



Vaping with fire

Emerging issues in e-cig litigation

By Gregory L. Bentley and Matthew W. Clark

Electronic cigarette sales continue to boom – amounting to more than \$11 billion globally in 2016, and with a recent market forecast anticipating growth to over \$86 billion by 2025. The US alone has more than 10 million regular e-cig users, accounting for approximately 96% of the North American market. That market is particularly directed at young adults, with a study of middle and high school students finding that at least 2.1 million students have used e-cigs.

In addition to the highly addictive nature of these products, there remains an added threat – the device can explode without warning, with explosions occurring during use, while charging, or even while resting in a user's pocket. These catastrophic cases cause severe burns, blasted and broken teeth, gums, and lips, with significant, occasionally life-long recoveries.



In the litigation or evaluation by our office of more than 150 e-cig explosions, a few issues repeatedly crop up. This article will serve as a brief primer on electronic cigarette litigation and a discussion of some of the thornier issues that continue to appear.

Background of e-cigs

All e-cigarettes function basically the same way. They consist of three parts: (1) a tank or cartridge; (2) a battery, which heats the liquid nicotine and other chemicals (often called “juices” or “e-liquids”) that are held within the cartridge; and (3) an atomizer, which converts the e-liquid to vapor that the user inhales. Some e-cigarettes use closed-system cartridges – cartridges that are prefilled with e-liquid by the manufacturer before purchase. Others use open-system cartridges – cartridges that are manually refilled with e-liquid by the user after purchase. Finally, e-cigarettes are produced in pen form (modeled after the traditional cigarette) and in mod form (mechanical or electrical devices that are heavier and carry a much higher capacity for juice and vapor). Whatever their construction, when one explodes, the liability analysis is generally the same.

Many of the most popular e-cigs – particularly the “mod” variety, which produce a more potent smoke and more satisfying experience – use a cylindrical lithium-ion battery. Lithium-ion batteries are excellent sources of power for portable devices, such as cell phones, laptops, and drones. The lithium battery consists of layers of metallic anode and cathode material separated by a porous film which holds liquid electrolyte. The electrolytes used in these batteries are either flammable or combustible liquids. It is that flammable or combustible liquid that causes the fire and explosion when the lithium-ion battery overheats.

We have generally found most e-cig explosions occur in two scenarios: (1) during use, as the user puts the device up to their lips to “draw” or inhale from the device, which due to the buildup of pressure from an overheating battery subsequently explodes; or (2) a spare battery, carried in the user’s pocket, backpack, purse, or car cup holder, suffers an external short, ignites, and spews burning chemicals and flames onto the nearby plaintiff.

Whatever the case, California provides three distinct avenues for strict product liability: (1) design defect; (2) manufacturing defect; and (3) failure to warn. (*Anderson v. Owens-Corning Fiberglas Corp.* (1991) 53 Cal.3d 987, 995.) In our experience, the two most relevant theories of liability are a design defect (under CACI 1203 – Consumer Expectations Test or CACI 1204 – Risk-Benefit Test) and a warning defect (CACI 1205 – Failure to Warn).

Naming and serving all defendants in the chain of distribution

When evaluating potential defendants, a consumer injured by a defective product may sue “any business entity in the chain of production and marketing, from the original manufacturer down through the distributor and wholesaler to the retailer; liability of all such defendants is joint and several.” (*Kaminski v. Western MacArthur Co.* (1985) 175 Cal.App.3d 445, 455–456 (citations omitted).) It is thus important to identify, and potentially name, defendants throughout the chain of distribution for *each* of the offending products that caused harm. This is especially important because many retailers – the only potential defendant that your client may be aware of – are “pop-up” locations, existing only to make a quick buck and hop onto the e-cig craze, failing to accumulate significant assets or

appropriate insurance for the harm caused by their products. It is also important to name each and every defendant in the domestic chain of distribution because the manufacturers of the e-cig component parts are often times *unreachable* through traditional litigation based in the United States (particularly if those manufacturers are, like so many, located in China, which has generally refused to enforce US judgments against Chinese citizens).

Working your way through each link in the chain of distribution can be a long, drawn-out process. You will have to systematically work your way from the point-of-sale retailer, to the wholesaler, to the distributor, to the manufacturer, with many sub-levels or options possible. The best way to do so is generally to serve targeted discovery on defendants as soon as possible regarding the next link in the chain. (See C.C.P. §§ 2030.020, 2031.020 – discovery can be served 10 days after service of the complaint.) We have found courts are generally tolerant of this lengthy journey through the chain of distribution, but you should be prepared to inform your judge about this time-consuming process.

