

# WATER WARS: WATER CONTAMINATION LITIGATION RUNS AMUCK!<sup>†</sup>

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## I. INTRODUCTION

Plaintiffs' firms have become increasingly aggressive in their marketing and litigation, continuing to focus on potential hazards as they pursue new avenues of litigation. This author believes that water contamination litigation of various types represents another of these evolving trends of which corporations, their insurers, and their defense counsel should be aware. This article offers but a few examples of this growing trend.

## II. CCA WOOD (CHROMIUM, COPPER AND ARSENIC PRESSURE-TREATED LUMBER)

The United States Environmental Protection Agency ("EPA") announced a voluntary decision by the industry to remove from consumer use (by December 31, 2003) a variety of pressure-treated wood products that contained arsenic, favoring instead the costlier alternative wood preservatives.<sup>1</sup> The Agency stated, however, that it "has not concluded that CCA-treated wood poses any unreasonable risk to the public or the environment" and advised consumers *not* to "replace or remove existing structures made with CCA-treated wood or the soil surrounding those structures."<sup>2</sup> Health Canada has adopted this same position.<sup>3</sup>

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<sup>†</sup> Submitted by the author on behalf of the FDCC Toxic Tort and Environmental Law Section.

<sup>1</sup> U.S. Environmental Protection Agency, Chromated Copper Arsenate (CCA): Manufacturers to Use New Wood Preservatives, Replacing Most Residential Uses of CCA, [http://www.epa.gov/oppad001/reregistration/cca/cca\\_transition.htm](http://www.epa.gov/oppad001/reregistration/cca/cca_transition.htm) (last visited May. 26, 2007).

<sup>2</sup> *Id.*

<sup>3</sup> HEALTH CANADA, FACT SHEET ON CHROMATED COPPER ARSENATE (CCA) TREATED WOOD (2005), available at [http://www.pmra-arla.gc.ca/english/pdf/fact/fs\\_cca-e.pdf](http://www.pmra-arla.gc.ca/english/pdf/fact/fs_cca-e.pdf).



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Despite the EPA conclusion, numerous class actions have been filed involving CCA wood. While most have been unsuccessful to date, this matter has not yet reached its zenith. Consider the following litigation.

A. *Consumer Actions*

1. Class Certification

a. *Texas*

Homeowners in *Martin v. Home Depot U.S.A., Inc.*<sup>4</sup> brought a class action against Home Depot alleging breach of express and implied warranties, strict liability, and violation of the Texas Deceptive Trade Practices Act. Home Depot removed the case to federal court. The plaintiffs sought to certify a state-wide class of “owners of private residential real property in the State of Texas who have on their property a wood deck or playground equipment constructed of CCA wood that was purchased, either directly or indirectly, from Home Depot.”<sup>5</sup>

The court denied class certification, ruling that because “no two [p]ieces of [t]reated [w]ood are [a]like, Plaintiffs’ [c]laims [c]annot be [t]ried [w]ith [c]ommon [p]roof.”<sup>6</sup> There is also material variance in the manufacture of treated wood. Put simply, not all treated wood is the same, for which reason class certification could be denied. The court further noted that each potential injury to property would be unique and thus was not amenable to class certification.

<sup>4</sup> 225 F.R.D 198 (W.D. Tex. 2004).

<sup>5</sup> *Id.* at 199.

<sup>6</sup> *Id.* at 201.

b. *Louisiana*

In *Eula Guidry Ardoin v. Stine Lumber Co.*,<sup>7</sup> consumers filed a class action suit following discovery that wood purchased from various retailers allegedly contained harmful chemicals as active ingredients. The court responded, however, that the nature of the claims prevented the coincident resolution of all or a significant portion of the claims of the potential class. The defendants likewise had alleged individual defenses against each plaintiff. The court granted the defendants' motions to vacate state court rulings as well as their cross-motions to strike class allegations and to deny class certification. It held that the variance in wood, soil, usage, and environmental conditions rendered it nearly impossible to claim that the class members truly shared common issues of fact, since some pieces of wood might pose more of a potential threat than others.

2. Actual Injury

a. *Texas*

As noted earlier, the plaintiffs in *Martin*<sup>8</sup> alleged defects in CCA wood that was purchased from Home Depot to construct decks. The complaint charged that "arsenic leached from the wood onto the surface of the decks and into underlying soil," posing a health risk.<sup>9</sup> The plaintiffs did not allege that they sustained actual harm to their health because of the treated wood. Nor did they claim that the wood treated with CCA failed to perform its intended purpose. Indeed, under Texas law, there is no cognizable claim "based solely upon an increased health risk, absent a manifested injury."<sup>10</sup> Moreover, even though the EPA did not recommend that the wood be removed or that the soil be remediated, many consumers did so. The court therefore granted summary judgment for the retailer on breach of express and implied warranty, strict liability, misrepresentation and violations of the Texas Deceptive Trade Practices Act.

