

FAILURE TO WARN

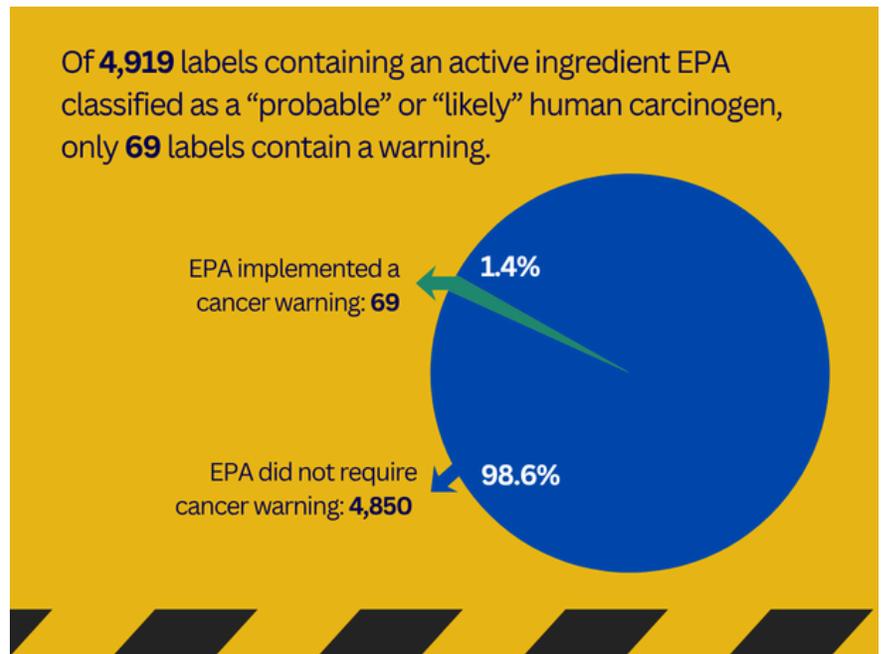
EPA's Systematic, Long-term Failure to Warn the Public About Pesticides Linked to Cancer



EXECUTIVE SUMMARY

Under the Federal Insecticide, Fungicide and Rodenticide Act (“FIFRA”), the Environmental Protection Agency is required to approve all language found on any pesticide product label in order for that particular product to be sold to the public.

During this review process, the EPA generally requires basic “hazard and precautionary statements” to address potential impacts to people, domestic animals and the environment. The EPA also approves optional product label language, including what can be used to promote or advertise a pesticide product’s benefits. However, the agency has never required any standardized pesticide label language to address any chronic health harms or cancer risks.



For this review we analyzed more than 93,000 historic and currently approved pesticide labels for all active, so-called “end-use” pesticide products currently available to pesticide users. In particular we examined the labels of pesticide product containing pesticide active ingredients that the EPA had already designated as “likely” or “probable” carcinogens.

Key findings:

- The EPA has failed to consistently and adequately warn the public about the known dangers of pesticides including cancer risks that it has approved and that are currently available for sale to the general public across the country.
- The EPA has instituted cancer warnings on only 69 of 4,919 pesticide labels (1.4%) containing an active ingredient that the EPA itself has designated a “probable” or “likely” human carcinogen.
- The EPA has instituted cancer warnings on only 242 of the 22,147 pesticide labels (1.1%) that contain an active ingredient the EPA has designated as having “possible” or “suggestive” evidence of human carcinogenic potential.
- There is little consistency in labeling even when some products contain an active ingredient that is potentially carcinogenic, with some product labels having cancer warnings and other products containing the same active ingredient not having any cancer warning at all.

Key recommendation: The EPA must take dramatic steps to meet its obligation to protect public health by requiring companies to put health warnings on all pesticide products containing an active pesticide ingredient the agency has determined is a “probable” or “possible” carcinogen and disclose if other long-term health concerns are possible from using such pesticides.

Congress itself should set mandatory thresholds for registration of all general-use pesticides at 1 in 1 million risk of developing cancer. If a pesticide would result in higher cancer risks than these thresholds, those pesticides should no longer be registered for those uses.

Congress should immediately prohibit the use of pesticide products containing known likely and probable carcinogens within set distances of schools, playgrounds, and public parks. Finally, Congress should set strict 0% pesticide residue food tolerances for all food sold to people with respect to any pesticides that are likely or probable carcinogens.

BACKGROUND

In 2025 the Trump Department of Justice requested that the Supreme Court grant certiorari appealing the verdict in Monsanto Company v. John L. Durnell from the Missouri Court of Appeals that held that FIFRA does not expressly preempt a “failure-to-warn” claim in state court. In requesting the Supreme Court review the case, the Trump Department of Justice reversed its earlier position that FIFRA does not preempt a failure-to-warn a lawsuit and instead argued the opposite. The Trump Department of Justice filed an amicus brief with the Supreme Court in March 2026, further lending support to the legal position of the pesticide giant Bayer, which purchased glyphosate-maker Monsanto in 2018.

