

# Sunscreen Recalled Due to Toxic Ingredient

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## STORY AT-A-GLANCE

- › Banana Boat Hair and Scalp Sunscreen Spray SPF 30 tested positive for benzene, which triggered a recall. Although benzene is in the top 20 chemicals used in the U.S., it is a known human carcinogen
- › The FDA recognizes benzene as a Class 1 solvent that should not be used in consumer products “because of their unacceptable toxicity”
- › The recall affected an aerosolized sunscreen product, which increases the risk of inhalation. This comes on the heels of a study of 294 sunscreen products by the pharmaceutical testing company Valisure, which found carcinogens in 27% of the products
- › Studies by the FDA found chemicals in sunscreen can build up in your body to unhealthy levels; one of the chemicals tested was oxybenzone, which also enhances the ability of other chemicals to penetrate the skin. Despite data, the FDA continues to urge sunscreen use
- › Lack of unprotected exposure to the sun has increased the risk of vitamin D deficiency, which created health problems during the COVID-19 outbreak. Consider choosing safer products from EWG’s Skin Deep Database, wearing clothing to cover your skin, and using astaxanthin supplement as an effective internal sunscreen to protect against UVA damage

**Edgewell Personal Care Company voluntarily recalled several batches of Banana Boat Hair and Scalp Sunscreen Spray SPF 30 when an internal review revealed that the**

product contained trace levels of benzene.<sup>1</sup> Beauty is big business, so when a company recalls its products, it's an indication that something is drastically wrong.

According to the FDA, in May 2021, Nature's Truth voluntarily recalled the Lavender Body Cream because of high levels of yeast.<sup>2</sup> In July 2022, Family Dollar stores<sup>3</sup> recalled over 400 personal care products after an FDA investigation found unsanitary conditions, including rodents.

The products all originated and shipped from one distribution center in West Memphis, Arkansas. In a statement from the FDA, an associate commissioner for regulatory affairs said, "These conditions appear to be violations of federal law that could put families' health at risk."<sup>4</sup>

While these recalls were related to unsanitary conditions or fungal growth, other recalls, such as the one from Edgewell Personal Care Company, are related to toxic chemical contamination. Unfortunately, the Environmental Working Group (EWG)<sup>5</sup> reports that legislation passed in the 1930s marked the last time federal supervision regulating personal care products was updated, which was "before most of the synthetic chemicals in use today were even invented."<sup>6</sup>

In addition to a well-known lack of oversight, the FDA also allows products to be sold without basic safety testing of the ingredients. Sunscreen is one of those products. While regular, consistent and sensible sun exposure is vital for optimal health, overexposure can damage your skin and increase your risk of skin cancer.

Unfortunately, people have been made to fear the sun so much that vitamin D deficiencies have become a serious health concern,<sup>7,8</sup> as was demonstrated during the COVID-19 outbreak.<sup>9</sup> Research suggests that inadequate sun exposure could also be correlated with "specific cancers, multiple sclerosis, diabetes, cardiovascular disease, autism, Alzheimer's disease and age-related macular degeneration."<sup>10</sup>

## **What Is Benzene?**

Benzene is a known human carcinogen and yet it still ranks in the top 20 chemicals used in the U.S.,<sup>11</sup> based on production volume. Despite known toxicity, the FDA issued temporary guidance in March 2020 that allowed hand sanitizers to contain benzene at levels up to 2 parts per million (ppm).<sup>12</sup>

The allowance was made due to the COVID-19 pandemic that triggered unprecedented demand for disinfectant products like hand sanitizers. The combination of panic and fear in the early days of the pandemic led to a shortage of hand sanitizer. As evidence of its increased use, calls to the Poison Control Center related to hand sanitizer rose 79% in March 2020 as compared to March 2019.<sup>13</sup>

The World Health Organization<sup>14</sup> calls exposure to benzene a major public health concern as it has been associated with a range of cancers and aplastic anemia. You might be exposed to benzene through the air, food and water. The chemical is liquid at room temperature and evaporates quickly, often sinking to the lowest lying areas since the vapor is heavier than air.<sup>15</sup>

## **Company Recalls Aerosolized Sunscreen Product**

The recall<sup>16</sup> of Edgewell Personal Care Company batches of aerosolized sunscreen was initiated because benzene is not supposed to be found in any Banana Boat product. The review by the company found unexpected levels originated from the can's propellant.