B. *Potential Disposal Solutions*

As of the year 2000, the State of Florida alone had imported 28,000 metric tons of arsenic through CCA wood. Of that amount, it is estimated that 4,600 tons already have leached into the environment. Researchers predict that as many as 11,000 additional tons will leach from wood decks and other structures over the next forty years. They also created a mathematical model which estimated that by the year 2000, between twenty and fifty tons of arsenic may have leached from construction and demolition landfills, with an expected increase of 350 to 830 tons by the year 2040.<sup>11</sup>

<sup>7</sup> 220 F.R.D 459 (W.D. La. 2004).

<sup>8</sup> *Martin v. Home Depot U.S.A., Inc.*, 369 F. Supp. 2d 887 (W.D. Tex. 2005).

<sup>9</sup> *Id.* at 889.

<sup>10</sup> *Id.* at 891.

<sup>11</sup> *Researchers: Treated wood poses long-term threat*, UNIVERSITY OF FLORIDA NEWS, Dec. 23, 2005, available at <http://news.ufl.edu/2005/12/23/arsenic-lumber/>.

A University of Miami team of environmental engineers in particular studied rainwater runoff from a CCA-treated deck for one year and concluded that “arsenic contamination was 100 times higher than runoff from an untreated deck.”<sup>12</sup> Though the wood products industry phased out CCA wood in 2003, the wood from this large number of decks was not removed, and CCA wood is and still can be used in utility poles and industrial timbers.

As is apparent, disposal of this large bulk of material is problematic. Florida law, for example, does not require that construction and demolition landfills be equipped with linings.<sup>13</sup> John Schert, director of the Florida Center for Solid and Hazardous Waste Management, suggests that requiring linings in landfills will prevent arsenic contamination. The proposed solution poses two additional hazards of its own, however: the costs of such a project would put many landfills out of business, and such a regulation likely would lead to illegal dumping in rural areas by the construction and demolition industry.

Until now, the focus of the CCA wood litigation has been on the product itself and run-off/leaching of arsenic onto and into the ground. However, the existence of millions of wooden boat docks and landings in and around lakes and ponds also offers the potential for arsenic levels in excess of the maximum contaminant levels (MCL) permitted in drinking water by the Safe Water Drinking Act. It thus portends a tidal wave of CCA water contamination litigation.

### III.

#### MTBE: GASOLINE SPILLS AND GROUND WATER CONTAMINATION

Methyl Tertiary-Butyl Ether (“MTBE”) surfaced as a federal legislatively-mandated gasoline additive. In 2005, the Senate proposed a bill that would have required oil companies to pay nearly \$3 billion to help clean up drinking water allegedly fouled by MTBE.<sup>14</sup> The plan also would have shielded petroleum industry manufacturers from product liability lawsuits. The bill failed, but “[t]wenty-one states have banned MTBE, and the industry has paid out [at least] \$485 million to settle eight lawsuits since 1998.”<sup>15</sup> Other suits have been filed and are pending.<sup>16</sup> Additionally, the EPA is currently studying the potentially carcinogenic effects of MTBE on humans.<sup>17</sup>

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<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> Juliet Eilperin, *Protection For Fuel Additive Dropped*, WASH. POST, July 27, 2005, at A04.

<sup>15</sup> *Id.*

<sup>16</sup> Policy Research Institute, *Regional Update, Fuel Additives* (2005), [http://region.princeton.edu/issue\\_51.html](http://region.princeton.edu/issue_51.html) (last visited May 27, 2007).

<sup>17</sup> U.S. Environmental Protection Agency, *Methyl Tertiary Butyl Ether (MTBE)*, <http://www.epa.gov/mtbe/water.htm> (last visited May 27, 2007).

In the watershed case of *In Re Methyl Tertiary Butyl Ether ("MTBE") Products Liability Litigation*,<sup>18</sup> plaintiffs filed a class action suit against Exxon and a gas station owner alleging real and threatened MTBE contamination of ground water. The court refused to dismiss state law claims consisting of: (1) public nuisance, (2) private nuisance, (3) trespass to property, (4) negligence, (5) strict liability for an abnormally dangerous activity, and seeking (6) medical monitoring for early detection and treatment of potential diseases caused by exposure to MTBE. The court found plaintiffs' allegations sufficient to establish a credible threat of harm when claiming that (1) at a certain point MTBE taste and odor make water unfit for human consumption, and (2) MTBE is a known animal carcinogen and has been linked to human health problems. The court also refused to dismiss the claims of property owners whose water had yet to be affected because their neighbors' groundwater contamination demonstrated a future threat of injury. The outcome of this litigation will likely dictate, in large measure, the course of future MTBE litigation. In the author's opinion, plaintiffs' counsel in the MTBE litigation are recycling their clients and filing a type of cookie-cutter litigation involving other alleged contaminants of water.

