

**IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF UTAH  
CENTRAL DIVISION**

DAVID CALDER, Individually, and as  
Father and Guardian of BC, a Minor, and of  
JC, a Minor, and as Father and Guardian of  
HMP, a Deceased Minor,

Plaintiff,

v.

BLITZ USA,

Defendant.

**MEMORANDUM DECISION and  
ORDER**

Case No. 2:07-cv-00387-TC-PMW

Judge Tena Campbell

This matter comes before the court on the motions in limine filed by Defendant Blitz U.S.A., Inc. to exclude certain expert testimony. On October 29, 2010, the court held a hearing to determine whether Defendant's proposed expert Craig Beyler qualifies as an expert under Rule 702 of the Federal Rules of Evidence and Daubert v. Merrill Dow Pharm., Inc., 509 U.S. 579 (1993). Having considered the record established in pleadings and at the hearing, as well as pertinent law, the court holds that Dr. Beyler qualifies as an expert to testify for the limited purpose of how the fire started. But the court excludes Dr. Beyler's testimony about the feasibility and reasonableness of adding a flame arrestor to the Blitz gas can and the splash tests he conducted to determine the amount of gas in the gas can and the amount that spilled from the can during Mr. Calder's attempt to light the fire. Accordingly, the court grants in part and denies in part Plaintiff's motion to exclude the testimony of Dr. Beyler.

**Standards Governing Admissibility of Expert Witness Testimony**

Under the Federal Rules of Evidence, "[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a

witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.” Fed. R. Evid. 702 (emphasis added). The proponent of an expert witness bears the burden of showing that witness’s proffered testimony is admissible under Rule 702. U.S. v. Nacchio, 555 F.3d 1234, 1241 (10th Cir. 2009).

The court’s inquiry under Rule 702 is twofold. First, the court must determine whether the witness is qualified as an expert in the area about which he will testify. Id. “In determining whether expert testimony is admissible, the district court generally must first determine whether the expert is qualified ‘by knowledge, skill, experience, training, or education’ to render an opinion.” Id. (quoting Fed. R. Evid. 702). Second, the court must determine whether the expert opinion is relevant and reliable. Daubert v. Merrill Dow Pharm., Inc., 509 U.S. 579, 589 (1993).

The court evaluates several factors when assessing the reliability of the proposed expert witness’s testimony, including: “(1) whether the expert’s technique or theory has been or can be tested; (2) whether the technique or theory has been subject to peer review and publication; (3) whether there is a known or potential rate of error of the technique or theory when applied; (4) whether standards and controls for the technique or theory exist and are used; and (5) whether the technique has been accepted in the scientific community.” Daubert, 509 U.S. at 593-94. Additionally, “expert testimony prepared solely for purposes of litigation, as opposed to

testimony flowing naturally from an expert's line of scientific research or technical work, should be viewed with some caution.” Johnson v. Manitowoc Boom Trucks, Inc., 484 F.3d 426, 434 (6th Cir. 2007).

### **Dr. Beyler’s Expert Testimony**

Mr. Calder has moved to exclude Dr. Craig Beyler’s testimony about the feasibility and reasonableness of adding flame arrestors to the Blitz gas can and about the origin of the fire at issue in this case. In conjunction with Dr. Beyler’s testimony about the origin of the fire, Mr. Calder seeks to exclude testimony about splash tests conducted by Dr. Beyler to determine how the gasoline would have been distributed from the Blitz gas can in the events leading up to the fire and two demonstrative animations that illustrate Dr. Beyler’s theory of the fire’s origin to the jury. Mr. Calder argues that the splash tests and demonstrative animations are based on speculation rather than fact and would therefore be both unhelpful to the jury and unfairly prejudicial. Mr. Calder also argues that Dr. Beyler is not qualified to testify about the design of gasoline containers and flame arrestors.

The court has reviewed Dr. Beyler’s reports, portions of his depositions, the memoranda filed by the parties, and considered the testimony given by Dr. Beyler at the Oct. 29, 2010, hearing. Based on this review and as explained below, the court grants in part and denies in part Mr. Calder’s motion. The court agrees that Dr. Beyler lacks the qualifications to testify about the design of gasoline cans and flame arrestors, and that the splash tests and demonstrative animations would not be helpful to the jury because they are based on speculation rather than fact. But the court holds that Dr. Beyler is qualified to testify about his theory of the origin of the fire so long as his testimony is supported by facts in the record.