Assuming you can work your way through the chain of distribution, many chains end at a foreign entity – be they wholesaler or the ultimate manufacturer. In that case, if the entity refuses to accept service voluntarily, you will have to begin service of process proceedings through the Hague Convention (specifically, the Convention on the Service Abroad of Judicial and Extrajudicial Documents in Civil or Commercial Matters). A list of contracting countries can be found online, and includes North America, most of Europe, China, Japan, South Korea, and India. By way of example, for service in South Korea – the location of a number of lithium-ion battery manufacturers, including LG Chem Ltd., and a foreign country that will generally enforce US judgments – this involves: (1) translating the documents you wish to serve (including the summons, complaint, exhibits, etc.); (2) filling out the cumbersome United States Marshals Service Form 94; (3) sending to the appropriate country’s Central Authority; and (4) waiting – the process can take 2-6 months from submission to receive proof of service of process.

As above, the sooner you can uncover defendants in the chain of distribution, the sooner you can begin this lengthy process.



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Using an expert to uncover issues with battery or part “rewrapping”

Hand in hand with working through the chain of distribution for each of the offending components is looking into the recently discovered issue of “rewrapping.” An open secret among battery manufacturers, this issue is just now coming to light.

For years, battery manufacturers have been making additional profits by selling a number of their lower quality batteries – or batteries that fail to meet quality control standards, fail to conform to cosmetic standards, or have some other inherent issue or manufacturing defect – to other purported “manufacturers” or distributors of lithium-ion batteries. Those other entities then take the lower-quality battery, replace the exterior wrapping, and sell the battery under a different product/manufacturer name. It is only upon a precise analysis of the physical geometry and chemical composition of the battery that this scheme can be uncovered, and it is only recently that this widespread issue has gained public awareness.

It will take an expert to uncover this issue by performing detailed scans of the subject battery – including looking at component widths/lengths, the internal chemical composition of the battery, the stamping patterns utilized by different companies for their batteries, and any of a host of other factors that can only be realized upon a CT scan. We are finding a disturbing trend of LG batteries having been rewrapped and sold under another name.

But such “rewrapping” may provide another viable defendant in the chain of distribution to pursue – and the sooner discovery can be conducted into potential “rewrapping,” the better.

A tale of two design defect tests: consumer expectations vs. risk-benefit

Under California law, the court is allowed to provide the jury with either of two liability instructions for a plaintiff claiming a design defect: the consumer expectations test (CACI 1203) or the risk-benefit test (CACI 1204). As a general rule, “[i]f the facts permit an inference that the product at issue is one about which consumers may form minimum safety assumptions in the context of a particular accident,”

then the consumer expectations test should be applied. (*McCabe v. American Honda Motor Co., Inc.* (2002) 100 Cal.App.4th 1111, 1120.) It is our experience that the consumer expectations is the more appropriate one to use with e-cigs, and is one that litigants should advocate to use pursuant to CACI 1203.

As a general rule, when the alleged design defect does not require extensive expert testimony, the consumer expectations test should be applied. (*Soule v. General Motors Co.* (1994) 8 Cal.4th 548, 568; *McCabe, supra*, 100 Cal.App.4th at 1120.) The consumer expectations test asks the jury to decide if the product performed as safely as one would have anticipated. If it did not, it is defective. The consumer expectations test thus sets a *minimum* standard on product performance.

On the other hand, many defendants – particularly manufacturers – will argue in favor of the risk-benefit test. Technically or mechanically-detailed design defects can require the risk-benefit test. (*Soule, supra*, 8 Cal.4th at 570.) The risk-benefit test requires the jury to undertake a balancing test

where the product’s positive aspects are compared to its negatives. And, currently pending before the California Supreme Court, is the extent to which “industry custom and practice” is relevant to this analysis – further complicating the jury’s analysis. (*Kim v. Toyota Motor Corp.*, Cal. Supreme Court Case No. S232754.) In any circumstance, when this test is used, trials are longer, more complicated, and more expensive because evidence of the benefits of the products, the frequency and severity of past failures, the cost and mechanical feasibility of a safer alternative design, and the product’s history of performance become relevant. This requires extensive expert opinion and testimony.