#### IV. HERBICIDES: ATRAZINE

Atrazine is widely used as a corn, sorghum and sugar cane herbicide in the United States. The EPA has established a drinking water MCL standard for atrazine consisting of three parts per billion — a level that contains a 1000-fold safety factor.<sup>19</sup> Six lawsuits in Madison County, Illinois, have pleaded actions to certify classes on behalf of approximately 1,800 Illinois water districts based on allegations that levels of atrazine in finished potable water are unsafe, even though the water sold by the named defendant meets current MCL standards set by the EPA.<sup>20</sup> The damage claims include allegations that the water provided by each district is property of the district, which has been actually stigmatized and actually harmed, so that actual and punitive damages should be awarded.<sup>21</sup>

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<sup>18</sup> 457 F. Supp. 2d 298 (S.D.N.Y. 2006).

<sup>19</sup> Jay Lehr, *Media Advisory: Madison County, Illinois Lawsuits Threaten U.S. Food Supply*, THE HEARTLAND INST., PRESS RELEASES, Feb. 17, 2006, available at <http://www.heartland.org/Article.cfm?artId=18650>.

<sup>20</sup> See *id.*; Ann Knef, *Atrazine poses no harm, EPA finds*, THE MADISON ST. CLAIR RECORD, Aug. 8, 2006, available at <http://madisonrecord.com/news/contentview.asp?c=182283>.

<sup>21</sup> See Brian Brueggemann, *Food Supply Threat Seen in Pending Suit: Class-Action Aimed at Pesticide Atrazine*, REDORBIT BREAKING NEWS, Mar. 12, 2006, [http://www.redorbit.com/news/science/424911/food\\_supply\\_threat\\_seen\\_in\\_pending\\_suit\\_classaction\\_aimed\\_at/index.html](http://www.redorbit.com/news/science/424911/food_supply_threat_seen_in_pending_suit_classaction_aimed_at/index.html).

A. *Frogs*

Most studies and the EPA have concluded that atrazine at current levels is safe in drinking water. But select animal studies have been utilized as a springboard for promoting litigation. For example, it has been alleged that atrazine can work as an “endocrine disrupter” in frogs, causing them to become hermaphrodites, among other malformations.<sup>22</sup> While activists claim that this is not just a species-specific finding, the EPA has called these and other similar studies “flawed.”

B. *Rats*

Nearly twenty years ago, atrazine was “tested in two strains of laboratory rats and three strains of mice to determine whether the herbicide contributes to increased incidences of any types of tumors. In these tests, fifty or more laboratory animals were fed high daily levels of Atrazine over their lifetimes — about two years — and compared to animals fed none.”<sup>23</sup>

Only in the female Sprague-Dawley rat strain did atrazine cause an effect.<sup>24</sup> Females “exhibited an increased incidence and/or earlier onset of mammary tumors. However, female Sprague-Dawley rats have a high incidence of mammary tumors in the absence of any test chemical” and were a poor test species, since “[m]ore than half of the Sprague-Dawley females usually develop the tumors as they age.”<sup>25</sup> “These tumors develop because of a unique deficiency in the control of their reproductive cycles.”<sup>26</sup>

Significantly, “[h]umans do not have this same deficiency, so the Sprague-Dawley mammary tumor response . . . is not directly relevant to humans.”<sup>27</sup> A later laboratory study “confirmed that lifetime atrazine feeding to female Sprague-Dawley rats at levels more than 10,000 times higher than the trace amounts to which humans are potentially exposed in food and drinking water produced no effect on the animals.”<sup>28</sup>

Some scientists continue to rely upon the Sprague-Dawley rat findings, attempting to link atrazine with human health problems. However, the EPA again has determined that such studies are scientifically baseless.<sup>29</sup>

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<sup>22</sup> *Controversy clouds atrazine studies*, ENVTL. SCI. & TECH. ONLINE, Feb. 19, 2004, [http://pubs.acs.org/subscribe/journals/esthag-w/2004/feb/science/tr\\_controversy.html](http://pubs.acs.org/subscribe/journals/esthag-w/2004/feb/science/tr_controversy.html).

<sup>23</sup> *Latest Submission to Triazine Special Review Includes Focus on Health Issues*, ONLINE NEWSLETTER (Triazine Network), Nov., 1996, available at <http://www.ksgrains.com/triazine/november/index.html>.

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

<sup>29</sup> See Michael Fumento, *Anti-science Policies from EPA*, WASH. TIMES, July 18, 2000, at A17.

C. *2006 EPA Study — Atrazine Not Harmful to Humans*

On June 22, 2006, the EPA completed a lengthy cumulative risk assessment for the chlorinated triazine pesticides atrazine, simazine, and propazine.<sup>30</sup> The EPA has concluded that, given the labeling, application, and mitigation measures implemented with respect to atrazine and simazine, “the cumulative risks associated with the triazine pesticides are below the Food Quality Protection Act of 1996 (FQPA) regulatory level of concern. Triazine tolerances — residue limits in food and feed — have been evaluated on the basis of cumulative risk and found to meet the safety standard established by the FQPA — that the risks . . . pose a reasonable certainty of no harm” in humans.<sup>31</sup> Nevertheless, it is likely that this type of water-related litigation, which pleads harm and damages from a product that otherwise complies with applicable government regulations, will continue.

