

CLP Insights: Key Findings in Snack and Nutrition Bars



Introduction

The Clean Label Project was founded with a mission to uncover the hidden risks of environmental contaminants and toxins lurking in everyday products. The guiding principle is straightforward: less contamination is always better! While we know these toxins can be harmful, the long-term effects are still coming to light. That's why Clean Label Project champions urgent conversations among brands, consumers, retailers, the medical community, and regulators to tackle these critical issues. This document reveals key findings on contaminants in popular Snack and Nutrition Bars, aiming to highlight the gaps in traditional nutritional labels and set new food safety standards for consumer products, redefining what safety truly means!

Executive Summary:

Key Data and Findings from Snack and Nutrition Insights Report

The U.S. Snack and Nutrition Bars surged past \$7.4 billion in 2024, fueled by growing consumer demand for fitness, weight management, and general wellness products. While many assume that widely consumed Snack and Nutrition Bars are safe, the Clean Label Project's Protein Category Insights Report highlights important data regarding potential contaminants in Snack and Nutrition Bars that consumers should be aware of. This report, which tested 165 products from 50 of the top-selling brands—representing 85% of the market—highlights concerns that challenge the current understanding of product purity.

Of the products tested, every product had detectable levels of heavy metals. While 98% of the products had detectable levels of lead (36 Bars, or 21.82%, were over CA Prop 65 limits) & 98% of the products had detectable levels of cadmium (10 Bars, or 6.06%, were over [CA Prop 65 limits](#)); The bottom quartile of products had over three (3) times the heavy metal concentration than the top quartile, on average. Organic products, on average, showed higher levels of heavy metal contamination, with 28% higher concentrations of heavy metals than conventional products, on average.

Products labeled as “Gluten-Free”, “Non-GMO”, “Vegan”, “Soy Free”, and “Dairy Free” all had higher levels of heavy metals than those not labeled as such.

ORGANIC

51 Bars, out of the 165
Bars tested, are Organic

37%

19 of 51, of the Organic Bars
over Prop 65 Limits for Lead

NON-GMO

92 Bars, out of the 165
Bars tested, are Non-GMO

37%

34 of 92, of the Non-GMO Bars
over Prop 65 Limits for Lead

DAIRY FREE

57 Bars, out of the 165
Bars tested, are Dairy Free

53%

30 of 57, of the Dairy Free
Organic Bars over Prop 65
Limits for Lead

VEGAN

53 Bars, out of the 165
Bars tested, are Vegan

43%

23 of 53, of the Vegan Bars
over Prop 65 Limits for Lead

SOY FREE

35 Bars, out of the 165
Bars tested, are Soy Free

57%

20 of 35, of the Soy Free Bars
over Prop 65 Limits for Lead

GLUTEN FREE

98 Bars, out of the 165
Bars tested, are Gluten Free

32%

31 of 98, of the Gluten Free
over Prop 65 Limits for Lead

In one positive callout: Bars listed as “**Kids**” were nearly a third lower in heavy metals than those not labeled as such, on average, and products listed as “**Glyphosate Free**” (6 bars) had lower levels of heavy metals.

The Clean Label Project conducted over **20,294 individual tests on contaminants**, including heavy metals (lead, cadmium, arsenic, mercury), phthalates, pesticides, and acrylamide. These contaminants, known for their potential to harm human health, can enter Snack and Nutrition Bars through environmental exposure, agricultural practices, and packaging materials. The study's findings highlight that despite the growing health-conscious market, many products may contain dangerous levels of contaminants not reflected on traditional nutrition labels.

This study serves as **a wake-up call for consumers, manufacturers, retailers, and regulators**

alike. With the lack of comprehensive federal regulations specifically addressing heavy metals and other harmful contaminants in Snack and Nutrition Bars, it is critical that the industry independently takes proactive measures. Clean Label Project's findings call for a new level of transparency and stricter safety standards to protect consumers from long-term exposure to these contaminants.

This report aims to spark an important conversation about the safety of Snack and Nutrition Bars and empower consumers to make more informed choices while urging manufacturers to prioritize ingredient purity. By exposing these hidden risks, Clean Label Project advocates for an industry-wide commitment to cleaner products.



Key Data and Findings from the Snack and Nutrition Bar Category

HEAVY METALS

Every product tested had detectable levels of

Heavy Metals

CADMIUM

10 Bars, or 6.06%, were over CA Prop 65 limits

LEAD

36 Bars, or 21.82%, were over CA Prop 65 limits

The bottom quartile of products had over **three (3) times** the heavy metal concentration than the top quartile, on average.

Products labeled as “**Organic**” had **28%** higher concentrations of heavy metals than conventional products, on average.

Products labeled as “**Gluten-Free**”, “**Non-GMO**”, “**Vegan**”, “**Soy Free**”, and “**Dairy Free**” all had higher levels of heavy metals than those not labeled as such.



13%
Non-GMO



31%
Dairy Free



17%
Vegan



54%
Soy Free



22%
Gluten Free

In one positive callout, bars listed as “**Kids**” were nearly a third lower in heavy metals than those not labeled as such, on average.