Under this test, once plaintiff establishes they were injured by the subject product, the burden is shifted to the defendant to prove the product’s benefits outweighed its risks. (CACI 1204.) The risk-benefit test requires a more complicated analysis for the jury since it shifts the focus away from the specific incident at issue towards an academic inquiry concerning the product in general.

The California Supreme Court devised a test to determine whether to apply the consumer expectations test or the risk-benefit test: “The crucial question in each individual case is whether the circumstances of the product’s failure permit an inference that the product’s design performed below the legitimate, commonly accepted minimum safety assumptions of its ordinary consumers.” (*Soule, supra*, 8 Cal.4th at 568.) Thus, if the plaintiff is able to demonstrate the product’s defects through circumstantial evidence, the consumer expectations test should apply. (*Barker v. Lull Engineering Co.* (1978) 20 Cal. 3d 413, 430.)

In e-cig explosion cases, the consumer expectations test should be applied because an ordinary consumer would not expect an electronic cigarette or its battery to spontaneously explode when in use, when transported in a pocket or bag, or when being charged. The jury does not need expert testimony to understand the e-cig *exploded* and the product was defective. The e-cig merely exploded when it should not have – imposing strict liability on the defendants. (*Soule, supra*, 8 Cal.4th at 568.)

Even if using an e-cig is outside of the jurors’ everyday experience – and the usage rates suggest it is not – the consumer expectation test should still apply. In *Akers v. Kelly Co.* (1985) 173 Cal.App.3d 633, a worker struck a spring-loaded dock board with a fork-lift. Several hours later, the dockboard collapsed and injured a worker. (*Id.* at 641-44.) The worker sued the manufacturer of the dockboard for strict products liability based on a design defect. In holding the consumer expectations test was the correct test to be applied, the court reasoned:

There are certain kinds of accidents – even where fairly complex machinery is involved – which are so bizarre that the average juror, upon hearing the particulars, might reasonably think: ‘Whatever the user may have expected from that contraption, it certainly wasn’t that.’ Here, a dockboard flew apart and injured [plaintiff]. A reasonable juror with no previous experience of dockboards could conclude that the dockboard in question failed to meet ‘consumer expectations’ as to safety. (*Id.* at 651.)

Thus, the fact an electronic cigarette is involved, which the jurors may not have experience with, does not preclude the use of the consumer expectations test where the jurors could conclude it should not *explode* during charging and use. (*West v. Johnson & Johnson Products, Inc.* (1985) 174 Cal.App.3d 831, 867 [any user, including the plaintiff “could reasonably expect and had every right to expect that use of the product would not lead to a serious (or perhaps fatal) illness.”].) Nor should the consumer expectations test preclude expert testimony about the e-cig device. Although an expert-driven case may require use of the risk-benefit test, the usage of experts does not preclude the consumer expectations test. (*Soule, supra*, 8 Cal.4th at 564 [noting that “*Campbell* does not preclude the consumer expectations test in complex cases involving expert testimony”].) Even when using the consumer expectations test, experts can *still* be used to discuss the product design and the manner and method of explosion.

Finally, where the consumer expectations test is used, a defendant’s expert testimony on the design’s risks and benefits is *irrelevant*. Defendants “may not defend a claim

that a product's design failed to perform as safely as its ordinary consumers would expect by presenting expert evidence of the design's relative risks and benefits." (*Soule, supra*, 8 Cal.4th at 566.) "Use of expert testimony for that purpose would invade the jury's function (see Evid. C. § 801, subd. (a)), and would invite circumvention of the rule that the risks and benefits of a challenged design must be carefully balanced whenever the issue of design defect goes beyond the common experience of the product's users." (*Id.* at 566-567; see also *Romine v. Johnson Controls, Inc.* (2014) 224 Cal.App.4th 990, 1004-1005 [because "the trial court properly permitted plaintiff to proceed on the consumer expectations test, it did not err in excluding defendants' risk-benefit evidence."])

When deciding to use the consumer expectations test, it thus also becomes vital to file a motion in limine to limit any defense testimony regarding the benefits and risks of a design. This is important to limit the trial to actual consumer *expectations*, and prevent defendants from muddying the waters of the liability analysis.