IV.  
PHARMACEUTICALS IN DRINKING WATER

The presence of human and animal antibiotics and other pharmaceuticals in raw water supplies also offers the opportunity for additional litigation.

A. *Human Pharmaceuticals*

“Persistent pharmaceuticals are discharged into the aquatic environment from municipal sewage treatment that act as point sources. Due to their polarity and their relatively high water solubility these residues are not significantly absorbed in the subsoil and can leach into the ground water.”<sup>32</sup>

Medicinal and household products, such as shampoo, are flushed down drains and toilets into wastewater sewage systems.<sup>33</sup> Pharmaceuticals are passed down toilets or through the human body, but are not completely broken down before they are passed into treatment plants.<sup>34</sup> Currently, treatment plants do not filter all of these chemicals and many eventually reside in streams and lakes. There are no human health effects presently known from most of these pharmaceutical drugs, and most of the chemicals are only detected in miniscule

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<sup>30</sup> U.S. Environmental Protection Agency, Triazine Cumulative Risk Assessment and Atrazine, Simazine, and Propazine Decisions, [http://www.epa.gov/oppsrrd1/cumulative/triazine\\_fs.htm](http://www.epa.gov/oppsrrd1/cumulative/triazine_fs.htm) (last visited May 27, 2007).

<sup>31</sup> *Id.*

<sup>32</sup> THOMAS HEBERER ET AL., FROM MUNICIPAL SEWAGE TO DRINKING WATER 24 (2002), available at <http://www.epa.gov/esd/chemistry/ppcp/images/heberer.pdf> (last visited May 27, 2007).

<sup>33</sup> See Mark D. Uehling, *Free drugs from your faucet*, SALON.COM, Oct. 25, 2001, [http://archive.salon.com/tech/feature/2001/10/25/drugs\\_water/index.html](http://archive.salon.com/tech/feature/2001/10/25/drugs_water/index.html).

<sup>34</sup> *Id.*

amounts of parts per trillion in the water.<sup>35</sup> However, “antibiotics and their metabolites can significantly increase antibiotic resistance in the population. Synthetic hormones can act as endocrine disruptors, by mimicking or blocking hormones and disrupting the body’s normal functions.”<sup>36</sup> Additionally, the cumulative effects of these numerous chemicals on the human population are unknown.<sup>37</sup>

David Sedlak, an engineer at the University of California at Berkeley, “estimates that there are 129 widely used drugs in municipal wastewater nationwide, 49 at levels above a key cutoff point for potential regulation.”<sup>38</sup> In New Mexico, “water engineers detected low concentrations of birth control hormones, the anti-seizure medicine Dilantin, the antidepressant Elavil and the painkiller Darvon.”<sup>39</sup>

Likewise, USGS toxicologist Timothy S. Gross has spent several years studying how fish located downstream from Las Vegas are affected by pharmaceuticals in waterways. “He examined three species — carp, largemouth bass and the endangered razorback sucker — and detected a very large and marked decrease in sperm quality and quantity” in all three populations.<sup>40</sup> Furthermore, although Thomas White, an environmental consultant for the Pharmaceutical Research and Manufacturers of America (PhRMA), noted that industry studies show “no appreciable human health risks” and no “appreciable impacts on the aquatic environment” linked to drugs in the water,<sup>41</sup> Germany and other European countries are taking steps to eliminate certain chemicals.<sup>42</sup> In that regard, Dr. Thomas Heberer conducted a large study of the water systems in Berlin and noted the presence of pharmaceutical products. He indicated, however, that charcoal or membrane filtration at wastewater facilities might remove most of these residues. Whether this fairly simple solution is workable to thwart what is becoming a contentious issue remains to be seen.

On July 19, 2006, London’s *Daily Mail* newspaper published an article claiming that “[a] third of male fish in English rivers are changing sex due to ‘gender-bending’ pollution.”<sup>43</sup> “Tests showed the males developed female sex organs and were producing eggs,”

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<sup>35</sup> *See id.*

<sup>36</sup> *Free drugs from your faucet*, MEDICALNEWSTODAY.COM, Mar. 19, 2006, <http://www.medicalnewstoday.com/medicalnews.php?newsid=39711>.

<sup>37</sup> Uehling, *supra* note 33.

<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

<sup>40</sup> Juliet Eilperin, *Pharmaceuticals in Waterways Raise Concern*, WASH. POST, June 23, 2005, at A03.

<sup>41</sup> *Id.*

<sup>42</sup> HEBERER, *supra* note 32.