Products listed as “**Glyphosate Free**” (**6**) had lower levels of heavy metals.

GLYPHOSATE

Good News:

0%

Bars were over CA
Prop 65 levels

Organic Bars

had nearly five times
the Glyphosate levels as
Conventional bars. Glyphosate
is a "[Prohibited Material for
Organic Crop Production](#)."

PESTICIDES

Worst 5 vs Best 5:

The average of the Worst 5 is **57 times higher**
in pesticides than the Best 5

48 out of 51

organic products were tested
free of synthetic pesticides.

Only **three (3) organic products**
had synthetic pesticides with
high concentrations.

In one positive callout, Bars listed as "**Kids**" were nearly **two-thirds (64%)** lower in
pesticides than those not labeled as such, on average.



PHTHALATES

Every product tested (**n=165**) had detectable levels of phthalates.

Good News:

Only one (1)

Bar tested was over the CA Prop 65 limits of phthalates

The bottom quartile of products had over

six (6) times

the phthalates concentration than the top quartile, on average.

In one positive callout, Bars listed as “**Kids**” were **40%** lower in phthalates than those not labeled as such, on average.

BPA/BPS

15%

of products contained quantifiable levels of BPA/BPS.

Good News:

0%

of the Bars were over CA Prop 65 limits



ACRYLAMIDE

97%

of products tested (**n=165**)
were above CA Prop 65
limits for acrylamide

The bottom quartile of
products had over

2.3 times

the acrylamide concentration
than the top quartile, on average.

Bars listed as “**Kids**” were **23%** higher in acrylamide than those not labeled as such, on average.

Not much variation in the sub-categories (“Gluten Free”, Non-GMO, etc.)

Our Recommendation:

Purchase bars labeled as “**Kids**” as they were lower in heavy metals, pesticides & phthalates

Panels Tested:

- Bisphenols
- Acrylamide
- Heavy Metals
- Phthalates
- Pesticides
- Glyphosate



Why Snack and Nutrition Bars?

Snack and Nutrition Bars are one of the most popular snacks and dietary supplements in the U.S., generating **\$7.4 billion in 2024**. While people use it for a quick snack and meal replacement, they all complement and supplement their already healthy lifestyle choices and have certain safety and quality expectations. At Clean Label Project, rather than accepting safety as a given, we rely on data and science to reveal the truth behind what consumers are really ingesting, focusing on ensuring transparency and safety in the market.

What was the Clean Label Project's Methodology?

Clean Label Project purchased and rigorously **tested 165 of the top-selling Snack and Nutrition Bars, sourced from Nielsen, SPINS, and Amazon's best-seller lists**, and supplemented with top products from the natural and organic marketplace. It also assessed multiple panels of industrial and environmental contaminants. Collaborating with an analytical chemistry lab, Clean Label Project amassed 20,294 data points from 50 brands and 165 products to benchmark the findings.

What Contaminants Were Found in Clean Label Project's Snack and Nutrition Bars Study?

Heavy Metals:

- **Heavy metals (arsenic, lead, mercury, and cadmium) Health Issues:**

Heavy metals can cause a wide range of health problems, including damage to the nervous system, kidneys, liver, and other organs, as well as increased risk of cancer and other diseases. Exposure to heavy metals can lead to neurological issues like impaired cognitive function, memory loss, and brain damage. Additionally, heavy metals can impair the immune system, increase the risk of cardiovascular disease, and affect the reproductive system.

- **How Heavy Metals Contaminate Food:**

Heavy metals, such as arsenic, lead, mercury, and cadmium, are naturally occurring elements found in the Earth's crust. They can enter the environment through natural processes like volcanic eruptions, weathering of rocks, and soil erosion. Over time, they accumulate in air, water, and soil, where they can make their way into plants, animals, and eventually into human food sources. Though naturally occurring, the concentration of these metals can increase due to human activities such as mining, industrial processes, and agricultural practices, leading to higher exposure risks in food products. Given the absence of federal regulations that require proactive testing to minimize the introduction into finished products, they can be unintentionally introduced into all foods and consumer products.

Acrylamide:

- **Acrylamide Health Issues:**

Acrylamide, a chemical that forms in some foods during high-temperature cooking, has been linked to various health concerns, including nervous system effects, potential reproductive issues, and a possible link to cancer. While there's no conclusive evidence of a direct link between acrylamide in food and human cancer, animal studies have shown acrylamide can cause cancer in high doses.

- **How Acrylamide Contaminates Food:**

Acrylamide, a naturally formed chemical in certain foods, is not directly added to food as a contaminant but rather forms during high-temperature cooking processes, particularly in plant-based foods rich in carbohydrates. This process, known as the Maillard reaction, involves reducing sugars and amino acids, like asparagine, reacting at high temperatures. The Maillard reaction is responsible for both the browning of food and the development of flavors.

Bisphenols:

- **Bisphenol Health Issues:**

Especially Bisphenol A (BPA), are linked to various health concerns including reproductive issues, developmental problems, and increased risk of certain cancers and metabolic disorders.