Exposure to benzene through inhalation, consumption or absorption through the skin has been linked to leukemia and other life-threatening blood disorders. The products were distributed nationwide, and the company has encouraged consumers with questions to call or visit their website for more information.<sup>17</sup>

This is not the first time that sunscreen products were recalled after benzene was discovered as a contaminant. In May 2021,<sup>18</sup> pharmaceutical testing company Valisure, published the results of a study in which they found carcinogens in 27% of the products tested.

Of the 294 sunscreen products tested, they found 78 contained at least three times the level of benzene than the FDA allows in special circumstances.<sup>19</sup> CBS News<sup>20</sup> reported that 14 of the sunscreen products analyzed with the highest level of contaminants came from four popular personal care brands, including Neutrogena, Sun Bum, CVS Health and Fruit of the Earth. Not all the products in these brands contained benzene.

The FDA recognizes benzene as a Class 1 solvent that should not be used in consumer products “because of their unacceptable toxicity.”<sup>21</sup> However, it also states, “... if their use is unavoidable in order to produce a drug product with a significant therapeutic advance, then their levels should be restricted.”<sup>22</sup>

As Valisure wrote in the press release, the dangers associated with benzene have been known as early as 1897. A 2010 review of the research stated, “There is probably no safe level of exposure to benzene, and all exposures constitute some risk in a linear, if not supralinear, and additive fashion.”<sup>23</sup> David Light, founder and CEO of Valisure, commented on the results of the study:<sup>24</sup>

*“Benzene is one of the most studied and concerning human carcinogens known to science. Its association with forming blood cancers in humans has been shown in numerous studies at trace levels of parts per million and below.*

*The presence of this known human carcinogen in products widely recommended for the prevention of skin cancer and that are regularly used by adults and children is very troubling.”*

Dr. Christopher Bunick, associate professor of dermatology at Yale University, believes even the 2 ppm limit established by the FDA in special circumstances is not safe, saying:<sup>25</sup>

*“There is not a safe level of benzene that can exist in sunscreen products. Even benzene at 0.1 ppm in a sunscreen could expose people to excessively high nanogram amounts of benzene.”*

**FDA Data Says Sunscreen Chemicals Can Build Up in Your Body**

Two studies published by the FDA confirmed the statement from the 2010 literature review,<sup>26</sup> in which the researchers believed there was an additive effect from exposure to benzene. The FDA studies were published in 2019<sup>27</sup> and 2020,<sup>28</sup> which showed certain ingredients in sunscreen could build up in the body at unhealthy levels. The FDA studies included avobenzene, oxybenzone, octocrylene, homosalate, octisalate and octinoxate.<sup>29</sup>

Since the FDA's own data<sup>30</sup> revealed that some of these chemicals accumulated at levels higher than would be considered safe,<sup>31</sup> it begs the question of why the FDA considers these products safe. The study found chemicals accumulated above safety levels after just seven days of using sunscreen.<sup>32</sup>

Oxybenzone, one of the chemicals in the FDA studies, enhances the ability of other chemicals to penetrate the skin.<sup>33</sup> This includes anything on the skin, including insect repellent, pesticides and toxic herbicides. Despite data from their own research on the dangers of systemic absorption, the FDA continues to urge Americans to use sunscreen. They justify this recommendation, saying there is a lack of evidence that sunscreens cause harm.<sup>34</sup>

Meanwhile, even though mounting research has demonstrated oxybenzone is dangerous, the FDA wants to wait for yet another study to clearly demonstrate harm before acting against large manufacturers to protect you. Other studies have demonstrated that oxybenzone:

- Is a phototoxicant, which means its adverse effects, and its ability to form harmful free radicals, are magnified when exposed to light,<sup>35</sup> which is the primary product use
- Is neurotoxic (toxic to your brain)<sup>36</sup>
- Has significant reproductive and fertility effects. It can "significantly lower" testosterone levels in adolescent boys,<sup>37</sup> reduces sperm count in men<sup>38</sup> and reduces male fertility by affecting calcium signaling in sperm, in part by exerting a progesterone-like effect.<sup>39</sup> It is linked to endometriosis in women<sup>40</sup> and can result in lower female birth weight and decreased male gestational age<sup>41</sup>

- Is lethal to certain sea creatures and poses a serious threat to coral reefs and sea life<sup>42,43</sup>

## **Aerosols and Nanoparticles Present More Risk**

A Washington Post reporter<sup>44</sup> spoke with Martyn Smith, professor of toxicology at the University of California Berkeley. Smith believes that inhaling benzene from the propellant is more of a risk than if it is absorbed through the skin.

He went on to warn consumers that any aerosolized sunscreen should be applied in open areas and consumers should hold their breath while applying the products since "... there are a lot of volatile chemicals that are in there [aerosol sunscreen] apart from benzene that are propellants and other things that are coming out that you shouldn't inhale."<sup>45</sup>

While propellant may have a higher risk of benzene contamination, the newest sunscreen technology is not any less dangerous. The safest sunscreen ingredients are titanium dioxide and zinc oxide, yet safety does not extend to these ingredients when they are nanosized. Nanosized particles measure less than 100 nanometers. For comparison, human hair is approximately 80,000 nanometers wide.<sup>46</sup>

As Smith pointed out, many aerosolized sunscreens have other chemical components that can be dangerous when inhaled. Animal research has shown that inhaled nanoparticles can reach areas of the lung that the body finds difficult to clear,<sup>47</sup> where they may also pass into the bloodstream.

Nanoparticles may also be more chemically reactive and bioavailable because of their small size, which allows the particles to move more quickly throughout the body.<sup>48</sup> Nanoparticles can enter the body through the lungs or by penetrating the skin with the potential to cause widespread damage to cells, organs, immune system, nervous system, heart and brain. Scientists postulate that the toxic effect on the body is related to the:<sup>49</sup>

*“... minute size, smaller than cells and cellular organelles, allows them to penetrate these basic biological structures, disrupting their normal function. Examples of toxic effects include tissue inflammation, and altered cellular redox balance toward oxidation, causing abnormal function or cell death.”*

## **Internal Sun Protection Improves Vitamin D Level**

The history of sunscreen use has caused many consumers to avoid unprotected sun exposure. Yet, this all-or-nothing attitude has likely led to rising problems with vitamin D deficiency.<sup>50</sup> For example, the American Academy of Dermatology<sup>51</sup> stresses daily sunscreen use to prevent skin cancer, regardless of weather conditions or skin pigmentation.<sup>52</sup>

According to the American Academy of Dermatology, everyone needs sunscreen every day they are outside and that “claims that sunscreen ingredients are hazardous to human health have not been proven.”<sup>53</sup>

However, research suggests that inadequate sun exposure may be associated with the development of “specific cancers, multiple sclerosis, diabetes, cardiovascular disease, autism, Alzheimer's disease and age-related macular degeneration.”<sup>54</sup>

Although it is important to avoid getting sunburned, the best way to get vitamin D is through consistent and sensible sun exposure. Sunscreen products are not your only choice for protecting yourself from overexposure. But, if you do choose to use sunscreen, check the safety of the product on EWG’s Skin Deep Database.<sup>55</sup>

Consider using light clothing to protect your skin when you're outside for long periods, which reduces your risk of sunburn. Eat plenty of antioxidant-rich fruits and vegetables to help protect your skin. Consider an astaxanthin supplement as an effective internal sunscreen against damage from UVA radiation.

If you do use zinc oxide or titanium dioxide sunscreen, take care not to use products that are nanosized. Remember to give your body a chance to produce vitamin D before applying sunscreen. Stay out just long enough for your skin to turn a very light shade of

pink. Additionally, shade your face from the sun by using a safe sunscreen or hat. Your facial skin is thin and more prone to sun damage, such as premature wrinkling.

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