The Monsanto litigation hinges on whether, through FIFRA, the EPA has sole authority to implement pesticide label warnings and whether that authority therefore preempts common law tort cases seeking damages from alleged failures to warn users of the possibility that repeated use of pesticides could cause cancer or other health impacts. Bayer’s appeal to the Supreme Court aims to effectively provide the company with substantial immunity from future lawsuits brought by Americans who used glyphosate-based products like Roundup and contracted rare cancers that numerous studies have linked to the pesticide.

The Federal Insecticide, Fungicide and Rodenticide Act says very little about what must be on a pesticide product’s label. Indeed the minimal instructions for label content are set forth in Section 2 of FIFRA **by defining** “misbranded” pesticide products. The law explains that a pesticide product label must “contain directions” that are “adequate to protect health” and must “contain a warning or caution statement” that is “adequate to protect health and the environment.” 7 U.S.C. § 136(q)(1)(F)-(G).

EPA's federal regulations, 40 C.F.R. § Part 156, provide that pesticide labels must include the following nine components:

- 1)The name, brand, or trademark for the pesticide product.
- 2)The name and address of the registrant for the pesticide product.
- 3)The net contents of the pesticide product.
- 4)The pesticide product registration number.
- 5)The pesticide producing establishment number.
- 6)An ingredient statement for the pesticide product.
- 7)A “hazard and precautionary statements” for (a) human and domestic animal hazards and (b) environmental hazards.
- 8)The directions for use for the pesticide product.
- 9)The use classification of the pesticide product.

Beyond these minimal regulatory requirements, the pesticide registrants and product makers that sell pesticides to the public are generally in control of what language they would like to include on a product label. Labels are written by industry itself and sent to the EPA for approval, which results in inconsistent labeling even with respect to products containing the same pesticide active ingredient.

The EPA's requirements for product labels include some specific directions for where the hazard requirement must be placed on the label and the font size for such a warning (40 C.F.R. § 156.60); the acute toxicity category of the pesticide product from Category I to IV (40 C.F.R. § 156.62); mandatory “signal words” depending on toxicity of either “danger” “warning” or “caution” (40 C.F.R. § 156.64); a child hazard warning that states “keep out of reach of children” (40 C.F.R. § 156.68); and a “precautionary statement for human hazards” (40 C.F.R. § 156.70).

Importantly, the human hazard precautionary statement is required to address an “acute hazard” to people or domestic animals. Pesticide products must warn if a product is fatal if swallowed, what to do to address accidental exposure, if it can cause eye or skin damage, and how to dilute a pesticide for first aid purposes (40 C.F.R. § 156.70). These acute risks arise from incorrect usage of a pesticide product and the immediate harms immediately after an exposure.

The EPA regulations do not require, nor have they ever required, any pesticide product to address cancer risks, long-term health, or other chronic health risks to people based on cumulative exposure. Pesticide products with warnings about the risk of cancer have been implemented for a small subset of products over the years. Some product labels have included warnings related to cancer that occurred through the EPA registration and registration review processes for some active ingredients. Other warning labels regarding cancer came about through California's Proposition 65 requirements to alert the public to cancer risks. The history and rationales for cancer warnings on other products are not clear based on available information from the EPA registration process.

METHODOLOGY

To better understand the full range of pesticide product labels that did or did not contain language warning about cancer risks, the Center identified all end-use pesticide products that had an active FIFRA Section 3 registration from the EPA's [Active Pesticide Product Registration Informational Listing \(APPRIL\)](#) database.

To identify currently registered pesticide active ingredients for which the EPA has stated that there is at least some link to cancer, we extracted information from a [2024 EPA memo](#) by the EPA's Health Effects Division within the Office of Pesticide Programs that identified EPA's cancer classification status of some past and presently registered pesticides in the United States. Any active ingredient that the EPA had linked to cancer that was not currently registered in the United States was removed from further analysis.

PDF copies of every available label of a pesticide product with an active ingredient that was still registered for use were then downloaded from the EPA's [Pesticide Product Label System \(PPLS\)](#) on Feb. 3, 2026. This resulted in 93,267 individual PDFs for pesticide products. Each document underwent Optical Character Recognition (OCR) and text extraction. It is extremely common for a pesticide product to have multiple iterations of a label available on the EPA's website, with some pesticide products having 50 or more labels. Because label language can change over time, including the possibility of cancer warnings being added or removed from product's label, the Center did not attempt to differentiate between a historical/outdated label and the most current label, as the overall frequency of cancer warnings is not likely to vary significantly over time.