### Dr. Beyler's Qualifications

Dr. Beyler has a Ph.D. in engineering but is not a licensed engineer. Rather, he works as a fire safety and fire investigation expert. He has taught graduate level courses in combustion, fire dynamics, and fire chemistry, and has published extensively regarding fire and combustion science. He has also held leadership positions with the International Association for Fire Safety Science, the Society of Fire Protection Engineers, and the National Fire Protection Association. Currently Dr. Beyler is employed by Hughes Associates, a fire engineering consulting firm, as its technical director. In this capacity, Dr. Beyler researches fire protection and consults with clients about fire safety.

Mr. Calder argues that because Dr. Beyler is not a licensed engineer, he is not qualified to opine about the design of the Blitz gas can container. Dr. Beyler's lack of engineering credentials do not preclude him from testifying about the design of the Blitz gas container. Rather, his opinion about the Blitz gas can design would not be helpful to the jury as discussed below.

### Dr. Beyler's Challenged Opinions

#### 1. The can is not defective because it lacks a flame arrestor.

Dr. Beyler bases his testimony that a flame arrestor would not prevent flashback explosions on his claims that consumers would remove a flame arrestor because a flame arrestor would slow the flow of gasoline from the container, that gasoline would "varnish" the flame arrestor over time causing a hazard, and that including a flame arrestor would deviate from community safety standards.

Dr. Beyler's assertion that consumers would remove a flame arrestor is based on an

unscientific survey of his co-workers. Dr. Beyler testified that “everybody knows” that consumers will remove batteries from a smoke detector that continues to emit a false alarm. Dr. Beyler does not cite relevant literature or surveys of consumers to support this conclusion, but relies instead on common knowledge. Such evidence is not helpful to jurors who could presumably rely on their own common knowledge to determine whether installing a flame arrestor would be futile.

Next, Dr. Beyler seeks to testify that varnishing of the flame arrestor would occur over time and create a hazard. Dr. Beyler defines varnishing as any process that would lead to deposits of sediment on a flame arrestor. Ultimately, varnishing could lead to increased spillage because consumers would have to work harder to release the gas in the container. Although Dr. Beyler claims that varnishing would occur on a flame arrestor installed in a portable plastic gas can, he does not testify how much varnishing would have to occur before a hazard would arise. Dr. Beyler does not rely on any tests or experiments to support his opinion that the varnishing of the flame arrestor would make having a flame arrestor dangerous. Because Dr. Beyler does not have a sufficiently reliable basis for his opinion about the varnishing of flame arrestors, this testimony would not be helpful to the jury.

Dr. Beyler also claims that it would be irresponsible to put a flame arrestor in a portable consumer gas can because the industry standard, promulgated by the American Society for Testing and Materials (ASTM), does not require flame arrestors in portable gas cans. He concludes, based on the lack of a standard, that including flame arrestors in portable gasoline containers would be “deviating from community safety standards.” During his testimony at the October 29 hearing, Dr. Beyler admitted that the ASTM is currently looking into the feasibility of

flame arrestors. The fact that the ASTM does not currently require flame arrestors is not proof that ASTM studied the issue and decided that flame arrestors would be harmful. The lack of regulation could just as easily indicate a dearth of study on the subject. Dr. Beyler's testimony about the ASTM regulations is speculative and would not help the jury to interpret the regulation.

Dr. Beyler's testimony that the gas can is not defective is based on speculation and would not be helpful to the jury and is therefore excluded.

