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Mamavation Investigation Finds Disturbing Toxins in Children's Multivitamins

Analysis by Mamavation | September 24, 2025

STORY AT-A-GLANCE

- Nearly half of children's multivitamins tested contained PFAS "forever chemicals," with 4 out of 9 products showing measurable contamination
- 44% of children's multivitamins also contained phthalates, which are hormone-disrupting chemicals linked to developmental and reproductive harm
- No glyphosate or other detectable pesticides were found in any of the multivitamins, even at the lowest standardized detection levels
- Independent scientists reviewing the results stressed that PFAS and phthalates pose serious risks to children's health, including impacts on immunity, fertility, growth, behavior, and cancer risk
- Experts call on supplement companies to improve manufacturing, purification, and monitoring practices to eliminate toxic contaminants from children's vitamins

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What are the safest children's multivitamins available with the lowest amount of toxic contaminants like pesticides, heavy metals, PFAS "forever chemicals," and phthalates?

We asked our audience what children's multivitamins they were giving their kids and we sent the top nine products off to different EPA-certified laboratories to check. The results can help parents in our community make educated decisions on what brands to

purchase for their children.

You've trusted Mamavation to bring you consumer studies like **safest cooking oils tested for phthalates**, **safest water filters to filter PFAS**, and **safest probiotics for kids tested for indications of PFAS "forever chemicals,"** now join us for a consumer study testing children's multivitamins for pesticides, PFAS "forever chemicals," phthalates, and heavy metals.

*Disclosure: This consumer study is released in partnership with **Environmental Health News**. Scientific reviews were performed by (1) **Terrence Collins**, Teresa Heinz Professor of Green Chemistry and Director of the **Institute for Green Sciences** at Carnegie Mellon University and (2) **Linda S. Birnbaum**, Scientist Emeritus and Former Director of the National Institute of Environmental Health Sciences and National Toxicology Program and Scholar in Residence at Duke University, Adjunct Professor at the University of North Carolina, and Yale University.*

Donations were provided by Environmental Health News and Mamavation community members. Note that Mamavation has only "spot-checked" the industry and thus we cannot make predictions about brands and products that we have not tested. Products and manufacturing aides can change without notice so buyer beware.

*This post contains affiliate links, with most to Amazon, which means Mamavation will receive a portion of those sales and we will use that to pay ourselves back for the testing. You can also give a tax-deductible donation to our consumer studies **here** through Environmental Health Sciences.*

Mamavation's EPA-Certified Laboratory Finds Heavy Metals, PFAS, Pesticides, and Phthalates in Popular Children's Multivitamins

Mamavation sent nine popular children's multivitamins to two EPA-certified laboratories testing for PFAS analytes, including PFOA/PFOS, phthalates, heavy metals, glyphosate, and 500+ additional pesticides. The contamination results were surprising considering how expensive most of these products were. Here's the outcome of contaminants that were found according to our labs:

- **44% of children's multivitamins contained specific PFAS chemicals —** That's 4 out of 9 products.
- **44% of children's multivitamins contained ortho-phthalates —** That's 4 out of 9 products.
- **None of children's multivitamins had levels of heavy metals (lead, arsenic, cadmium and mercury) that would require a Prop. 65 warning in California —** All 9 products had lower levels of heavy metals. However, no product had zero heavy metals.
- **None of the children's multivitamins we tested had detectable levels of glyphosate at the lowest standardized level.**
- **None of the children's multivitamins we tested had other detectable pesticides present at the lowest standardized level.**

Linda S. Birnbaum, Scientist Emeritus and Former Director of the National Institute of Environmental Health Sciences and National Toxicology Program and Scholar in Residence at Duke University, Adjunct Professor at the University of North Carolina, and Yale University had this to say after her scientific review:

> *"Children's multivitamins are doing a better job avoiding heavy metals like lead and cadmium and pesticides, but still have issues with phthalates and PFAS. Those specific contaminants are very problematic to children's health, so I would recommend working to lower and eliminate these chemicals immediately."*

Contaminants Included in Mamavation's EPA Certified Laboratory Testing

Mamavation sent nine children's multivitamins to two different EPA-certified laboratories looking for specific problematic contaminants that would not be listed on an ingredient panel. These ingredients are never found on an ingredient label because they are not considered "intentionally added" and would instead be considered more of a contaminant from manufacturing, transportation, storage, and/or farming practices.

However, just because these contaminants are not "intentionally added" doesn't mean they won't impact your health over time and usage. Our labs tested for the following contaminants and found some of them present in children's multivitamins we tested to varying degrees:

- 40 specific PFAS "forever" chemicals
- Glyphosate
- 500+ additional pesticides
- Phthalates
- Lead — heavy metal
- Arsenic — metalloid
- Cadmium — heavy metal
- Mercury — heavy metal

Terrence Collins, Teresa Heinz Professor of Green Chemistry and Director of the Institute for Green Sciences at Carnegie Mellon University had this to say after his scientific review: "Children's multivitamins aim to support the healthy development and welfare of America's greatest treasures — its amazing and beautiful children who are the Country's future.

Given the trust that parents express that their children's health and vitality will be boosted if they buy them multivitamin supplements, one would think that an assurance that well-recognized toxic chemicals are absent should be a bedrock of this entire industry.

Mamavation's study shows that this bedrock is shaky at best and challenges the marketing companies to do much better for the people who buy and use their products. Companies in this area have some serious rethinking, resourcing, chemical purification, and chemical monitoring work to do to stabilize the bedrock that is essential for consumer trust."

