

A woman with dark hair, wearing a blue long-sleeved shirt over a white top, is sitting on the floor and playing with a young child. The child is wearing a plaid shirt and is also sitting on the floor. They are both focused on playing with toys in a large pink plastic tub. The background is slightly blurred, showing what appears to be a daycare or playroom setting with vertical slats.

Non Toxic Toys

Making daycare centers safe for play!

Kate Howard

Environmental Health & Safety Specialist

New York State Pollution Prevention Institute

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Focus

- How toxic chemicals affect children
- Hot topic: Phthalates and bisphenol A
- Toxics found in toys and their effect on the environment
- Recall and testing information sources
- Consumer Product Safety Improvement Act

Children's Vulnerability

Children are at higher risk of suffering effects

1. Children have greater pound-for-pound intake of air, water, and food
2. Hand to mouth behavior
3. Greater portion of time spent close to the ground
4. Their bodies are growing and developing. Development can be interrupted by exposure to toxins and cause lower IQ, hormone-dependent cancer, asthma, or other health problems



Product Safety

- Companies do not have to disclose to consumers what is in their products
- Consumer Product Safety Commission
 - Charged with protecting the public from unreasonable risk from consumer products
 - Protect from products that pose fire, electrical, chemical, or mechanical hazard or can harm children
 - Operates voluntary recall program
- CPSC can't test toys before sale to ensure they are safe



Consumer Product Safety Improvement Act

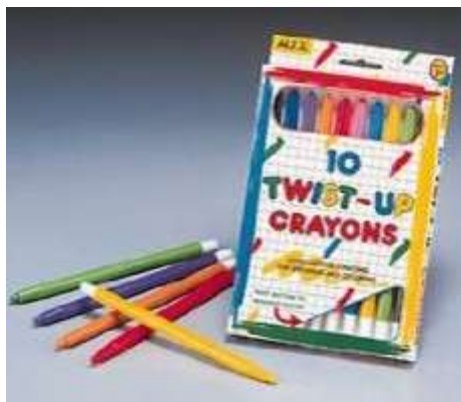
- Enacted Jan08
- Goal to protect children from lead and phthalate hazards by
 - Reducing lead limit
 - Establishing phthalate limit
 - Requiring product testing to ensure products meet limits
- Guidance & changes
 - Jan08: resellers do not need to certify products against lead and phthalate requirements
 - Jan30: one year extension for testing of certain products
 - Articles must meet the lead & phthalate limits, but manufacturers do not need to test products to verify they meet the requirements
- First major deadline passed Feb10
 - Lead limit reduced to 600ppm
 - Limit for certain phthalates set to 0.1% (100ppm)

CPSIA (continued)

1. Lead paint ban strengthened
1977 limit of 600ppm down to 90ppm by Aug09
2. Lead in children's products is a banned hazardous substance
600ppm Feb09
300ppm Aug09
100ppm Aug11
3. Ban on phthalates in toys & children's products
 - ✓ Products with DEHP, DBP, BBP higher than 0.1% are permanently banned Feb09
 - ✓ Products children can put in their mouth with DINP, DnOP, & DIDP higher than 0.1% are provisionally banned Feb09
4. CPSC significant funding & staff increases
5. Increased penalties

Toxics that have been found in Toys

1. Plastics
2. Metals
3. Wood
4. Fabrics



Plastics

Soft, squishy, mouthed



Hard, shatter proof



PVC and Soft Plastic

Phthalates - group of chemicals commonly used as softener

- Soft toys typically contain 15-20% phthalates
- New shower curtain smell
- Not bound to plastic so they can leach out
- Children are at especially high risk as they mouth toys
- Health effects are very controversial



Actions you can take

- ✗ Avoid plastic with #3 or PVC identification
- ✗ Avoid toys labeled "vinyl"
- ✗ Avoid soft plastic toys when possible
- ✓ Choose products labeled "phthalate free"
- ✓ Call toll free number on product to contact manufacturer and ask about presence of PVC



Phthalates Controversy

<p>In animals they have been shown to cause</p> <ul style="list-style-type: none">✓ Damage to reproductive and endocrine systems✓ Liver and kidney abnormalities✓ Premature birth✓ Reproductive defects✓ Early onset of puberty in girls✓ Harm reproductive system of males <p>Expected – but not yet proven – to cause same effects in humans</p>	<p>No documented human illness due to phthalate exposure</p>
<p>Mouthing behavior creates unique risk for children</p>	<p>Toy industry say phthalates in toys do not put children at risk as the exposure is too low to do damage</p>
<p>European Union and California banned 6 phthalates from children's products</p> <p>CPSIA limits levels of certain phthalates in children's toys & articles</p>	<p>Decision to avoid phthalates is precautionary</p>

