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UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

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IN RE M/V MSC FLAMINIA
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12-cv-8892 (KBF)

OPINION & ORDER

KATHERINE B. FORREST, District Judge:

On July 14, 2012, the M/V MSC FLAMINIA (the “Flaminia”) was crossing the Atlantic Ocean bound for Antwerp, Belgium. The vessel had departed from New Orleans, Louisiana fourteen days earlier and it was loaded with cargo. Early that morning, alarms began to sound, followed shortly thereafter by an explosion. Three members of the crew were killed, thousands of container cargos were destroyed, and the vessel was seriously damaged. A number of lawsuits followed, seeking compensation for death, bodily injury, loss of cargo, and damage to the vessel. Many of the original claims have been settled, including those alleging wrongful death and bodily injury. What remains are a host of claims relating to cargo losses and vessel damage.

The Court has split the trial into three phases: a trial on causation in “Phase 1,” to be followed by trials establishing fault and damages. The Phase 1 bench trial was conducted from September 11, 2017 through September 19, 2017, with closing arguments on September 26, 2017.

At trial, three sets of parties presented related but materially different theories of causation. All agree that the explosion occurred as a result of runaway

auto-polymerization of 80% grade divinylbenzene (“DVB80”)¹ that was contained in ISO containers² aboard the *Flaminia*. The manufacturer and shipper of that cargo, Deltech Corporation (“Deltech”) and Stolt Tank Containers B.V. (“Stolt”), respectively, assert that runaway auto-polymerization would not have occurred absent the storage conditions on the dock at the New Orleans Terminal (“NOT”) (where the DVB80 was stored before being loaded onto the ship) and aboard the vessel. In contrast, Container Schiffahrts-GMBH & Co. KG MSC “FLAMINIA” and NSB Niederelbe Schiffahrtsgesellschaft MBH & Co. KG (together, “Conti”), which owned and operated the *Flaminia*, and MSC Mediterranean Shipping Company, S.A. (“MSC”), the time-charterer, assert that the cause of the auto-polymerization was Deltech’s failure to deliver fully oxygenated DVB80 to the dock at NOT. The last party that presented a causation theory was Chemtura Corporation (“Chemtura”), a shipper of another chemical contained in cargo aboard the vessel, diphenylamine (“DPA”). Chemtura argued that in all events, the DPA was not a substantial factor contributing to the conditions that caused the explosion.

The parties have spent an enormous amount of time litigating this case. The discovery was, by any measure, extensive. Each group of parties retained experts, resulting in a classic “battle of the experts.” The Court carefully studied the experts’ work, listened to their testimony, and poked and prodded them with

¹ DVB is a chemical used for the synthesis of ion-exchange resins, an important component of water purifiers. These water purifiers create clean drinking water as well as clean water for use by nuclear power plants. DVB may also be used in the production of adhesives and polymers.

² ISO containers—sometimes referred to as “ISO tanks”—are receptacles that can be filled with liquid. The Court discusses the characteristics of the ISO containers further below.

questions. According to the Stolt/Deltech experts, the DVB80 was fully oxygenated and only excessive heat conditions caused the auto-polymerization. The Conti/MSC experts argue the opposite.

It is clear that neither the experts nor the Court will ever be absolutely certain as to what caused the DVB80 to auto-polymerize and what ignited the explosion. But this is a civil case—one in which the standard of proof is not certainty, but a “preponderance of the evidence.” Based on that standard, the Court finds that that the DVB80 was delivered to NOT in an appropriately oxygenated state. However, the choice of NOT as the port of embarkation was a fatal one. Together, the extended, stagnant storage under a hot sun at NOT, followed by high ambient temperatures in the hold of the *Flaminia*, caused the DVB80 to auto-polymerize. The Court also finds that the heated DPA, which had been placed in containers adjacent to those filled with DVB80 at NOT and in the hold of the vessel, was a substantial contributing factor in the auto-polymerization.