<sup>43</sup> Fiona Macrae, *Third of male fish in rivers are changing sex*, DAILY MAIL, July, 19, 2006, [http://www.dailymail.co.uk/pages/live/articles/news/news.html?in\\_article\\_id=396612&in\\_page\\_id=1770](http://www.dailymail.co.uk/pages/live/articles/news/news.html?in_article_id=396612&in_page_id=1770).

i.e., hermaphroditism.<sup>44</sup> “Such fish also produce less sperm and sperm that is of low quality.”<sup>45</sup> “Researcher Professor Charles Tyler said that the fish are swimming in a soup of estrogen-like compounds, found in the Pill and in HRT” (hormone replacement therapy).<sup>46</sup> Estrogen is produced naturally by women, but heavy exposure in males can cause them to be “in between sexes.” It is unclear whether the impact on fish translates to humans, but such statistics are being touted by advocates. “British men’s sperm counts [are reported by some to have] dropped by almost a third between 1989 and 2002, and one in six couples now have difficulty conceiving. Professor Tyler [has noted]: ‘There is certainly the potential for it to have an effect in humans — and possibly a marked effect.’”<sup>47</sup>

### B. *Animal Antibiotics*

“In 2003, the nation’s 238,000 feeding operations produced 500 million tons of manure. The U.S. Environmental Protection Agency estimates that a small percentage of those facilities — called concentrated animal feeding operations (‘CAFOs’) — accounted for more than half of the manure.”<sup>48</sup> In studies of CAFOs, the Centers for Disease Control (“CDC”) “has shown that chemical and infectious compounds, including antibiotics, from swine and poultry waste are able to migrate into soil and water near the CAFOs. Scientists do not yet know whether or how the migration of these compounds affects human health.”<sup>49</sup>

“The problem of antibiotics entering the environment from municipal sources and confined animal feeding operations is well recognized and is a matter of growing concern. There is an increasing interest among scientists, policy makers and industry personnel in the United States to survey the nation’s water resources for human and veterinary pharmaceuticals, steroidal hormones, etc.”<sup>50</sup>

At several sites along Colorado’s Cache la Poudre River, “a research team led by Ken Carlson, a Colorado State University civil engineering professor, discovered the presence of at least three antibiotics used only on food animals.”<sup>51</sup> The amount of antibiotics discovered was miniscule, “about 50 parts per trillion at most. But their presence raises three concerns:

<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> Centers for Disease Control and Prevention, Concentrated Animal Feeding Operations (CAFOs), <http://www.cdc.gov/cafos/about.htm> (last visited May. 26, 2007).

<sup>49</sup> *Id.*

<sup>50</sup> K.G. KARTHIKEYAN & WILLIAM F. BLEAM, U. OF WIS. RESOURCES INST., OCCURRENCE OF ANTIBIOTICS IN WASTEWATER EFFLUENTS AND THEIR MOBILITY IN SOILS: A CASE STUDY FOR WISCONSIN, 1 (2003), available at [http://wri.wisc.edu/projects/fy03\\_dnr\\_projects/fy03\\_dnr\\_karthikeyanbleam.html](http://wri.wisc.edu/projects/fy03_dnr_projects/fy03_dnr_karthikeyanbleam.html).

<sup>51</sup> Jon Bonné, *Livestock antibiotics found in waterways*, MSNBC.COM, Oct., 25, 2004, <http://www.msnbc.msn.com/id/6299642>.

a possible contamination of drinking water; an impact on fish and other aquatic animals susceptible to long-term exposure; and the drugs' potential ability to provide increased resistance to waterborne bacteria."<sup>52</sup> Likewise, "Ellen Silbergold, a Johns Hopkins University professor of environmental health sciences who studies the impact of animal antibiotics on humans, said the largest worry is that otherwise harmless bacteria in streams and rivers — which concentrate in sediment, where the largest amounts of antibiotics were detected — might develop better antibiotic resistance when exposed to ambient levels of drugs used by livestock producers."<sup>53</sup>

Despite these studies and their portents, U.S. Geological Survey research chemist Ed Furlong has observed that "the latest findings are helpful in narrowing possible sources of contamination and developing better water management policies, but shouldn't be used to start assigning blame. 'Little is known about what effect these concentrations have on humans or ecosystems,' Furlong said."<sup>54</sup> His determination notwithstanding, "[r]ecent state and independent tests of ground water wells [in a Weiser, Idaho,] neighborhood detected traces of hormones and antibiotics typically used in the treatment and production of cattle. And scientists . . . are looking at the cattle feedlot that sits, in some cases, just several hundred feet from wells testing positive for detectable amounts of hormones and antibiotics."<sup>55</sup>

Science has yet to assess the known effects of cattle pharmaceuticals on human and environmental health, and state and federal regulations lag even further behind. Diana Aga, assistant professor of Chemistry at the State University of New York at Buffalo, notes that "[t]he science on antibiotic water contamination doesn't point to an acute health concern. . . . But since long-term health and environmental effects are unknown, the possibility that antibiotic contaminants could contribute to the development of antibiotic-resistant microorganisms is a concern."<sup>56</sup> With CAFOs becoming established across the country, this potential source of water contamination and its concomitant litigation likely will occupy the toxic tort arena for decades to come.

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<sup>52</sup> *Id.*

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

<sup>55</sup> Carissa Wolf, *DIRTY WATER: Ag pollution in rural wells runs deep*, BOISE WKLY, Feb. 1, 2006, available at <http://www.boiseweekly.com/gyrobase/content?oid=oid%3a158137>.