Lead, cadmium, mercury, arsenic are common PVC stabilizers



5 Bath Float Toys
Brand: Babyking
Retailer: Dollar Tree

Kids' Boots (Style 443449)
Brand: Circo
Retailer: Target

YELLOW PVC
Lead: 1,687 ppm
Chromium: 994 ppm
Mercury: 26 ppm
Cl/PVC: 29-40% by weight



RED TOY
Cadmium: 429 ppm
Lead: 114 ppm



What happens to PVC?

Dioxin is a carcinogen and hormone disruptor. It bioaccumulates and takes a long time to degrade, remaining in the air, water, and soil.

Phthalates cause developmental and reproductive damage, altered liver and kidney function, and are linked to the development of respiratory problems in children.

Heavy Metals build up and do not degrade in the environment. Small concentrations are needed to sustain life, but larger concentrations can impair mental and neurological function.

Hydrochloric Acid creates toxic fumes and damages pollution control equipment during incineration. Long-term exposure to low levels can cause respiratory problems, eye and skin irritation, and discoloration of the teeth.

Bisphenol A causes hormone disruption and is linked to early puberty, breast cancer, prostate disease and cancer, and brain damage.

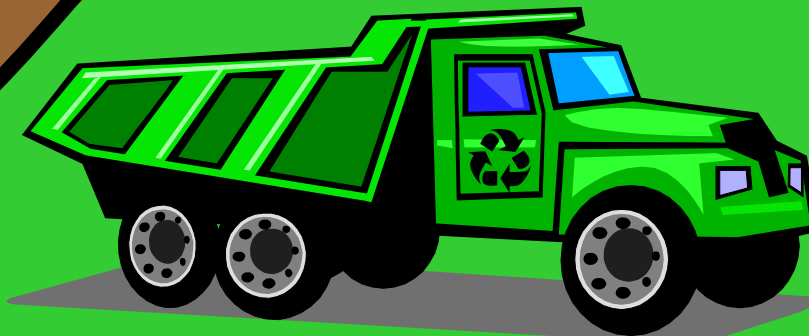
Vinyl Chloride causes damage to the liver, lungs, blood, nervous system, immune system, cardiovascular system, skin, bones and reproductive system.

Landfill

Does not biodegrade, but additives leach out of the plastic

Phthalates, dioxin, bisphenol A, vinyl chloride, and heavy metals leach into the soil and groundwater

Accidental fires release dioxin into the environment

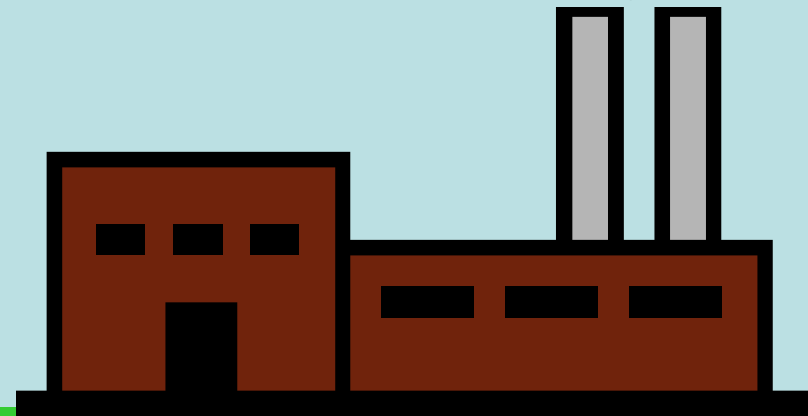


Incineration

Dioxin, phthalates, and heavy metals are emitted

Hydrochloric acid damages pollution control equipment and reacts with other additives to create toxic fumes

Ash has concentrated levels of dioxin and heavy metals that must be landfilled



Recycle

Very low recycling rate

Hydrochloric acid is generated

Contaminates recycling of other plastics

Poor quality of recycled goods

Cannot be blended with virgin PVC

PVC-Free Manufacturers

A-One
Ambitoys
Ampa Hispania
APRICA Kassai
Artbaby
Babelito
Bandai
Big Toys (playgrounds)
Brio
Bullyland Toys
Chicco
Continua