PFAS "Forever Chemical" Analytes Tested, Including PFOA and PFOS

PFAS "forever chemicals" are per- and polyfluoroalkyl substances used as stain-resistant, water-resistant, and oil-resistant chemicals in commerce. They have been used for decades in consumer products, manufacturing, and building materials. Here are some of the health effects associated with different PFAS "forever chemicals:"

- **Reduction in immunity**
- **Reduced vaccination response**
- **Increased risk of allergies and asthma in young children**
- **Affected growth, learning, and behavior of infants and older children**
- **Increase cholesterol levels**
- **Metabolic diseases like obesity and diabetes**
- **Cardiovascular disease**
- **Lowered a woman's chance of getting pregnant**

- Lowered male fertility
- Increased risk of kidney and testicular cancers
- Causes endocrine disruption
- Disrupted normal thyroid function
- Increases risk of acute lymphoblastic leukemia in children
- Cancer

It's also very clear based on biomonitoring evidence from the Center for Disease Control (CDC) that PFAS are in virtually all Americans. Therefore, these exposures can harm most Americans. For this investigation, we elected to test for forty specific PFAS analytes listed below using EPA method 1633:

- Perfluorobutanoic acid (PFBA)
- Perfluoropentanoic acid (PFPeA)
- Perfluorohexanoic acid (PFHxA)
- Perfluoroheptanoic acid (PFHpA)
- Perfluorooctanoic acid (PFOA)
- Perfluorononanoic acid (PFNA)
- Perfluorodecanoic acid (PFDA)
- Perfluoroundecanoic acid (PFUnA)
- Perfluorododecanoic acid (PFDoA)
- Perfluorotridecanoic acid (PFTriA)
- Perfluorotetradecanoic acid (PFTeA)
- Perfluorobutanesulfonic acid (PFBS)
- Perfluoropentanesulfonic acid (PFPeS)
- Perfluorohexanesulfonic acid (PFHxS)

- Perfluoroheptanesulfonic Acid (PFHpS)
- Perfluorooctanesulfonic acid (PFOS)
- Perfluorononanesulfonic acid (PFNS)
- Perfluorodecanesulfonic acid (PFDS)
- Perfluorododecanesulfonic acid (PFDoS)
- Perfluorooctanesulfonamide (FOSA)
- NMeFOSAA
- NEtFOSAA
- 4:2 FTS
- 6:2 FTS
- 8:2 FTS
- NEtFOSA
- NMeFOSA
- NMeFOSE
- NEtFOSE
- 9Cl-PF3ONS
- HFPO-DA (GenX)
- 11Cl-PF3OUdS
- ADONA
- 3:3 FTCA
- 5:3 FTCA
- 7:3 FTCA
- NFDHA
- PFMBA
- PFMPA

- PFEESA

Glyphosate — Testing Details

Glyphosate [N-(phosphonomethyl) glycine] is the active ingredient in glyphosate-based herbicides (GBH) and is the most popular herbicide in the world. Environmental exposure to this broad-based herbicide has increased dramatically since the introduction in 1996 of "Round-up Ready" genetically modified (GMO) crops for soybean, maize, and cotton varieties.

"Round-up Ready" genetically modified crops made it possible to utilize glyphosate as a broadcast herbicide while not killing the crops they were sprayed on. Glyphosate is also extensively used for deforestation efforts, such as killing brush in fire zones, and is also relied on heavily by landscapers to kill weeds on green belts and golf courses. Ultimately, glyphosate is used for eliminating weeds and shrubs, such as annual and perennial grasses, broadleaf weeds, and woody species.

Glyphosate was originally patented as a chelator and an antibiotic, which means it has the ability to stop nutrient absorption and decimate delicate gut flora. These two simple facts explain why glyphosate is so damaging to the overall health of your body and has been linked to spreading antibiotic-resistant bacteria. Glyphosate has also been deemed a "probable carcinogen" by the World Health Organization and added to the Prop. 65 List of carcinogens and reproductive toxins in California.

Mamavation sent nine children's multivitamins to our EPA Certified lab to test for glyphosate, glufosinate, and AMPA (metabolites or breakdown products) using liquid chromatography and mass spectrometry (LC-MS/MS) at 10 parts per billion (ppb) detection limit. This is the standard test going as low as possible in a commercial lab. (University labs or experimental labs using non-standardized testing may be able to go lower.)

500+ Additional Pesticide Laboratory Tests for Children's Multivitamins — Testing Details

Nine children's multivitamins were sent to our EPA-certified lab and analyzed using two different methods, which totaled testing for 587 pesticides down to the lowest standardized level, which was mostly 10 ppb. However, there are a few chemicals where the detection limit was between 18 and 25 ppb. Our laboratory did not find any traces of pesticides at any of these detection levels. The first method looked at the following pesticides:

- 2,4,6-Trichloroanisole
- 2,4,6-Trichlorophenol
- 2-phenylphenol (SP)
- 8-hydroxyquinoline (SP)
- Acetochlor
- Acrinathrin
- Alachlor
- Aldrin
- Alpha Endosulfan
- Alpha-HCH
- Ametryn
- Anthraquinone
- Atrazine
- Beflubutamid
- Benalaxyl
- Benfluralin
- Beta Endosulfan

- Beta-HCH
- Bifenazate-Bifenazate Diazene
- Bifenox
- Bifenthrin
- Biphenyl
- Bitertanol
- Bromophos-ethyl
- Bromophos-methyl
- Bromopropylate
- Bupirimate
- Captan
- Captan (Sum)
- Carbophenothion
- Chinomethionat
- Chlordane (Sum)
- Chlorfenapyr
- Chlorfenson
- Chlorfenvinphos
- Chlormephos
- Chlorobenzilate+Chloro propylate
- Chlorothalonil
- Chlorotoluron
- Chlorpropham
- Chlorpyrifos
- Chlorpyrifos-methyl

- Chlorthal-dimethyl
- Chlorthion
- Cinidon-ethyl
- Cis-Chlordane
- Cyfluthrin
- Cyproconazole
- Cyprodinil
- DDD-pp+DDT-0p
- DDT (Sum)
- DEET
- delta-HCH
- Deltamethrin
- Desethyl atrazine
- Diafenthiuron
- Diazinon
- Dichlobenil
- Dichlofenthion
- Diclobutrazol
- Dicloran
- Dicofol (Sum)
- Dicofol 0,p
- Dicofol p,p
- Dicrotophos
- Dieldrin
- Dieldrin (Sum)

- Dicofol o,p
- Dicofol p,p
- Dicrotophos
- Dieldrin
- Dieldrin (Sum)
- Difenoconazole
- Diflufenican
- Dimefox
- Dimoxystrobin
- Diniconazole
- Dinobuton
- Diphenylamine
- Disulfoton (SP)
- Disulfoton (Sum)
- Disulfoton Sulfone
- Disulfoton Sulfoxide
- Ditalimfos
- Endosulfan (Sum)
- Endosulfan-Sulphate
- Endrin
- EPN
- Epsilon-HCH
- EPTC
- Ethalfuralin
- Ethion