The Center for Biological Diversity developed a [searchable database](#) where the public can more easily search for and download pesticide product labels compared to the EPA pesticide product label database, which is not user friendly and does not allow for quick comparison of labels using keyword searches.

For our analysis, the resulting text from all pesticide product labels was then analyzed using a biomedical Natural Language Processing (NLP) workflow combined with keyword-based detection for three predefined terms: cancer, carcinogen and carcinogenicity. Labels identified as having either of those three words in the context of a health warning were identified in a spreadsheet.

There were 1,259 labels identified with the word "California" in close proximity to the health warning (identified as having a Proposition 65 warning) and removed from further analysis. The remaining labels were manually reviewed and labels with mistaken OCR text and keywords in a nonrelevant context were removed, this included pesticide products with label language stating benefits of using the product to avoid cancer such as combination sunscreen-insect repellents.

After these initial reviews, the Center was able to identify 482 pesticide product labels that expressly contain a nationwide cancer warning. Upon further inspection 171 of those labels had warnings that were required due to compliance with protections set forth by the Occupational Safety and Health Administration’s (OSHA’s) Hazard Communication Standard. These workplace safety warnings, for pesticides including creosote (coal tar), ethylene oxide and formaldehyde that OSHA has linked to human cancer, were compelled by a federal agency other than the EPA. These 171 labels were also removed from further analysis because they were not required by the EPA.

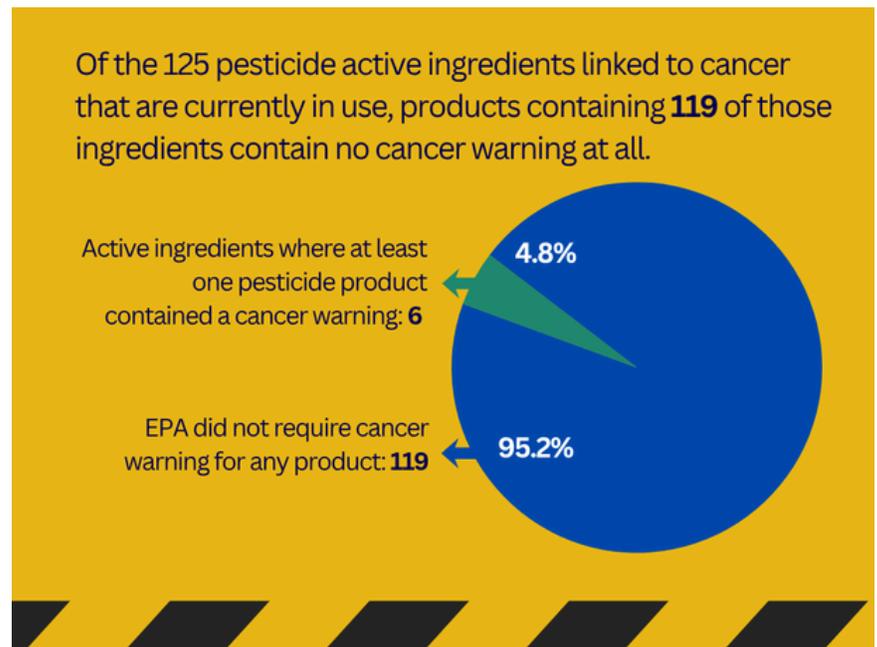
RESULTS

Out of over 93,000 product labels, there are only 311 labels that contained an EPA-instituted cancer warning.

There are 38 pesticide active ingredients in currently registered pesticide products where the EPA has designated that active ingredient as a “probable” or “likely” human carcinogen. In addition, there are 87 pesticide active ingredients in currently registered products where the EPA has designated that active ingredient as having “possible” or “suggestive” evidence of human carcinogenic potential.

Of the 311 labels with a cancer warning, 69 were for products containing a “probable” or “likely” carcinogen (oxadiazon, paraformaldehyde, triphenyltin hydroxide and chromic acid) and 242 labels were for products containing a “possible” or “suggestive” carcinogen (dichlorvos, 1,3-D).

Thus for 125 pesticide active ingredients currently used in different pesticide products where EPA has affirmatively determined that there are potential risks of cancer, six active ingredients have at least some products where a cancer warning has been implemented, while for 119 active ingredients there are no cancer warnings at all for any of the products containing those active ingredients.



California’s warnings partially address the EPA’s failures to adequately warn the public about cancer risk. For instance, pesticide products containing mancozeb and chlorothalonil, two EPA-designated “likely” human carcinogens, only include a cancer warning in the state of California because the EPA has not instituted warning language.