As the auto-polymerization progressed aboard the *Flaminia*, a white cloud of venting DVB80 gases triggered alarms. The crew missed a final opportunity to prevent the explosion when, lacking information as to the conditions in the hold and instructions as to how much carbon dioxide (“CO₂”) to release, it failed to inert the venting gases. The reasonable crew response to what crew members believed was an ongoing fire then created a spark that triggered the explosion.

The Court’s findings of fact and conclusions of law are set forth below.

I. THE PARTIES

Dozens of parties have, at various points, been involved in these proceedings. For purposes of this Phase 1 causation trial, the notable players consist of the following groups: first, the “ship interests,” Conti and MSC; second, the parties that manufactured and shipped the three ISO containers of DVB80, Deltech and Stolt; and third, the companies connected to ten ISO containers of DPA. This last group is comprised of Rubicon LLC (“Rubicon”), the manufacturer; Chemtura, the owner and shipper; and Bulkhaul Ltd. and Bulkhaul (USA) Inc. (together, “Bulkhaul”), which provided the ISO containers in which the DPA was stored. (Stipulated Facts at 9, ¶ 66.)³

II. THE BATTLE OF THE EXPERTS

A total of 54 witnesses testified at trial: 35 by deposition designation; 13 by trial declaration, live cross-examination, and live redirect; and six by trial declaration only (because the parties waived cross-examination (see Trial Tr. at 101–03)).⁴ The Court also received into evidence over one hundred documents and a videotape.

³ Several other companies produced other chemicals being transported on the Flaminia—by the time of trial, these materials had been absolved of blame. Monsanto Company (“Monsanto”) was the manufacturer of glyphosate intermediate (“GI”) carried in 30 twenty-foot dry van containers aboard the vessel on July 14, 2012. (Stipulated Facts at 12, ¶ 1.) BASF Corporation (“BASF”) was the manufacturer of four ISO container shipments of dimethylethanolamine (“DMEA”) carried aboard the vessel on July 14, 2012. (Stipulated Facts at 13, ¶ 3.) Suttons International, Ltd. and Suttons International (N.A.) Inc. (collectively “Suttons”) were the providers of the ISO containers utilized for carriage of the Flaminia shipments of DMEA aboard the vessel. (Stipulated Facts at 14, ¶ 13.)

⁴ This last group includes Leon Nell (ECF No. 1292), Gerry Walsh (ECF Nos. 1294, 1334), Robert Cohen (ECF No. 1298), Ian Wadsworth (ECF No. 1300), Tommy Sciortino (ECF No. 1302), and David Hughes (ECF No. 1292).

A number of intelligent, articulate, and talented experts in their fields testified at trial. Each of the individuals who testified as an expert was truly an expert; the fact that the Court credits certain conclusions over others does not suggest otherwise. Ultimately, the Court credits the testimony of the experts representing Stolt and Deltech over the experts representing MSC, Conti, and/or Chemtura.⁵ The Court was highly impressed with the credentials of the Stolt/Deltech experts, as well as the engagement, rigor, and consistency with which they approached their work and opinions; Stolt and Deltech's experts were the most persuasive.

While relatively early in this Opinion and technically complex, in order to set the stage for the Court's findings that follow and which rely heavily on the experts, the Court now provides a brief overview of their work. The technical details will be explained more thoroughly in the relevant sections of this Opinion.

A. Dr. Scott G. Davis

Scott G. Davis, Ph.D., testified extensively at trial. The Court was very impressed by him. Dr. Davis has all the expertise a court could wish for: extraordinary credentials, engagement with his assignment, and a careful, forthright, and clear manner. The Court was particularly persuaded by the careful scientific work that he did which reinforced many of his opinions. Dr. Davis was not

⁵ Stolt proffered Anand Prabhakaran to conduct a thermal analysis of the maximum temperature the DVB80 could have reached in the ISO containers. While the Court found his analyses interesting, and supportive of heat contributions from the DPA and solar radiation, it ultimately does not rely on him. Certain of his analyses changed between his deposition and trial and while the Court credited his explanations, it ultimately need not delve into his analyses to reach its conclusions herein.

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