<sup>56</sup> *Id.*

## VI. MERCURY

### A. *Health Effects*

Mercury is a neurotoxin.<sup>57</sup> “[S]ymptoms of methylmercury poisoning may include[:] impairment of the peripheral vision; disturbances in sensations (‘pins and needles’ feelings, usually in the hands, feet, and around the mouth); lack of coordination of movements; impairment of speech, hearing, walking; and muscle weakness.”<sup>58</sup> As noted by the U.S. Environmental Protection Agency:

[t]he factors that determine how severe the health effects are from mercury exposure include: the chemical form of mercury (methyl mercury is more toxic than elemental mercury); the dose; the age of the person exposed (the fetus is the most susceptible); the duration of exposure; the route of exposure — inhalation, ingestion, dermal contact, etc.; and the health of the person exposed.<sup>59</sup>

“People in the U.S. are mainly exposed to methylmercury, an organic compound, when they eat fish and shellfish . . . . Almost all people have at least trace amounts of methylmercury in their tissues, reflecting [its] widespread presence in the environment.”<sup>60</sup> Recent findings posted in 1999 and 2000 by the CDC show that most people have blood mercury levels below those associated with adverse health effects.

### B. *Fish*

According to the EPA, “some fish and shellfish contain higher levels of mercury that may harm an unborn baby or young child’s developing nervous system.”<sup>61</sup> In addition, “[t]he risks from mercury in fish and shellfish depend on the amount of fish and shellfish eaten and the levels of mercury [therein]. . . . [T]he Food and Drug Administration (FDA) and [EPA] are advising women who may become pregnant, pregnant women, nursing mothers,

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<sup>57</sup> U.S. Environmental Protection Agency, Human Health, <http://www.epa.gov/mercury/health.htm> (last visited May 26, 2007).

<sup>58</sup> U.S. Environmental Protection Agency, Health Effects, <http://www.epa.gov/mercury/effects.htm> (last visited June 6, 2007).

<sup>59</sup> *Id.*

<sup>60</sup> *Id.*

<sup>61</sup> U.S. Environmental Protection Agency, What You Need to Know about Mercury in Fish and Shellfish, <http://www.epa.gov/waterscience/fishadvice/advice.html> (last visited May 26, 2007).

and young children to avoid some types of fish” such as shark, and to limit consumption of albacore tuna.<sup>62</sup> Rather than these, the EPA recommends up to twelve ounces per week of canned light tuna because of its lower mercury levels.<sup>63</sup>

“Just two 4-ounce servings of fish a week can lower the risk of heart disease and stroke,” observes Joshua T. Cohen, Ph.D., a researcher at the Tufts New England Medical Center.<sup>64</sup> According to Dr. Cohen, avoiding fish because of an overblown health risks does more harm than good.<sup>65</sup> The article reiterates the EPA’s point that canned light tuna is fine for human consumption and that pregnant women should indeed avoid albacore tuna.

A recent article in *Consumer Reports* analyzed the FDA findings and:

found that most cans of light tuna had only a third as much mercury, on average, as white tuna, also known as albacore. But 6 percent of the light-tuna samples contained at least as much of the metal—in some cases more than twice as much—as the average in albacore.<sup>66</sup>

According to David Acheson, M.D., the chief medical officer at the agency’s Center for Food Safety and Applied Nutrition, “[t]he FDA has not warned consumers about those occasionally higher mercury levels because it believes the levels don’t pose any significant threat.”<sup>67</sup> When asked about fetal safety, Acheson said: “If you eat a single can of something that’s a little higher than the average, it’s not going to do any acute harm.”<sup>68</sup>

Given the recent spinach scare, consumer confidence in the food supply once again has been shaken. When one of the foods whose consumption is encouraged by the medical profession thus becomes a target of environmental suspicion, the plaintiffs’ tort bar is likely to follow, with additional litigation the outcome.

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<sup>62</sup> *Id.*

<sup>63</sup> *Id.*

<sup>64</sup> Bethany Gumper, *The real deal on fish and mercury*, SHAPE, Mar., 2006, available at [http://findarticles.com/p/articles/mi\\_m0846/is\\_7\\_25/ai\\_n16102204](http://findarticles.com/p/articles/mi_m0846/is_7_25/ai_n16102204).

<sup>65</sup> *See id.*

<sup>66</sup> *Mercury in tuna: New safety concerns*, CONSUMER REP., July, 2006, at 20, available at [http://www.consumerreports.org/cro/food/tuna-safety/overview/0607\\_tuna\\_ov.htm](http://www.consumerreports.org/cro/food/tuna-safety/overview/0607_tuna_ov.htm).