- **How Bisphenols Contaminate Food:**

Bisphenols, particularly Bisphenol A (BPA), can contaminate food through leaching from food packaging and other materials. BPA is used in the linings of metal food cans and in polycarbonate plastics, which can be used for food storage containers, water bottles, and baby bottles. This means that BPA can migrate from these materials into the food or beverages they contain.

Phthalates:

- **Phthalates Health Issues:**

Phthalates are a class of chemicals with endocrine-disrupting properties. These chemicals are associated with health harms including increased risk of cancer, asthma and allergies, and learning attention and behavioral difficulties in children.

- **How Phthalates Contaminate Food:**

Phthalates contaminate food primarily through food packaging, processing equipment, and food preparation materials, which can leach into food and beverages. Additionally, phthalates can enter the food chain through contaminated water and soil.

Pesticides:

- **Pesticides Health Issues:**

Pesticides can cause chronic health issues like cancer and neurological damage. Long-term exposure can lead to a variety of health problems, including endocrine disruption, immune system damage, and reproductive issues.

- **How Pesticides Contaminate Food:**

Pesticides can contaminate food through several pathways, leading to residues that may pose health risks if consumed.

Direct Application:

- **Spraying:** Pesticides are directly sprayed onto crops, potentially leaving residues on the surface or being absorbed into the plant tissue.
- **Soil Treatment:** Pesticides applied to the soil can be absorbed by plant roots and translocated to other parts of the plant, including fruits and vegetables.

Indirect Contamination:

- **Pesticide Drift:** Pesticides sprayed in one area can drift to nearby fields or crops, even if those crops were not the intended target.
- **Contaminated Water:** Pesticides can contaminate irrigation water sources, which then expose crops grown with that water to pesticide residues.
- **Contaminated Soil:** Crops grown in soil previously treated with persistent pesticides can absorb residues, even if those pesticides are no longer actively used.

Post-Harvest Contamination:

- **Seed Treatments:** Seeds treated with pesticides can result in residues in the harvested crop.
- **Post-Harvest Applications:** Pesticides may be applied to harvested produce to prevent spoilage during transportation or storage, leaving residues on the final product.

Glyphosate:

• Glyphosate Health Issues:

Glyphosate, the active ingredient in many herbicides like Roundup, has been linked to several potential health effects, including cancer, liver inflammation, and metabolic disorders. While some studies suggest a possible link between glyphosate exposure and non-Hodgkin lymphoma, [the Environmental Protection Agency \(EPA\)](#) disagrees with these claims. Other concerns include potential endocrine disruption, effects on the immune system, and neurodegenerative effects.

• How Glyphosate Contaminates Food:

Glyphosate, a common herbicide, can contaminate food through various pathways. These include direct application to crops, migration via air or water, contamination during harvesting and processing, and even through animal vectors like bees. It can also be absorbed by plants, leading to residues in fruits, vegetables, and grains.

- Glyphosate is also used as a desiccant in some crops, leading to potential contamination of food. This contamination occurs because glyphosate, used to dry out crops for easier harvest, can leave residues on the plant. When used incorrectly or too soon before harvest, these residues can persist in the harvested crop and be ingested. Additionally, glyphosate applied as a desiccant can contaminate plant pollen and nectar, potentially affecting the food supply.

Aren't These Contaminants Regulated?



Surprisingly, there are **no comprehensive federal regulations** specifically targeting dietary exposure to heavy metals in food, with most safety efforts focused on physical and microbiological contaminants. However, recent discussions in Congress and the [FDA \(with Closer-to-Zero and action limits for baby food\)](#) are pushing for stricter standards on heavy metals and industrial chemicals in food products. States like California have led the charge with [Prop 65 \(which is referenced many times in the Snack and Nutrition Bars white paper\)](#) and California and Maryland transparency laws for heavy metals in baby food ([CA AB899](#) & [MD SB723](#)). While([CA AB899](#) & [MD SB723](#)) initially focus on infant foods, they signal growing concern over contaminants in food across all categories.

Where are These Contaminants Coming From?



The two primary sources of contaminants in Snack and Nutrition Bars are the contaminated soils where ingredients are grown and the packaging used for these products. At the agricultural level, companies can hold suppliers accountable to minimize pesticide and soil contamination during the growth cycle of their ingredients. However, the good news is that packaging has seen significant improvements in terms of BPA content. Clean Label Project's testing indicates that BPA has been nearly eliminated from packaging, with only 15% of products having detectable levels. This reflects the industry's response to consumer demand and controversy surrounding this chemical.

How Does the Clean Label Project Measure These Contaminants?



Clean Label Project contracted the independent, ISO/IEC 17025-accredited analytical chemistry laboratory, Ellipse Analytics, to test six (6) industrial chemical panels, including heavy metals and BPA.

The heavy metals, arsenic, cadmium, lead, and mercury, were tested by Inductively Coupled Plasma – Mass Spectroscopy (ICP-MS). Phthalates were tested by Gas Chromatography – Mass Spectroscopy (GC-MS/MS). Bisphenols and pesticides are tested by Liquid Chromatography – Tandem Mass Spectroscopy (LC-MS/MS).

A full list of Clean Label Project certified products can be found at www.cleanlabelproject.org

