



What do global **regulatory** and **research agencies** conclude about the health impact of

# GLYPHOSATE?

## Risk Assessment

What is the likelihood this will cause harm, based on dose and exposure?

 <p>United States Environmental Protection Agency</p>	USA	<p>"Human health risk assessment concludes that glyphosate is <b>not likely to be carcinogenic</b> to humans... [and] <b>no other meaningful risks to human health</b> when the product is used according to the pesticide label"</p>	2017
 <p>Office of Pesticide Programs</p>	USA	<p>"Not strong support for... 'suggestive evidence of carcinogenic potential...' based on the weight-of-evidence... Even small, non-statistically significant changes... were contradicted by studies of equal or higher quality. The strongest support is for '<b>not likely to be carcinogenic to humans</b>'"</p>	2017
 <p>NTP National Toxicology Program U.S. Department of Health and Human Services</p>	USA	<p>"<b>Little evidence of toxicity</b>, and there was no evidence of glyphosate causing damage to DNA"</p>	1992
 <p>Health Canada</p>	Canada	<p>"Products containing glyphosate <b>do not present unacceptable risks to human health</b> or the environment when used according to the revised product label directions... Risks to [occupational] handlers are not of concern for all scenarios"</p> <p>"<b>No pesticide regulatory authority</b> in the world currently considers glyphosate to be a cancer risk to humans at the levels at which humans are currently exposed"</p>	2017 2019
 <p>EUROPEAN CHEMICALS AGENCY</p>	Europe	<p>"Based on the epidemiological data as well as on data from long-term studies in rats and mice, taking a weight of evidence approach, <b>no hazard classification for carcinogenicity</b> is warranted"</p>	2017
 <p>European Food Safety Authority</p>	Europe	<p>"Glyphosate is <b>unlikely to be genotoxic or to pose a carcinogenic threat to humans</b>... Neither the epidemiological data nor the evidence from animal studies demonstrated causality between exposure to glyphosate and the development of cancer in humans"</p>	2015
 <p>ANSES agence nationale de sécurité sanitaire alimentation, environnement, travail</p>	France	<p>"<b>Level of evidence of carcinogenicity</b> in animals and humans is considered to be relatively limited"</p> <p>"36 [glyphosate-based] products ... will no longer be allowed for use from the end of 2020, due to a <b>lack or absence of scientific data</b> which would allow all genotoxic risk to be ruled out"</p>	2016 2019
 <p>Bundesinstitut für Risikobewertung</p>	Germany	<p>"Available data <b>do not show carcinogenic or mutagenic properties</b> of glyphosate nor that glyphosate is toxic to fertility, reproduction or embryonal/fetal development in laboratory animals"</p>	2015
 <p>Federal Department of Home Affairs FDHA Federal Food Safety and Veterinary Office FSVO</p>	Switzerland	<p>"Residues of glyphosate in the foods investigated <b>do not represent a risk of cancer</b>"</p>	2018
 <p>Australian Government Australian Pesticides and Veterinary Medicines Authority</p>	Australia	<p>"Glyphosate <b>does not pose a carcinogenic risk to humans</b>.... Products containing glyphosate are safe to use as per the label instructions"</p>	2016
 <p>Environmental Protection Authority Te Mana Rauhi Taiao</p>	New Zealand	<p>"<b>Unlikely to be carcinogenic</b> to humans or genotoxic (damaging to genetic material or DNA) and should not be classified as a mutagen or carcinogen"</p>	2016
 <p>ANVISA Agência Nacional de Vigilância Sanitária</p>	Brazil	<p>"<b>No evidence</b> to indicate that the herbicide glyphosate is carcinogenic"</p>	2019
 <p>Food Safety Commission of Japan</p>	Japan	<p>"<b>No neurotoxicity, carcinogenicity, reproductive toxicity, teratogenicity, and genotoxicity</b>"</p>	2016
 <p>Rural Development Administration</p>	Korea	<p>"Epidemiological studies on glyphosate... found <b>no cancer link</b>"</p>	2017
 <p>World Health Organization</p>	Global	<p>"Glyphosate is <b>unlikely to be genotoxic at anticipated dietary exposures</b>. Glyphosate is unlikely to pose a carcinogenic risk to humans from exposure through the diet"</p>	2016
 <p>World Health Organization Drinking-water quality guidelines</p>	Global	<p>"Under usual conditions, the presence of glyphosate and AMPA [aminomethylphosphonic acid, glyphosate's primary metabolite] in drinking-water <b>does not represent a hazard</b> to human health"</p>	2004
 <p>World Health Organization International Programme on Chemical Safety</p>	Global	<p>"Available data on occupational exposure for workers applying Roundup indicate <b>exposure levels far below</b> the NOAELs [no observed adverse effect levels] from the relevant animal experiments"</p>	1994

## Longitudinal Study

How glyphosate impacted 54,251 pesticide applicators since 1993.

 <p>Agricultural Health Study</p>	USA	<p>"<b>No association was apparent between glyphosate and any solid tumors or lymphoid malignancies</b> overall, including non-Hodgkin's lymphoma and its subtypes... some evidence of increased risk of AML [acute myeloid leukemia] among the highest exposed group that requires confirmation"</p>	2018
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## Hazard Assessment

What is the potential to cause harm, regardless of dose or exposure?

 <p>International Agency for Research on Cancer World Health Organization</p>	Global	<p>"<b>Limited evidence in humans for the carcinogenicity</b> of glyphosate... Evidence in humans is from studies of exposures, mostly agricultural [e.g. not from dietary exposure]... A positive association has been observed for non-Hodgkin lymphoma... There is '<b>strong</b>' evidence that exposure to glyphosate or glyphosate-based formulations is <b>genotoxic</b>"</p> <p>IARC placed glyphosate in its hazard category "Group 2A: probably carcinogenic to humans" along with red meat, hot beverages, and working as a barber. The evidence on carcinogenicity was less robust than for agents such as bacon, salted fish, oral contraceptives and wine.</p>	2015
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