For other pesticides with clear cancer risks, there are virtually no warning labels. For example, in 2002 the EPA determined that the organophosphate insecticide carbaryl is “likely” to be carcinogenic to people. Despite this finding, the EPA has consistently failed to require a cancer warning label on carbaryl products. To illustrate this, the EPA has approved a product known as Duocide, a pesticide product containing carbaryl, which can be purchased online or at large retail stores. The EPA approved marketing language including the product’s “Dispersing Granule Technology” and that it was “Effective on difficult to control southern chinch bugs” but the EPA did not require any warning related to cancer.

Figure 1. Duocide label.

Even within the six pesticide active ingredients where cancer warnings have been implemented on labels, the implementation and consistency of warning language is haphazard. For instance, the EPA has implemented cancer warnings on some products containing triphenyltin hydroxide called Sipcam. However, another product (Minerva Duo) that also contains triphenyltin hydroxide carries no cancer warning at all.

The inconsistent information can not only cause confusion for the public but also illustrates the EPA’s failure to properly regulate pesticide label warning language in a defensible manner.



Figure 2. Sipcam label with a carcinogenicity warning.

RESTRICTED USE PESTICIDE
 Due to the high acute toxicity to humans, potential for affecting fetal development and carcinogenicity. For retail sale to and use by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicators certification.

Sipcam TPTH 4L

Fungicide

For use on sugarbeets, potatoes and pecans

ACTIVE INGREDIENT:	
Triphenyltin hydroxide*	40.0%
OTHER INGREDIENTS:	
TOTAL:	100.0%

*Contains 4 lbs. ai./gal. triphenyltin hydroxide.

KEEP OUT OF REACH OF CHILDREN

DANGER



POISON

PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
 (If you do not understand this label, find someone to explain it to you in detail).

FIRST AID

IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.

Have the product label with you when calling a poison control center, or doctor or going for treatment.

Emergency Phone Numbers	(800) 424-9300 CHEMTREC (transportation and spills) (800) 222-1222 POISON CONTROL
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NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

Figure 3. Minerva Duo label without a carcinogenicity warning.

RESTRICTED USE PESTICIDE

Because of high acute toxicity of triphenyltin hydroxide and its potential for affecting fetal development, this product may be applied only by certified applicators or persons under their supervision.

For retail sale to and use by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

Minerva™ Duo

ACTIVE INGREDIENT:

Tetraconazole (1-[2-(2,4-dichlorophenyl)-3-(1,1,2,2-tetrafluoroethoxy) propyl]-1H-1,2,4-triazole).....	7.66%
Triphenyltin hydroxide	21.08%
OTHER INGREDIENTS:	71.26%
TOTAL:	100.00%

Contains 0.73 lb. of tetraconazole and 2 lb. of triphenyltin hydroxide per gallon.

**KEEP OUT OF REACH OF CHILDREN
DANGER-PELIGRO**



POISON

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand this label, find someone to explain it to you in detail).

FIRST AID	
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	<ul style="list-style-type: none"> • Have affected person sip a glass of water if able to swallow. • Do not induce vomiting unless told by a poison control center or doctor. • Do not give anything to an unconscious person. • Call a poison control center or doctor immediately for treatment advice.
IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
Emergency phone numbers:	(800) 222-1222 Poison Control Center (800) 424-9300 CHEMTREC (transportation and spills)

CONCLUSION

For decades the EPA has profoundly failed to provide the consistent and adequate warnings Americans need to understand the dangers EPA recognizes are associated with using pesticide products. By approving these products and allowing them to be sold to anyone who wants to buy them without putting potentially lifesaving information on these labels, it has abdicated its duty to the public.

With cancer warnings on a mere 1.4% of all pesticide labels containing active ingredients the EPA's designated as "probable" or "likely" human carcinogens, and on just 1.1% on pesticide labels containing active ingredients the EPA's designated as having "possible" or "suggestive" evidence of human carcinogenic potential, more often than not, people purchasing pesticides are left in the dark when selecting pesticides.

Simply put, no one can assert that the EPA is competently warning the public about the cancer risk it knows to be associated with the pesticides it approves. Now is the time for the EPA to course correct. At a minimum the agency must urgently step up to meet its obligation to protect public health by immediately requiring companies to put warning labels on any pesticide products containing an active pesticide ingredient the agency has determined is a likely or probable carcinogen. The EPA should also require warning labels alerting the public to pesticide products are possible carcinogens and disclose other long-term health problems that may result from using such pesticides.

Congress should step up to establish mandatory thresholds and requirements to ensure the public protected from dangerous pesticides.

With a cancer epidemic raging across America, and especially in agricultural communities, the EPA's egregious failures and its role in this public health crisis can no longer be ignored.