<sup>67</sup> *Id.*

<sup>68</sup> *Id.*

## VII. TCE-TRICHLOROETHYLENE

Trichloroethylene, or TCE as it is more commonly known, is a man-made chemical.<sup>69</sup> It is a “clear, colorless, nonflammable liquid [that] evaporates quickly and has a sweet chloroform-like scent. The chemical is used primarily as a large volume degreasing agent for metal and electronic parts[,]”<sup>70</sup> and was used extensively on aircraft at military bases.<sup>71</sup> Recall that in the movie “A Civil Action,” John Travolta played the role of a lawyer who attempted to prove (for the most part unsuccessfully) that TCE deposited into the water supply by two large companies was the cause of severe health problems in the New England town’s population.<sup>72</sup>

“TCE exposure can be associated with several adverse health effects, including neurotoxicity, immunotoxicity, developmental toxicity, liver toxicity, kidney toxicity, endocrine effects, and several forms of cancer.”<sup>73</sup> Several high-profile U.S. Senators have recorded statements that “TCE . . . is known to cause cancer and damage the nervous and immune systems. Children and seniors are especially vulnerable to TCE’s toxic effects . . . . Today, thousands of Americans may be exposed to unhealthful levels of TCE.”<sup>74</sup>

“[T]he National Toxicology Program (NTP) determined that [TCE] is ‘reasonably anticipated to be a human carcinogen.’ The International Agency for Research on Cancer (IARC) has determined that [TCE] is ‘probably carcinogenic to humans.’”<sup>75</sup> These are very telling categorizations by persuasive organizations.

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<sup>69</sup> U.S. Environmental Protection Agency, Trichloroethylene: Overview, [http://www.cluin.org/contaminantfocus/default.focus/sec/trichloroethylene\\_\(TCE\)/cat/overview](http://www.cluin.org/contaminantfocus/default.focus/sec/trichloroethylene_(TCE)/cat/overview) (last visited May 26, 2007) [hereinafter USEPA, Trichloroethylene].

<sup>70</sup> *Id.*

<sup>71</sup> Seema Mehta, *Orange County Announces \$169-Million Water Cleanup*, LOS ANGELES TIMES, June 8, 2001, at Metro Desk 6.

<sup>72</sup> IMDB.com, *A Civil Action*, <http://www.imdb.com/title/tt0120633/> (last visited May 27, 2007).

<sup>73</sup> USEPA, Trichloroethylene, *supra* note 69.

<sup>74</sup> Letter from Senators Hillary Rodham Clinton, Barbara Boxer, Christopher J. Dodd, Frank Lautenberg, Joseph I. Lieberman, Gordon Smith, Ron Wyden to United States Environmental Protection Agency Administrator Stephen L. Johnson (Oct. 5, 2005), *available at* <http://clinton.senate.gov/news/statements/details.cfm?id=246938&&>.

<sup>75</sup> AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY, TOXFAQS FOR TRICHLOROETHYLENE (TCE), 2 (2003), *available at* <http://www.atsdr.cdc.gov/tfacts19.pdf>.

“Industrial processes are the main sources of TCE in the environment. It is commonly found in air and water. TCE breaks down more slowly in surface water and soil than in air, and it can pass through the soil into [groundwater].”<sup>76</sup> The federal allowable standard is five parts per billion, the equivalent of five drops in an Olympic-size swimming pool.<sup>77</sup>

According to Air Force documents, “TCE is the most widespread water contaminant in the nation, present at 1,400 Defense Department pollution sites.”<sup>78</sup> And, as noted in a 2003 EPA report, “TCE is 2-40 times more harmful to overall human health when ingested than previously thought. Yet no direct causal connection between exposure to TCE in drinking water and the development of illnesses in humans has yet been proven.”<sup>79</sup>

A. *National Incidents: View Master*

“The TCE at the View-Master factory in Beaverton, Oregon, was used to degrease parts in cameras, slide projectors and toys. It was dumped on the ground between 1951 and 1980.”<sup>80</sup> “Levels in the plant’s water supply were more than 300 times the Environmental Protection Agency’s legal maximum.”<sup>81</sup>

“A preliminary investigation by the Oregon Department of Human Services and the ATSDR [Agency for Toxic Substances and Disease Registry] did not find more cancer deaths . . . among former plant workers than in the general population. But the same study did find six times the number of kidney cancer deaths among women, and eight times the number of gallbladder and biliary cancer deaths among men who had once worked [there].”<sup>82</sup>

B. *Military Bases*

A two-part, front-page article in the *Los Angeles Times* reports that:

[O]n nearly every block surrounding the former Kelly Air Force Base [in San Antonio, Texas,] small purple crosses sprout from front lawns, marking the homes where cancer has struck. The residents call their neighborhood the “toxic triangle,”

<sup>76</sup> USEPA, Trichloroethylene, *supra* note 69.

<sup>77</sup> Delaware Official Website, Information Sheet: Trichloroethylene (TCE), <http://www.dhss.delaware.gov/dhss/dph/hsp/tceinfosheet.html> (last visited May 26, 2007).

<sup>78</sup> Ralph Vartabedian, *Cancer Stalks a ‘Toxic Triangle,’* LOS ANGELES TIMES, Mar. 30, 2006, at A1.

<sup>79</sup> TCE Exposure.org, TCE Exposure Data, <http://www.tceexposure.org/exposure.html> (last visited May 26, 2007).

<sup>80</sup> Sonya Geis, *Father’s quick death sets effort in motion*, PASADENA STAR-NEWS, May 29, 2005.