- Ethofumesate (SP)
- Ethoprophos
- Etridiazole
- Etrimfos
- Fenarimol
- Fenazaquin
- Fenchlorphos (SP)
- Fenchlorphos (Sum)
- Fenchlorphos Oxon
- Fenitrothion
- Fenpropathrin
- Fenson
- Fenthion (SP)
- Fenthion Oxon
- Fenvalerate
- Flucythrinate
- Flumetralin
- Fluopicolide
- Fluopyram
- Fluotrimazole
- Flutamone
- Fluvalinate
- Folpet
- Folpet (Sum)
- Fonofos

- Furalaxyl
- Heptachlor (SP)
- Heptachlor (Sum)
- Heptachlor Epoxide A
- Heptachlor Epoxide B
- Heptenophos
- Hexachlorobenzene
- Hexaclorobutadiene
- Hexaconazole
- Iodofenphos
- Iprobenfos
- Iprodione
- Iprovalicarb
- Isazofos
- Isofenphos
- Isophenfos-methyl
- Kresoxim-methyl
- Lambda-Cyhalothrin
- Lindane
- Malaoxon
- Malathion (SP)
- Mefenpyr Diethyl
- Mepronil
- Metalaxyl-M (Mefenoxam)
- Methacrifos

- Methidathion
- Methacrifos
- Methidathion
- Methoxychlor
- Metribuzin
- Mevinphos
- Mirex
- Molinate
- Myclobutanil
- Naled
- Naled (Sum)
- Napropamide
- Nitrofen
- Nitrothal Isopropyl
- Nuarimol
- o,p-DDD
- o,p-DDE
- Ofurace
- Oxadixyl
- Oxychlordan
- Oxyfluorfen
- p,p-DDT
- p,p-DDE
- Paraoxon Methyl
- Paraoxon-ethyl

- Parathion Methyl (SP)
- Parathion Methyl (Sum)
- Parathion-ethyl
- Parathion-ethyl (Sum)
- Penconazole
- Pendimethalin
- Pentachloroaniline
- Pentachloroanisole
- Pentachlorobenzene
- Pentachlorobenzonitrile
- Pentachlorophenol
- Permethrin
- Phenthoate
- Phorate
- Phosalone
- Phthalimide
- Piperonyl butoxide
- Pirimiphos-ethyl
- Pirimiphos-methyl
- Procymidone
- Profenofos
- Profluralin
- Prometryn
- Propazine
- Propetamphos

- Propyzamide
- Prothiofos
- Pyrazophos
- Pyridaben
- Pyridaphenthion
- Pyrifenox
- Pyrimethanil
- Pyriproxyfen
- Quinalphos
- Quintozene
- Quintozene (Sum)
- Silthiofam
- Simazine
- Tebuconazole
- Tebufenpyrad
- Tecnazene
- Tefluthrin
- Terbacil
- Terbumeton
- Terbuthylazine
- Terbuthylazine Desethyl
- Terbutryn
- Tetrachlorvinphos
- Tetracanazole
- Tetradifon

- Tetrahydrophthalimide (THPI)
- Tetramethrin
- Tetrasul
- Thiometon
- Tolclofos-methyl
- Trans-Chlordane
- Transfluthrin
- Triadimefon
- Triadimenol
- Tri-allate
- Triamiphos
- Trifluralin
- Uniconazole
- Vinclozolin
- Zeta-cypermethrin

The second group was analyzed using the LC-MS/MS technique for 360 pesticides and included the following:

- 3-OH carbofuran (SQ)
- Abamectin
- Acephate
- Acequinocyl
- Acetamiprid
- Acibenzolar-S-methyl (SP)
- Alcarb (SP)
- Aldicarb (Sum)

- Aldicarb Sulfone
- Aldicarb Sulfoxide
- Ametroctradin
- Aminocarb
- Amitraz (SP)
- Atrazine Desisopropyl
- Azaconazole
- Azadirachtin
- Azamethiphos
- Azimsulfuron
- Azinphos-ethyl
- Azinphos-methyl
- Azocyclotin and Cyhexatin (SQ)
- Azoxystrobin
- Ben-Carb-TPN (Sum)
- Bendiocarb
- Bentazone (SP)
- Bentazones-methyl
- Benthiavalicarb
- Bioallethrin
- Bixafen
- Boscalid
- Bromacil
- Bromoxynil (SP)
- Bromuconazole

- BTS 44595
- BTS 44596
- Buprofezin
- Butachlor
- Butocarboxim
- Butoxicarboxim Sulfoxide
- Butralin
- Buturon
- Cadusafos
- Carbaryl
- Carbendazim and Benomyl
- Carbetamide
- Carboxin (SP)
- Carfentazone-ethyl (SP)
- Chloratraniliprole
- chlorbromuron
- Chlorfluazuron
- Chloridazon
- Chloroxuron
- Chlorsulfuron
- Chlorthiophos
- Clethodim (SP)
- Clethodim Sulfoxide
- Clofentezine
- Clomazone

- Clopyralid
- Clothianidine
- Coumaphos
- Crimidine
- Cyanazine
- Cyantraniliprole
- Cyazofamid
- Cyclanilide
- Cycloate
- Cycloxydim (SP)
- Cyenopyrafen
- Cyflufenamid
- Cyflumetofen
- Cyhalofop-butyl
- Cymoxanil
- Cyromazine
- Demeton S
- Demeton-S-methyl
- Demeton-S-Methylsulfone
- Demeton-S-sulfoxide
- Desmedipham
- Desmetryn
- Dialifos
- Dichiofluanid
- Dichlormid

- Dichloroprop
- Dichlorvos
- Diclofop (SP/SQ)
- Diclofop (Sum)
- Diclofop-methyl (SP/SQ)
- Diethofencarb
- Diflubenzuron
- Dimefuron
- Dimethachlor
- Dimethenamid-P
- Dimethoate
- Dimethoate (Sum)
- Dimethomorph
- Dimethylaminosulfotoluidide (DMST)
- Dinotefuran
- Diuron
- DNOC
- Dodemorph
- Dodine
- Edifenphos
- Emamectin B1a
- Epoxiconazole
- Ethaboxam
- Ethiofencarb
- Ethiofencarb sulfone