Early Start
Fashy
First Years
Giochi Perziosi
Grazioli
Juguetes y Herrajes Joal
Kiko International
Lamaze Infant Development
Lego Group
Little Tykes
Mapa

McDonalds
Novatex
People Co.
Pilot Ink
Play by Play
Playmobil
Ravensburger
Sassy Products
Tiny Love
Toho
Tomy
Young Epoch

- Toys R Us began phasing out PVC in its branded products and announced in January 2009 all products sold in Toys R Us & Babies R Us will not have phthalates
- Comprehensive list of manufacturers eliminating PVC use at <http://www.besafenet.com/pvc/companypolicies.htm>

Polycarbonate & BPA

Bisphenol-A – found in some polycarbonate shatter resistant plastics

- Baby bottles, metal can linings, sippy cups, food storage
- Water soluble
- Heating a container increases BPA leaching into liquid
- Endocrine disruptor
 - Linked to down's syndrome, obesity, hyperactivity, breast & prostate cancer
 - Causes breast cancer, testicular cancer, and diabetes in laboratory animals at low doses
- Canada banned baby bottles with BPA
- Toxic to aquatic environment



Actions you can take

- ✗ Avoid plastic with #7, OTHER, or PC identification for storing foods and drinks
- ✗ Avoid heating drinks or food in PC plastic
- ✗ Avoid using strong cleaners on PC containers as they release BPA from the plastic
- ✓ Choose products labeled "BPA free"
- ✓ Call toll free number on product to contact manufacturer and ask about presence of BPA

BPA Free Products



For more info, go to www.bisphenolafree.org

Metals

Lead

Found in: PVC, paint of old wood and metal toys (imports and metal soldiers)

Health & environmental effects: neurotoxin, learning disabilities, behavior disorders, low exposures have lifelong effects, bioaccumulative



Cadmium

Found in: PVC

Health & environmental effects: known carcinogen and kidney toxin, bioaccumulative, animals suffer similar effects as humans



Mercury – banned from novelty products

Found in: batteries

Health & environmental effects: nerve, brain, and kidney damage; learning disabilities; converts to methyl mercury in the environment which accumulates in fish and other organisms

HealthyToys.org

Tested 1,528 toys for lead, cadmium, chlorine, arsenic, bromine, mercury, chromium, tin and antimony

Lead detected in 20%

- American Academy of Pediatrics recommend 40ppm as safe lead level
- Federal recall standard is 600ppm
- 3.5% lead level above 600ppm
- Jewelry 5x more likely to have 600ppm or greater lead concentration

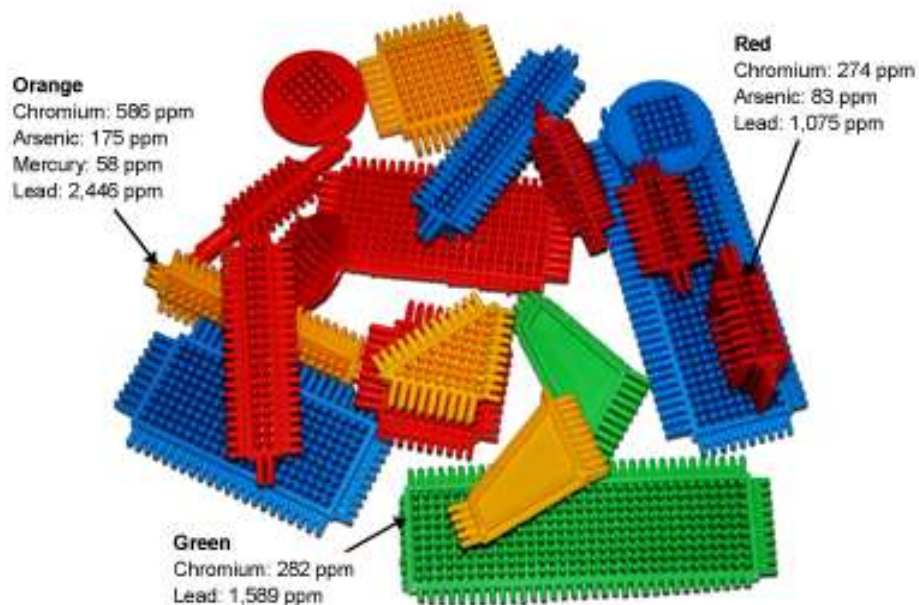
Highest lead levels:

- 8,000-190,000ppm in 4 sets of holiday jewelry
- 4,113ppm in children's sandals
- 2,446ppm in a set of blocks



Heavy Metals

Thistle Blocks
By Edushape



8-Mini Twist Up Crayons
By Alex



Wood

- 80% of forests have been destroyed or degraded due to clear cutting for lumber & paper
- Heavy metals often used in paints
- Plywood and particleboard can contain formaldehyde
 - Offgasses from the wood
 - Short term: irritate eyes, skin, and throat; cause nausea and lethargy
 - Over the long term it can cause cancer
 - Look for: pressed wood at edge of toys and puzzle pieces
 - Pressure treated wood play sets can contain arsenic



Actions you can take

- ✗ Avoid old painted toys as the paint may contain lead
- ✗ Avoid those not made in the US, Canada, or Europe where standards aren't strictly enforced
- ✓ Choose solid wood with nontoxic paints and finishes – linseed & walnut oils & beeswax are best
- ✓ Choose wood certified by the FSC or SFI
- ✓ Look for toys made out of recycled wood

Pressed Wood & Plywood



Cotton, Wool, and Other Fabrics

- Traditionally use heavy amounts of herbicides, insecticides, and fertilizers
- Cotton production uses $\frac{1}{4}$ of the world's insecticides
- Heavily pollute the groundwater
- Azo dyes can be carcinogenic, toxic, and eco-toxic – usually in products that come from eastern Asia
- Most are stain and moth proof – Teflon and Scotchguard
 - Perfluorinated compounds: toxic & persistent
- Brominated flame retardants are commonly used
 - Persistent & bioaccumulative
 - Impair attention, learning, memory and behavior in lab animals



Actions you can take

- ✗ Avoid azo dyes
- ✗ Avoid moth, stain, and fire proof fabrics
- ✓ Choose organic, untreated cotton and wool
- ✓ Choose nontoxic colorfast dyes
- ✓ Choose wool for its natural fire resistance
- ✓ Look for fleece dolls and stuffed animals made out of recycled materials

Brominated Flame Retardants



Road Racers with Play Mat

By Fun Club

Mat: Bromine 30,831ppm



Princess Jewelry

By Dollar Tree

Necklace: Lead 257ppm

Bromine 12,550 ppm

Chlorine/PVC 257,196 ppm

Hair Clip:

Lead 57ppm

Bromine 25ppm



Lightning McQueen Racing Chair

By Disney

Seat: Bromine 14,905

Mercury 39ppm

Base: Lead 34ppm

Bromine 25,562ppm

Mercury 156ppm

Information Sources

Product Testing: Healthy Toys www.healthytoys.org

Product Recalls: CPSC www.cpsc.gov & Recalls.gov www.recalls.gov

Washington State Toxics Coalition

Safe Start for Kids <http://www.watoxics.org/safer-products/safe-start-for-kids>

Toxic Free Toys Campaign <http://www.watoxics.org/issues/saferproducts>

Environment California Stop Toxic Toys

<http://www.environmentcalifornia.org/environmental-health/stop-toxic-toys>

Healthy Child Healthy World <http://healthychild.org>

US PIRG (Public Interest Research Group) www.uspirg.org/issues/toy-safety

Environmental Working Group www.ewg.org

Healthy Toys.org

- Tests sample of toys & children's articles every year
- Results released each fall

Lead

Found in: jewelry, paint, PVC

Concern: neurotoxicity

Cadmium

Found in: PVC, coatings, pigments in plastic & paint

Concern: developmental effects, known carcinogen

Chlorine

Found in: vinyl (soft plastic)

Concern: phthalate additives are endocrine disruptors

Arsenic

Found in: dye in textiles & plastics

Concern: known carcinogen, kidney damage

Bromine

Found in: flame retardants in textiles & electronics

Concern: persistent and toxic, possible carcinogen

Mercury

Found in: inks, adhesives

Concern: persistent, toxic, kidney damage

Chromium

Found in: stainless steel, pigments

Concern: some are known carcinogens, cause birth defects and reproductive problems

Tin

Found in: PVC

Concern: organotins are toxic at low exposure, several cause nervous system damage

Antimony

Found in: flame retardant, polyester

Concern: weakly mimics estrogen

Toy Rankings

Using the product search

Browse by brand

Browse by type

Best toys

Worst toys

Vote for a product

Test my toy!