2. Mr. Calder's account of the fire precludes a flashback explosion as its cause.

Dr. Beyler used the National Fire Protection Association 921, a guide for fire investigations, to form his opinion about the likely cause and origin of the fire. Dr. Beyler admits in his expert report that there are limited sources of information about the accident. Mr. Calder and his two surviving children provide the exclusive and sometimes conflicting account of what happened when the fire started. Based on these accounts, the reports of the other experts, and testing Dr. Beyler conducted at his office at Hughes Associates, Dr. Beyler forms four hypotheses about the start and origin of the fire:<sup>1</sup>

1. A confined vapor cloud explosion in the wood-burning stove spread the burning gasoline.
2. Droplets from the burning gasoline at the tip of the pour spout distributed to the floor and to Mr. Calder and HMP's clothing.
3. Mr. Calder spilled gasoline on the floor as he attempted to splash it onto the fire, which then ignited.
4. The gas can ruptured, spreading its contents around the room.

Dr. Beyler eliminates a gas can explosion as the cause of the accident based in part on the small amount of gasoline present in the gas can at the time of the accident. He determined that

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<sup>1</sup> At the October 29 hearing, Plaintiff's counsel noted that several of Dr. Beyler's facts did not have support in the record, at least not at the citations given by Defendant and Dr. Beyler. Dr. Beyler may only base his testimony on facts that are supported by the record.

there was approximately 500 ml of gas in the can based on Mr. Calder's testimony, the expert opinion of Plaintiff's experts Glen Stevik and Jason Mardirosian, and tests he conducted in his laboratory. The amount of gasoline in the gas can combined with a number of other facts with foundation in the record form the basis of Mr. Beyler's opinion that no flashback explosion occurred. Dr. Beyler opines that the three remaining hypotheses are likely based on the deposition testimony of the eyewitnesses, testimony of other experts, and the splash tests.

Plaintiff argues that Dr. Beyler's testimony has no scientific basis because it relies exclusively on the unscientific splash tests and because it conflicts with other scientific theories. But Dr. Beyler relies on far more than the splash tests to come to his opinions. Because Dr. Beyler is qualified to testify about combustion and reliably applies his experience and the professional literature to facts found in the evidence, he may testify about the cause and origin of the fire. However, the court excludes the splash tests and the demonstrative animations depicting them because the tests were based on speculation about the facts and would not be helpful to the jury.

#### a. Splash Tests

Dr. Beyler conducted tests in his laboratory to determine the cause and origin of the fire. When he conducted the tests, he did not know the exact amount of liquid in the gas can, where Mr. Calder stood in relation to the stove, the extension of the Pull-n-Pour spout, or the exact motion Mr. Calder used to distribute the gas. Although Mr. Calder testified in his deposition about the movement he used to disperse the gas, Dr. Beyler did not attend the deposition and did not watch a video of Mr. Calder's actions. Instead he determined how Mr. Calder must have splashed the gas by "informally tr[ying] to splash gas and come to an understanding of what his

motion would be.” (Tr. of Oct. 29, 2010 Hearing at 14:6-8.) The distance from the gas can to the stove in the splash tests was also calculated according to Dr. Beyler’s whim rather than based on Mr. Calder’s testimony. (See id. at 12-13.)

According to Dr. Beyler, the splash tests showed that gasoline could only splash out of the gas can if the can contained at least 500 ml of gasoline. When gas splashed out of the gas can, gas also spilled onto the ground. These findings form part of the basis for his opinion that the gas can did not explode and that spillage of the gasoline was a possible cause of the fire. Although Dr. Beyler’s supplemental summary of opinions claims that differences in the variables would not change his ultimate conclusion about the amount of gas in the gas can and the amount of spillage during splashing, the court holds that the splash tests were based on speculation rather than facts found in evidence and would be unhelpful to the jury. Therefore, Dr. Beyler is not permitted to reference the splash tests during his testimony.

b. Demonstrative Animations

Dr. Beyler seeks to show the jury two animations of his theory of the cause of the accident based on the splash tests he conducted in his laboratory. As discussed above, these tests were based on speculation rather than fact. Therefore, in addition to excluding Dr. Beyler’s testimony about the splash tests, the court also excludes the associated demonstratives because they are based on speculation and would be unhelpful to the jury. Plaintiff’s motion to exclude the testimony of Dr. Beyler is GRANTED in part and DENIED in part.



DATED this 3rd day of November, 2010.

BY THE COURT:

A handwritten signature in black ink that reads "Tena Campbell". The signature is written in a cursive style with a large initial 'T' and 'C'.

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TENA CAMPBELL  
Chief Judge