- Ethiofencarb sulfoxide
- Ethiprole
- Ethirimol
- Ethoxyquin (SQ)
- Etofenprox
- Etoxazole
- Famoxadone
- Fenamidone
- Fenamiphos (SP)
- Fenamiphos (Sum)
- Fenamiphos Sulphone
- Fenamiphos Sulphoxide
- Febnuconazole
- Fenbutatin oxide
- Fenhexamid
- Fenobucarb
- Fenoxycarb
- Fenpiclonil
- Fenpropidin (SP)
- Fenpropimorph
- Fenpyrazamine
- Fenpyroximate
- Fensulfothion
- Fensulfothion Oxon
- Fensulfothion Oxon Sulfone

- Fensulfothion Sulfone
- Fenthion (Sum)
- Fenthion Oxon Sulfone
- Fenthion Oxon Sulfoxide
- Fentin (SP/SQ)
- Fenuron
- Fipronil (SP)
- Fipronil (Sum)
- Fipronil Sulfide
- Fipronil Sulfone
- Flamprop
- Flazasulfuron
- Flonicamid (SP)
- Flonicamid (Sum)
- Florasulam
- Fluazifop-methyl (SP)
- Fluazifop-P (SP)
- Fluazifop-P-butyl (SP)
- Fluazinam
- Flubendiamide
- Fludioxonil
- Flufenacet
- Flufenacet (Sum)
- Flufenacet ESA
- Flufenacet OA

- Flufenoxuron
- Flumioxazin
- Fluometuron
- Fluoxastrobin
- Flupyradifurone
- Fluquinconazole
- Fluoxypyr (SP)
- Fluroxypyr-meptyl
- Fluroxypyr-meptyl
- Flusilazole
- Flutolanil
- Flutriafol
- Fluxapyroxad
- Foramsulfuron
- Forchlorfenuron
- Formetanate (SP)
- Formothion
- Fosthiazate
- Fuberidazole
- Halosulfuron methyl
- Haloxyfop (Sum)
- Haloxyfop-2-ethoxyethyl
- Haloxyfop-methyl (SP)
- Haloxyfop-R (SP)
- Hexaflumuron

- Hexazinone
- Hexythiazox
- Imazalil
- Imazapic
- Imazapic
- Imazapyr
- Imidacloprid
- Indaziflam
- Indoxacarb
- Iodosulfuron-methyl (SP)
- Ioxynil (SP)
- Isocarbophos
- Isoprocarb
- Isoprothiolane
- Isoproturon
- Isopyrazam
- Isoxaben
- Isoxathion
- Ivermectin
- Lenacil
- Linuron
- Lufenuron
- Mandipropamid
- Matrine
- MCPA (SP)

- Mecarbam
- Mepanipyrim
- Meptyldinocap
- Mesosulfuron-methyl
- Mesotrione
- Metaflumizone
- Metamitron
- Metazachlor (SP)
- Methiocarb (Sum)
- Methoprotyne
- Methoxyfenozide
- Metobromuron
- Metolachlor and S-Metolachlor
- Metolcarb
- Metoxuron
- Metrafenone
- Metsulfuron-methyl
- Milbemectin SQ (Sum)
- Milbemycin A3 (SQ)
- Milbemycin A4 (SQ)
- Monocrotophos
- Monolinuron
- Monuron
- Neburon
- Nicosulfuron

- Nitenpyram
- Norflurazon
- Novaluron
- Omethoate
- Oxadiargyl
- Oxydiazon
- Oxamyl
- Oxasulfuron
- Oxathiapiprolin
- Oxycarboxin
- Paclobutrazol
- Pencycuron
- Penthiopyrad
- Phenmedipham
- Phorate (Sum)
- Phorate Oxon
- Phorate Oxon Sulfone
- Phorate Oxon Sulfoxide
- Phorate Sulfone
- Phorate Sulfoxide
- Phosmet (SP)
- Phosmet (Sum)
- Phosmet oxon
- Phosphamidon
- Phoxim

- Picolinafen
- Picoxystrobin
- Pinoxaden
- Pirimicarb
- Pirimicarb Desmethyl
- Pirimicarb Desmethyl Formamide
- Prochloraz (SP)
- Prochloraz (Sum)
- Promecarb
- Propachlor
- Propamocarb (SP)
- Propanil
- Propaquizafob
- Propargite
- Propham
- Propiconazole
- Propoxur
- Proquinazid
- Prosulfocarb
- Prosulfuron
- Prothioconazole
- Pydiflumetofen
- Pymetrozine
- Pyracarbolid
- Pyraclostrobin

- Pyraflufen
- Pydiflumetofen
- Pymetrozine
- Pyracarbolid
- Pyraclostrobin
- Pyraflufen
- Pyraflufen-ethyl (SP)
- Pyraflufen-ethyl (Sum)
- Pyridalyl
- Pyridate (SP)
- Quinclorac
- Quinoxyfen
- Quizalofop-ethyl (SP)
- Rimsulfuron
- Rotenone
- Saflufenacil (SP)
- Sebuthylazine
- Sethoxydim
- Spinetoram
- Spinosad
- Spirodiclofen
- Spiromesifen
- Spirotetramat (SP)
- Spirotetramat (Sum)
- Spirotetramatenol-glucoside

- Spirotetramat-enol
- Spirotetramat-ketohydroxy
- Spirotetramat-monohydroxy
- Spiroxamine
- Sulcotrione
- Sulfosulfuron
- Sulfotep
- Sulfoxaflor
- Tebufenozide
- Teflubenzuron
- Tepraloxydim (SP)
- Terbufos
- Terbufos (Sum)
- Terbufos Sulfone
- Terbufos Sulfoxide
- TFNA
- TFNG
- Thiabendazole
- Thiacloprid
- Thiamethoxam
- Thiamethoxam (Sum)
- Thidiazuron
- Thifensulfuron-methyl
- Thiobencarb
- Thiocyclam