<sup>81</sup> *Id.*

<sup>82</sup> *Id.*

alleging that the Air Force poisoned it with . . . TCE. It casually was dumped at the base for decades and spread for miles through a shallow aquifer under 22,000 nearby houses.<sup>83</sup>

Additionally:

TCE contaminated a shallow aquifer about 14 feet below the surface. The aquifer is not used by the city and little proof has surfaced that the TCE-tainted water ever penetrated down to the 1,000-foot-deep water drawn for the municipal drinking supply. . . . Mark A. Weegar, senior project manager at the Texas Commission on Environmental Quality, said it was impossible for the contaminated water to migrate from the shallow aquifer into the city's water supply.<sup>84</sup>

People in the community, however, dug their own unauthorized wells into the contaminated soil and used the water for drinking and bathing.

When studying the area, Texas health authorities have found elevated rates of liver cancer among residents, as well as higher-than-normal rates of birth defects. But state health officials say it is impossible to prove that TCE caused the sicknesses that were observed.

The community that lives over the [plume] has about double the expected rate of liver cancers, said Melanie Williams, senior cancer epidemiologist at the Texas Department of State Health Services. A twofold rate of excess cancer is "not a huge margin," Williams said, but she noted that the excessive cancers have continued for ten years.<sup>85</sup>

TCE was widely-used across America from major industrial sites to small 'Mom and Pop' shops. Litigation regarding this substance is likely to continue for some time.

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<sup>83</sup> Vartabedian, *supra* note 78.

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

VIII.  
OTHER AGENTS, SUBSTANCES, MIXTURES AND  
PRODUCTS TO MONITOR IN THE FUTURE

With issuance of the National Toxicology Program's 11th Report on Carcinogens<sup>86</sup> (released on January 31, 2005), it is anyone's guess as to which material will spawn the next trend in toxic tort. The Report itself contains 246 entries (seventeen of which are new), listing fifty-eight as *known to be human carcinogens* and the remaining 188 as *reasonably anticipated to be human carcinogens*. In addition to the subjects of interest/concern regarding water litigation addressed above, this author believes there is a reasonable probability of substantial future litigation involving the following agents, substances, mixtures, and products (in no particular order):

- Ionizing radiation (X-radiation, gamma-radiation and neutrons (sunlamps))
- Radiofrequency radiation emitted by cell phones
- Tungsten trioxide or suboxide (WO<sub>3</sub>), which yields asbestos-like "whiskers" (mining agents)
- 1-Amino-2,4-dibromoanthraquinone (vat dye)
- Cobalt salts (used in electroplating and electrochemical industries, etc.)
- Diazoaminobenzene (used in the production of dyes, etc.)
- Certain heterocyclic amines ("BBQ Cancer")
- Lead and lead compounds
- Naphthalene (intermediate chemical and ingredient in moth balls)
- Nitrobenzene (used in the production of aniline and dyes)
- 4,4'-Thiodianiline (used in production of dyes)
- Wood dust
- Beryllium (compounds and ores used in the production of nuclear weapons, spacecraft, instruments, mirrors, specialty ceramics, autos, computers, sports equipment, and dental bridges)

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<sup>86</sup> U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, REPORT ON CARCINOGENS, ELEVENTH EDITION (2005), available at <http://ntp.niehs.nih.gov/ntp/roc/toc11.html>.

- Cadmium (natural element used in batteries, pigments, metal coatings, and plastics)
- Steroidal estrogens (hormone replacement therapy)
- Nickel and nickel compounds (used to make stainless steel; alloys for coins, jewelry, valves, and heat exchangers; nickel compounds used for nickel plating, batteries, and catalysts)
- Silica
- Alternative abrasive blasting materials
- Radon
- Polybrominated biphenyls (PBBs) (used to make plastics; but exercise care if you live in the lower peninsula of Michigan with its presence of contaminated animal feed)
- Disinfection by-products (DBPs) of water treatment
- Metalworking fluids
- Methyl Isobutyl Ketones (MIBK) (solvent in protective coatings)
- Triethylamine (industrial catalyst for foundry mold resins, etc.)
- Flame retardants (polybrominated diphenyl ethers (PBDE), a/k/a carpet pads and foam padding)
- Perfluorooctanic acid (PFOAs) (used to make fluoropolymers)
- Perchloroethylene (PCE, perc, or tetrachloroethylene) (dry cleaning solvent)
- Endocrine disrupting chemicals (EDCs)
- Perchlorate (used for rocket propellant and thyroid treatment).

Under the circumstances, pick your poison!

## IX. CONCLUSION

New sources of toxic tort litigation are limited only by the evolution of science and medicine (on the one hand) and the ingenuity of the plaintiffs' bar (on the other). In this article, the author has identified but a few of the more popular and likely topics of evolving water contamination lawsuits. Underwriters considering new or renewed risks, adjusters handling incoming claims, in-house corporate counsel, and outside litigation counsel would be well-served to be vigilant about these types of claims and lawsuits.

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