Using post-accident warnings or modifications to your benefit

Many defendants, after the explosions of their products have reached a critical mass, attempt to slap additional warnings on the products or in the store regarding the dangers of e-cigs or make changes to the products to make them "safer." Although subsequent remedial measures are normally inadmissible to prove negligence (Cal. Evid. Code § 1151), this doctrine does not apply to strict products liability. Namely, evidence of remedial measures taken after the time of the accident is *admissible* in strict products liability actions because negligence does not need to be proven. (*Ault v. International Harvester Co.* (1974) 13 Cal.3d 113, 114 ["we are not persuaded that the rationale which impelled the Legislature to adopt the rule set forth in the section for cases involving negligence is applicable to suits founded upon strict liability, and we therefore decline to judicially extend the application of the section to litigation founded upon that theory."]) Thus, in strict liability actions, the plaintiff need only establish the product was defective and evidence of subsequent repairs is, therefore, not prejudicial to the defendant in such actions. (*Id.* at 114.)

Additionally, evidence of subsequent remedial measures or warnings logically tend to prove the product was defective before the remedial measures were taken or the warnings were provided. (*Magnante v. Pettibone-Wood Manufacturing Co.* (1986) 183 Cal.App.3d 764, 767; see also *Schelbauer v. Butler Manufacturing Co.* (1984) 35 Cal.3d 442, 450.) "The rationale of *Ault* applies as clearly to post-accident warnings as it does to subsequent product repairs or improvements. Accordingly, the exclusionary rule of section 1151 was never intended to preclude admission of post-accident warning evidence in a strict liability action." (*Id.* at 452.)

In litigating these cases, it is thus important to conduct discovery into any changes to the product, the packaging, or the warnings or storefront that may have occurred after the injury. E-cigs are *constantly* changing, with distributors and retailers popping into, and out of, existence on an almost daily basis. Products also constantly undergo changes as defendants tweak their design for maximum profit, or slap new warnings on the products to try to remedy their past failures. These are exactly the kinds of vital evidence that may be important to fuel your case.

Negating Proposition 51 for defendants in the same chain of distribution

Under *Bostick v. Flex Equip. Co., Inc.* (2007) 147 Cal.App.4th 80, 95, and *Wimberly v. Derby Cycle Corp.* (1997) 56 Cal. App.4th 618, California "courts [have] held that Proposition 51 does not apply in a strict products liability action when a single defective product produced a single injury to the plaintiff. That is, all the defendants in the stream of commerce of that single product remain jointly and severally liable." (*Romine, supra*, 224 Cal. App.4th 990, 1011.)

Accordingly, we hold Proposition 51 has no application in a strict product liability case where, as here, plaintiff's injuries are caused solely by a defective product. A strictly liable defendant *cannot reduce or eliminate its responsibility to plaintiff for all injuries caused by a defective product by shifting blame to other parties in the product's chain of distribution who are ostensibly more at "fault," and therefore may be*

negligent as well as strictly liable. Defendant's recourse, if not precluded by good faith settlement principles, lies in an indemnity action.

(*Wimberly v. Derby Cycle Corp.* (1997) 56 Cal.App.4th 618, 633 (emphasis added).)

Thus, any attempt to introduce the concept of apportionment through jury instructions or verdict forms is *disallowed* to the defendants, including the manufacturer, distributor, or wholesaler, all acting in the *same chain of distribution*, caused an injury to the plaintiff. (*Id.*, see *Bostick*, 147 Cal.App.4th 80.) Both *Wimberly* and *Bostick* held that apportionment under Proposition 51 based on principles of comparative fault is *not triggered*. (See *Bostick*, 147 Cal.App.4th at 92 ["Proposition 51, which by its terms applies to actions 'based on principles of comparative fault' is not triggered" by strict liability actions like the one here].)

This issue most often occurs when a retailer will attempt to apportion fault to entities further up the chain of distribution. But such apportionment is *not* permitted—the retailer is jointly and severally liable for all the harm caused by the products it sold, without regard to whether the manufacturer or distributor might be "more" at fault. It is thus unnecessary and improper in that situation to include apportionment on the jury verdict form, in the jury instructions, or to argue apportionment to the jury. Defendants regularly try to confuse this issue, but so long as they reside in the same product's chain of distribution, Prop. 51 has *no influence* over the outcome.

Conclusion

Electronic cigarettes continue to explode and injure consumers across the nation. State and federal regulators have made little progress in regulating this specific class of dangers — meaning that litigation has a vital role to play in shaping the marketplace and safeguarding consumers. Until batteries, chargers, and e-cig component parts are *safe* for use, the threat of an explosion — shooting pieces of the product like a bullet or small rocket — will still loom over users.

We hope this primer on emerging issues in e-cig litigation shed some light on these horrific cases, and will help all of our clients of these dangerous products to find justice. ■