- Thiodicarb
- Thiofanox
- Thiofanox Sulfone
- Thiofanox Sulfoxide
- Thiophanate-methyl
- Tolfenpyrad
- Tolylfluanid (SP)
- Tolyfluanid (Sum)
- Triasulfuron
- Triazophos
- Triazoxide
- Trichlorfon
- Tricresyl phosphate
- Tricyclazole
- Tridemorph
- Trifloxystrobin
- Triflumizole (SP)
- Triflumizole (Sum)
- Triflumizole FM-6-1
- Triflumuron
- Triforine (SQ)
- Triticonazole
- Vamidothion
- Zoxamide

Phthalates — Testing Details

Phthalates are linked to many health effects in multiple studies on both animals and humans. This is very problematic because phthalates are linked with hormone disruption of the endocrine system, which regulates the body's hormones, even in trace amounts in low concentrations. Epidemiological studies have revealed that exposure to phthalates adversely affects the level of hormones within the body, which can impact several important health functions. Here are some health effects phthalate exposure is linked to.

- **Weight gain and obesity**
- **Shorter height**
- **Precocious puberty**
- **Asthma**
- **Allergies**
- **Attention Deficit Hyperactivity Disorder (ADHD)**
- **Lower IQ**
- **Social impairment**
- **Type II diabetes and insulin resistance**
- **Poor cardiovascular health**
- **Thyroid function** and **increased risk of thyroid cancer**
- **Females —** **Pregnancy loss** and **preterm birth**, **low birth weight**, earlier menopause

- **Males —** Genital development, semen quality, reduced "masculine" play, inhibits testosterone production, shortened anogenital distance, or shortened "taint", shortened length of penis

Mamavation's EPA-certified lab tested for the following phthalates. This is not a complete list of all the phthalates that are allowed to be present as an indirect food additive according to the FDA, however, this list goes above and beyond what is already restricted by the European Union or the State of California.

- Diethyl phthalate (DEP)
- Di-n-propyl phthalate (DPP)
- Diisobutyl phthalate (DIBP)
- Dibutyl phthalate (DBP)
- Dihexyl phthalate (DnHP)
- Benzyl butyl phthalate (BBP)
- Dicyclohexyl phthalate (DCHP)
- Diisononyl phthalate (DINP)
- Di-n-octyl phthalate (DnOP)
- Diisodecyl phthalate (DIDP)
- bis(2-Ethylhexyl)phthalate (DEHP)
- Dimethyl phthalate (DMP)
- Bis(2-propylheptyl) Phthalate (DPHP)
- Didecyl phthalate (DDP)

Heavy Metals: Lead, Cadmium, Mercury, and Arsenic — Testing Details

Our EPA-certified laboratory tested each children's multivitamins for the following metals:

- Lead
- Arsenic
- Cadmium
- Mercury

Mamavation then adjusted the result to reflect California Prop. 65 based on serving size into ug/day results. When it comes to protecting consumers, California has far more stringent health protective levels, but instead of banning products, they require manufacturers to use label warnings instead.

California's Prop. 65 established "safe harbor levels" for most of the heavy metals we tested: arsenic, cadmium, lead, and mercury. Prop. 65 requires businesses to provide warnings to consumers living in California about significant exposures to **chemicals that cause cancer, birth defects, or other reproductive harm**.

These chemicals can be in the products they purchase, in their homes or workplaces, or released into the environment. By requiring this information to be provided, it enables consumers in California to make informed decisions about their exposure to these chemicals.

Here are the No Significant Risk Levels (NSRL) and the Maximum Allowable Dose Levels (MADL) established by the State of California for the heavy metals we tested:

- **Arsenic —** 0.06 ug/day (inhalation), 10 ug/day (except inhalation)
- **Cadmium —** 0.05 ug/day (inhalation), 4.1 ug/day (oral)
- **Lead —** 0.5 ug/day level for reproductive toxicity, 15 ug/day (oral) for carcinogens
- **Mercury —** No established levels in California, so the Federal maximum contaminant level for mercury would be followed instead

Mamavation's Raw Data from Our EPA-Certified Laboratory Ranked

Mamavation sent two sets of nine children's multivitamins to different EPA-certified laboratories looking for traces of contaminants:

- 500+ pesticides (which is more comprehensive than other testing we've seen)
- Glyphosate
- 40 PFAS "forever chemical" analytes like PFOA and PFOS. (This is different from our other studies where we measured total organic fluorine.)
- Heavy metals (lead, cadmium, mercury, and arsenic)
- Phthalates

All products were sent to the laboratory in original packaging and purchased between June and December 2024. Products were selected by Mamavation community members representing what they are already buying and using in their homes to feed their families. All products were purchased by Mamavation directly.

We could not purchase and test all the recommended brands because we had a limited budget for this testing. After analyzing the results of each product, we decided to categorize products into three categories.

- **Not Our Favorite Children's Multivitamins —** These children's multivitamins had detectable levels of specific PFAS analytes that were quantifiable and/or higher levels of phthalates. If we found pesticides, we would have placed those products here.
- **Better Children's Multivitamins —** Our lab did not find quantifiable PFAS or pesticides in these products, but it did find detectable phthalates and/or detectable PFAS that were not quantifiable. PFAS, which was not quantifiable, means the

instrumentation was able to detect specific PFAS but was not able to say how much of it was there because it was so little.

- **Best Children's Multivitamins —** This product did not have any detectable contaminants such as PFAS, phthalates, glyphosate, or 500+ other pesticides, and had levels of heavy metals that did not require a Prop. 65 warning.

If you would like to donate to our efforts, you can do so by giving a tax-deductible donation here through Environmental Health Sciences. You can also support our efforts by shopping our affiliate links. Please note that links below are affiliate in nature and any purchases will pay us back for the testing and allow us to do more testing in the future.

Mamavation's Investigation of Children's Multivitamins

Not Our Favorite Children's Multivitamins

These children's multivitamins were found to have quantifiable amounts of PFAS "forever chemicals" OR they had high amounts of phthalates present. If we found pesticides, we would have placed those products here.

