfer methods, 50 to 70 gallons of heel per ISO were

common. Using VTC's process, that number can be reduced to 10 gallons or less per ISO.

As far as Miljac's account executive Chris Anderson is concerned, "VTC has proven itself

"...the VTC handling process decreased the number of heating hours, while increasing the amount of usable MA."

far superior in this process, better than anybody. They're the industry leaders, in my opinion."

GOING THE EXTRA MILE

With a methodology in place, VTC quickly found other ways to prove itself. On one occasion, Miljac experienced a delay on the docks in Hong Kong, which resulted in an eleven-container backup in the United States. As Chris Anderson remembers, "VTC still managed to pick up all containers and we incurred no demurrage charges.

Trudi Leddy adds, "They go the extra mile."

For Bill Boydston, going the extra mile means having the capacity to get the big jobs done: "When you have to bring eight ISOs up to



EXTRA CARE

Careful, staged temperature control during reheating keeps the MA from turning yellow, which keeps products like premium ovenware bright and appealing to customers.



EXTRA VALUE

Innovative heating and removal techniques—including a way to actually tilt the ISO—reduces waste and increases the volume retrieved per load, exceeding manufacturers' expectations.



temperature at the same time, you've got to have the proper equipment capable of handling that volume and lots of knowledgeable people to do that. VTC is one of the few companies out there good enough for the task."

But as important as the capacity for getting big jobs done may be, attending to the little details can

be a big help, too. As Trudy Leddy puts it, "We move more than 30 containers a month. The invoicing and paperwork are massive. VTC has streamlined the process from three invoices per container to one combined invoice. That's forward thinking."

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Her cohort Chris Anderson sees all of VTC's contributions as reflections of the company's dedication to customer support. "We definitely support them," she says, "because they support us so well."

From big challenges like taming Maleic Anhydride to smaller ones like cutting paperwork, VTC has the resources—and the resourcefulness—to handle them all.



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