- Pure Encapsulations Junior Nutrients Children's Multivitamin for Daily Wellness
    - **Ingredients —** Vitamin A (as vitamin A acetate and 75% beta carotene) 750 mcg, Vitamin C (as ascorbic acid) 137 mg, Vitamin D (as cholecalciferol D3) 10 mcg (400 IU), Vitamin E (as d-alpha tocopherol succinate) 23 mg, Vitamin K (as vitamin K1) 45 mcg, Thiamin (as thiamin HCl) B1 1.5 mg, Riboflavin (as vitamin B2 and 43%riboflavin 5' phosphate (activated B2)) 1.5 mg, Niacin (as niacinamide) 10 mg, Vitamin B6 (as pyridoxine HCl and 38% pyridoxal 5' phosphate (activated B6)) 2 mg, Folate (as Metafolin, L-5-MTHF) 333 mcg DFE (200 mcg L-5-MTHF), Vitamin B12 (as methylcobalamin) 100 mcg, Biotin 150 mcg, Pantothenic acid (as calcium pantothenate) B5 5 mg, Choline (as choline bitartrate) 10 mg, Calcium (as di-calcium malate) (DimaCal) 42 mg, Iodine (as potassium iodide) 75 mcg, Magnesium (as dimagnesium malate)(Albion) 42 mg, Zinc (as zinc citrate) 75 mg, Selenium (as selenomethionine) 35 mcg,

Manganese (as manganese citrate) 1 mg, Chromium (as chromium polynicotinate) 60 mcg, Molybdenum (as TRAACS molybdenum glycinate chelate) 37.5 mcg, Inositol 25 mg, Proprietary mixed carotenoid blend 246 mcg, FloraGLO lutein 1.5 mg, Zeaxanthin 250 mcg.

    - **Additional Ingredients —** vegetarian capsule (cellulose, water), ascorbyl palmitate, ChromeMate brand niacin-bound chromium, Zeaxanthin is sourced from OPTISHARP brand. OPTISHARP is a trademark of DSM, FloraGLO is a registered trademark of Kemin Industries, Inc.

    - **PFAS "Forever chemicals" —** 0.184 PFPeA ng/g

    - **Heavy Metals —** Lead 0.026 ug/day, Arsenic non-detect, Cadmium 0.035 ug/day, Mercury non-detect (Does not require Prop. 65 Warning for heavy metals)

    - **Phthalates —** 39 ppb total phthalates

    - **500+ Pesticides —** Non-detect

    - **Glyphosate —** Non-detect

- **Life Extension Children's Formula Life Extension Mix Kid-Friendly Natural Berry Flavor**

    - **Ingredients —** Vitamin A (as beta-carotene) 1050 mcg RAE, Vitamin C (as ascorbic acid) 120 mg, Vitamin D3 (as cholecalciferol) 10 mcg, Vitamin E (as D-alpha tocopheryl succinate) 20.1 mg, Thiamine (Vitamin B1)(as thiamine mononitrate) 3mg, Riboflavin (Vitamin B2) 1.7 mg, Niacin (Vitamin B3)(as niacinamide) 20 mg, Vitamin B6 (as pyridoxine HCl) 2 mg, Folate (as folic acid, L-5-methyltetrahydrofolate calcium salt) 340 mcg, Vitamin B12 (as methylcobalamin) 6 mcg, Biotin 300 mcg, Pantothenic acid (as D-calcium panthothenate) 10 mg, Iodine (as potassium iodide) 150 mcg, Magnesium (as magnesium oxide) 50 mg, Zinc (as zinc bisglycinate chelate) 10 mg, Selenium (as L-selenomethionine) 25 mcg, Molybdenum (as molybdenum glycinate

chelate) 20 mcg, Potassium (as potassium citrate) 10 mg, marigold extract (tagetes erecta) (flower) 11.12 mg (std. to 5mg trans-lutein and 155 mcg trans zeaxanthin), Inositol 10 mg, coenzyme Q10 1 mg,

- **Additional Ingredients —** Xylitol, microcrystalline cellulose, maltodextrin, natural beet color, stearic acid, sodium carboxymethyl cellulose, citric acid, dextrose, silica, gum arabic, dicalcium phosphate, natural (cherry, vanilla, strawberry) flavors, luo han guo extract, cellulose, food-starch-modified, corn starch, hypromellose, stevia extract
- **PFAS "Forever Chemicals" —** Non-detect
- **Heavy Metals —** Lead 0.027 ug/day, Arsenic non-detect, Cadmium 0.01 ug/day, Mercury non-detect (Does not require Prop. 65 warning for heavy metals)
- **Phthalates —** 1,264 ppb total phthalates
- **500+ Pesticides —** Non-detect
- **Glyphosate —** Non-detect

Better Multivitamins

These children's multivitamins either had PFAS "forever chemicals" or pesticides identified by the lab, but they were in such low amounts they were not quantifiable. Most of these brands also had phthalates present in the samples we tested.

MRL means "Method Reporting Limit" and it means the lowest concentration tested that can be reported reliably.

- **Hiya Kids Daily Multivitamin (yellow bottle)**
  - **Ingredients —** Vitamin A (as retinyl palmitate and 46% beta carotene) 360 mcg, Vitamin C (as calcium ascorbate and acerola fruit) 40 mg, Vita min D (as vegan cholecalciferol) 25 mcg, Vitamin E (as d-alpha-tocopherol from sunflower oil) 3.5 mg, Thiamin (as Vitamin B1 and from organic quinoa sprouts) 0.5 mg,

Riboflavin (as riboflavin and from organic quinoa sprouts) 0.6 mg, Folate (as L-5-MTHF-Ca and from organic quinoa sprouts) 200 mcgDFE, Vitamin B12 (as MeCbl and from organic quinoa sprouts) 2 mcg, Biotin (as biotin and from organic quinoa sprouts) 25 mcg, Pantothenic acid (as Vitamin B5 and from organic quinoa sprouts) 2.5 mg, Calcium (as calcium carbonate) 20 mg, Iodine (as potassium iodide) 50 mcg, zinc (as zinc citrate) 3 mg, Selenium (as selenomethionine) 15 mcg, Manganese (as Manganese citrate) 1.5 mg. Fruit and Vegetable Blend: organic apple, organic beet, organic blueberry, organic broccoli, organic carrot, organic green cabbage, organic kale, organic parsley, organic raspberry, organic spinach, organic strawberry, organic tomato 25 mg, Vitamin K2 (as menaquinone-7) 8 mcg.

    - **Additional Ingredients —** Sweetener blend (mannitol, monk fruit extract), plant cellulose blend, coconut oil powder, natural flavors and color (beet root, turmeric root, and spirulina), vegetable stearic acid, organic rice hull concentrate, malic acid, and vegetable magnesium stearate.

    - **PFAS "Forever Chemicals" —** <MRL PFBA

    - **Heavy Metals —** Lead 0.042 ug/day, Arsenic non-detect, Cadmium 0.016 ug/day, Mercury non-detect (Does not require a Prop. 65 warning for heavy metals)

    - **Phthalates —** 144 ppb total sum phthalates

    - **500+ Pesticides —** Non-detect

    - **Glyphosate —** Non-detect

- Garden of Life MyKind Organic Kids Multi Organic Fruit and Vitamins Gummies

    - **Ingredients —** Vitamin A 250 mgc, Vitamin C 90 mg, Vitamin D (as D3) 20 mcg (800 IU), Vitamin E 7.5 mg, Vitamin K 45 mcg, Thiamin (Vitamin B1) 0.5 mg, Niacin 4.5 mg, Vitamin B6 2.5 mg, Folate 200 mcg, Vitamin B12 (as

Methylcobalamin) 3.5 mcg, Biotin 90 mcg, Pantothenic Acid 2.5 mg, Zinc 1.5 mg, Selenium 15 mcg, Manganese 0.2 mg, Chromium 35 mcg

- **Additional Ingredients —** Certified organic fruit chew base blend: Organic apple (fruit, puree concentrate and juice concentrate), organic peach (fruit puree concentrate), Organic tapioca fiber, pectin (from apples and oranges) organic peach flavor, organic purple carrot juice concentrate (for color), Organic orange (peel), organic rice meal and organic sunflower oil (for coating), Certified organic real food vitamin blend: organic emblic (amla, phyllanthus emblica) (fruit) extract, organic sesbania grandiflora (leaf), organic psidium guajava (guava fruit and leaf), organic lemon (peel), organic ocimum sanctum (holy basil leaf), organic annatto (fruit and seed), organic moringa oleifera (moringa leaf), organic beet (root), organic broccoli (stalk and flower), organic carrot (root), Organic spinach (leaf),Oraganic tomato (fruit), organic strawberry (fruit), organic cherry (fruit), Organic blackberry (fruit), organic green bell pepper (fruit), organic brussels sprout (leaf), organic ginger (root), organic blueberry (fruit), organic garlic (bulb), organic green onion (bulb), organic rasberry (fruit), organic parsely (leaf), organic cauliflower (flower and stem), organic red cabbage (leaf), celery (stalk), organic cucumber (gourd), organic kale (leaf).
- **PFAS "Forever Chemicals" —** <MRL PFBA
- **Heavy Metals —** Lead 0.056 ug/day, Arsenic non-detect, Cadmium non-detect, Mercury non-detect (Does not require a Prop. 65 warning for heavy metals)
- **Phthalates —** 222 ppb total sum phthalates
- **500+ Pesticides —** Non-detect
- **Glyphosate —** Non-detect

- **Llama Naturals Plant-Based Kids Multi Real Fruit Gummies**

- **Ingredients —** Vitamin A 300 mcg, Vitamin C 30 mg, Vitamin D (as D2 and D3) 13 mcg, Vitamin E 5 mg, Vitamin K1 40 mcg, Thiamine (Vitamin B1) 0.4 mg, Riboflavin (Vitamin B2) 0.43 mg, Niacin 5 mg, Vitamin B6 0.57 mg, Folate 133 mcg, Vitamin B12 (as Methylcobalamin) 0.8 mcg, Biotin 10 mcg, Pantothenic Acid 1.7 mg
- **Additional Ingredients —** Organic apple (juice, puree), organic strawberry (puree), fruit and vegetable Vitamin mix, Organic rice flour, organic lemon (juice), Fruit Pectin, Organic Black carrot (juice), Organic flavor
- **PFAS "Forever Chemicals" —** <MRL PFBA
- **Heavy Metals —** Lead 0.022 ug/day for 2-3 year old and 0.033 ug/day for 4 year old, Arsenic 0.058 ug/day for 2-3 year old and 0.087 ug/day for 4 year old, Cadmium 0.02 ug/day for 2-3 year old and 0.03 for 4 year old, Mercury non-detect (Serving size 2x for 2-3 year olds, then 3x for 4 year olds)
- **Phthalates —** Non-detect
- **500+ Pesticides —** Non-detect
- **Glyphosate —** Non-detect

Best Multivitamins

These children's multivitamins were free from PFAS "forever chemicals," phthalates, pesticides, and levels of heavy metals that are low enough that they do not require a Prop. 65 Warning in California.

- Mary Ruth's Organic Kids Multivitamin Gummies Mixed Berry and Cherry
  - **Ingredients —** Vitamin A (as retinyl palmitate) 200 mcg, Vitamin C (ascorbic acid) 20 mg, Vitamin D (as cholecalciferol) 6 mcg (240 UI), Vitamin E (as D-Alpha Tocopherol Acetate) 7 mg, Vitamin B6 (as Pyridoxine Hydrochloride) 1.7 mg, Folate (as Methylfolate) 200 mcg DFE, Vitamin B12 (as Methylcobalamin)

2.4 mcg, Biotin (as D-Biotin) 6 mcg, Pantothenic Acid (as Calcium D-Pantothenate) 2 mg, Iodine (as Potassium iodide) 40 mcg, Zinc (as zinc citrate) 2 mg, sodium 10 mg

- **Additional Ingredients —** Organic glucose syrup, organic cane sugar, purified water, pectin, organic maltodextrin, citric acid, organic sunflower oil, organic vegetable juice color, organic fruit juice color, natural flavors, organic carnauba wax, and sodium citrate
- **PFAS "Forever Chemicals" —** Non-detect
- **Heavy Metals —** Lead 0.005 ug/day, Arsenic non-detect, Cadmium non-detect, Mercury non-detect (Does not require Prop.65 warning)
- **Phthalates —** Non-detect
- **500+ Pesticides —** Non-detect
- **Glyphosate —** Non-detect

- **MegaFood Kids One Daily Multivitamin Soft Chews Grape Flavor with Other Natural Flavors**
  - **Ingredients —** Vitamin A (as beta carotene) 250 mcg RAE, Vitamin C (as ascorbic acid) 20 mg, Vitamin D3 (as cholecalciferol) 3.3 mcg, Vitamin E (as d-alpha tocopherol) 3.3 mg, Niacin (as niacinamide) 7 mg NE, Vitamin B6 (as pyridoxine hydrochloride) 2 mg, Folate (as folic acid) 226 mcg DFE (136 mcg folic acid), Vitamin B12 (as methylcobalamin) 5 mcg, Biotin 100 mcg, Pantothenic Acid (as d-panthenol) 3 mg, Chromium (as chromium picolinate) 10 mcg, Molybdenum (as molybdenum yeast) 7 mcg, Fruit phenolic blend (organic whole orange, organic cranberry, organic blueberry) 5 mg
  - **Additional Ingredients —** organic raw cane sugar, organic rice syrup, palm oil, rice bran, natural flavors, sunflower lecithin, malic acid, fruit and vegetable juice (for color), glycerin, citric acid, rosemary leaf extract (to preserve freshness)

- **PFAS "Forever Chemicals" —** Non-detect
- **Heavy Metals —** Lead <MRL, Arsenic non-detect, Cadmium non-detect, Mercury non-detect (Does not require a Prop.65 Warning)
- **Phthalates —** Non-detect
- **500+ Pesticides —** Non-detect
- **Glyphosate —** Non-detect

- **Smarty Pants Kids Multi and Omegas Premium All-in-One Multi for Children's Developmental Years**
  - **Ingredients —** Vitamin A (as retinyl palmitate) 180 mcg, Vitamin C (as ascorbic acid), 45 mg, Vitamin D (vitamin D3 as cholecalciferol) 20 mcg (800 IU), Vitamin E (as d-alpha-tocopherol from sunflower oil) 6.6 mg, Vitamin K (vitamin K1 as phylloquinone) 20 mcg, Thiamin (vitamin B1 as thiamin mononitrate) 0.1 mg, Riboflavin (vitamin B2) 0.16 mg, Vitamin B6 (as pyridoxine HCl) 1 mg, Folate (as L-Methylfolate, calcium salt) 250 mcg DFE, Vitamin B12 (as methylcobalamin) 2.4 mcg, Biotin 16 mcg, Iodine (as potassium iodide) 90 mcg, Zinc (as zinc citrate) 1.6 mg, Sodium 15 mg, Fish oil 340 mg, Total omegas-3-fatty acids 100 mg, EPA and DHA 100 mg, Inositol 2 mg
  - **Additional Ingredients —** Organic cane sugar, Organic tapioca syrup, gelatin, pectin, citric acid, colors added (organic black carrot juice concentrate, organic turmeric), natural flavors
  - **PFAS "Forever Chemicals" —** Non-detect
  - **Heavy Metals —** Lead 0.028 ug/day, Arsenic non-detect, Cadmium non-detect, Mercury non-detect (Does not require a Prop. 65 warning)
  - **Phthalates —** Non-detect
  - **500+ Pesticides —** Non-detect

- **Glyphosate —** Non-detect

- Seeking Health Kids Multivitamin Chewable

  - **Ingredients —** Vitamin A (as Betatene natural mixed with carotenoids and retinyl palmitate) 450 mcg RAE, Vitamin C (as ascorbic acid) 25 mg, Vitamin D (cholecalciferol) 20 mcg, Vitamin E (as D-alpha-Tocopheryl Acid Succinate) (Navatol) 20 mg, Thiamin (as thiamine hydrochloride) 5 mg, Niacin 8 mg NE, Riboflavin (as riboflavin 5-phosphate) 2 mg, Folate (as Quatrefolic (6S)-5-methyltetrahydrofolate, glucosamine salt and calcium follinate) 20 mgc, Biotin 100 mcg, Panthothenic acid (as d-calcium panthothenate) 7 mg, Iron (as iron glycinate chelate)(Albion) 5 mg, Iodine (as potassium iodide) 90 mcg, magnesium (as Dimagnesium malate)(albion) 25 mg, Zinc (as zinc glycinate chelate)(Albion) 5 mg, Selenium (from High selenium Yeast)(SelenExcel) 25 mcg, Copper (as copper gluconate)(Albion) 0.4 mg, Maganese (as Maganese Bisglyciinate Chelate)(Albion) 0.5 mg, Chromium (as chromium nicotinate glycinate chelate)(Albion) 25 mcg, Molydbenum (as molybdenum glycinate chelate)(Albion) 25 mcg, L-Carnite tartrate 25 mg, Coenzyme Q10 (microActive) 5 mg, Boron (as Bororganic Glycinate)(Albion) 1mg, Lutein (from marigold (Tagetes erecta) extract (flowers)) 500 mcg, Zeaxanthin 500 mcg, Vitamin K2 (as menaquinone-7) 30 mcg

  - **Additional Ingredients —** xylitol, natural flavors, stearic acid, microcrystalline cellulose, malic acid, monk fruit extract, glycine, silica, and magnesium stearate.

  - **PFAS "Forever Chemicals" —** Non-detect

  - **Heavy Metals —** Lead 0.05 ug/day, Arsenic non-detect, Cadmium 0.018 ug/day, Mercury non-detect (Does not require a Prop. 65 warning)

  - **Phthalates —** Non-detect

  - **500+ Pesticides —** Non-detect

- **Glyphosate —** Non-detect

About the Author

Leah Segedie is the President and Founder of Mamavation.com. Mamavation produces award-winning content and independent consumer studies examining the intersection of endocrine-disrupting chemicals (EDCs) and everyday products brought into American households. She's been referred to by many as "the real FDA."

Since 2008, Mamavation has been helping everyday moms navigate the grocery store by commissioning consumer studies on food, beverages, personal care products and other such products and thus democratizing science and testing for everyone.