View my list

Test my toy results

Search archives

Search Toys

Toy Rankings: Product Details

Fairy & Flowers Sandals

HuanCheng



Overall Level
HIGH*

Lead HIGH Bromine NONE Cadmium HIGH Chlorine MED Arsenic NONE Mercury NONE

* Other chemicals detected: Tin

IMPORTANT NOTE: HealthyToys.org ratings do not provide a measure of health risk or chemical exposure associated with any individual toy or children's product, or any individual element or related chemical. Follow [this link](#) to read more.

Industry Classification/Product Type
Shoes

Manufacturer
Chaozhou Huancheng Craft Shoes Factory

Manufacturer Code/UPC
000000000na5

Made In
China

Test Date/Place
21 August, 2008/MI

Test Method
XRF

Your Toy List (view page)

[Add This Product to My List](#)

Your list is empty. Click info button or [here](#) for instructions.

Email: [Save](#) [Load](#) [Share](#)

Components [†]	Lead	Bromine	Cadmium	Chlorine/PVC	Arsenic	Mercury
Strap	0	0	71	248,306	0	0
Purple painted area	4,113	0	700	304,679	0	0
Sole	3,948	0	756	341,248	0	0

[†] Note: numbers in this table represent [parts per million](#) of the given chemical.

CPSC Voluntary Product Recalls

Categories

1. Child products (not including toys)
2. Toys
3. Household products
4. Outdoor products
5. Sports & recreation products
6. Specialty products

The screenshot shows the homepage of the U.S. Consumer Product Safety Commission. At the top, there is a navigation bar with links for "Consumer Safety", "About CPSC", "Library - FOIA", and "Business". Below this is a search bar with a "GO!" button and a "HELP | ADVANCED SEARCH" link. The main content area is titled "Recalls and Product Safety News" and contains a paragraph explaining the commission's mission. Below this, there are sections for "Recent Recalls" (listing February 2009 and January 2009) and a "Find Recalls by:" section with a dropdown menu set to "Month & Year" and a table of months and years (January 2009, February 2008, March 2007) with a "Go!" button. There are also several filter links: "Product Type", "Company", "Product Description", "Hazard", and "Country of Manufacture". A "Product Category:" section lists "Child products (not including toys)", "Toys", "Household products", "Outdoor products", "Sports & Recreation products", and "Specialty products". A note mentions four new RSS feeds for recently issued recalls. At the bottom, there is a footer with links for "Site Map", "Text Version", "Inspector General", "NO FEAR", "Accessibility", "Privacy/Security", and maintenance information.

U.S. Consumer Product Safety Commission

Office of Information and Public Affairs

Washington, DC 20207

FOR IMMEDIATE RELEASE

January 29, 2009

Release #09-113

Firm's Recall Hotline: (800) 220-2390

CPSC Recall Hotline: (800) 638-2772

CPSC Media Contact: (301) 504-7908

DDI Inc. Recalls Toy Construction Play Sets Due to Violation of Lead Paint Standard

WASHINGTON, D.C. - The U.S. Consumer Product Safety Commission, in cooperation with the firm named below, today announced a voluntary recall of the following consumer product. Consumers should stop using recalled products immediately unless otherwise instructed.

Name of Product: Construction Play Sets

Units: About 3,000

Manufacturer/Distributor: DDI Inc., of Dubuque, Iowa

Hazard: Surface paint on the play sets can contain lead, violating the federal lead paint standard.

Incidents/Injuries: None reported.

Description: The recall involves the 136-piece Mega Construction Play Set (Item# 911346) and includes various construction equipment, vehicles, buildings and roads. The play sets are packaged in a black and yellow box with the word "Builder" printed in the upper left hand corner of the package.

Sold at: Home centers, hardware stores and farm stores nationwide from October 2008 through December 2008 for about \$20.

Manufactured in: China

Remedy: Consumers should immediately take the recalled play sets away from children and contact the firm for a refund of the purchase price.

Consumer Contact: For additional information, contact DDI at (800) 220-2390 between 8 a.m. and 4:30 p.m. ET Monday through Friday or visit the firm's Web site at www.ddiretail.com





Your Online Resource for Recalls

- Consumer Products
- Motor Vehicles
- Boats
- Food
- Medicine
- Cosmetics
- Environmental Products

Recent Recalls

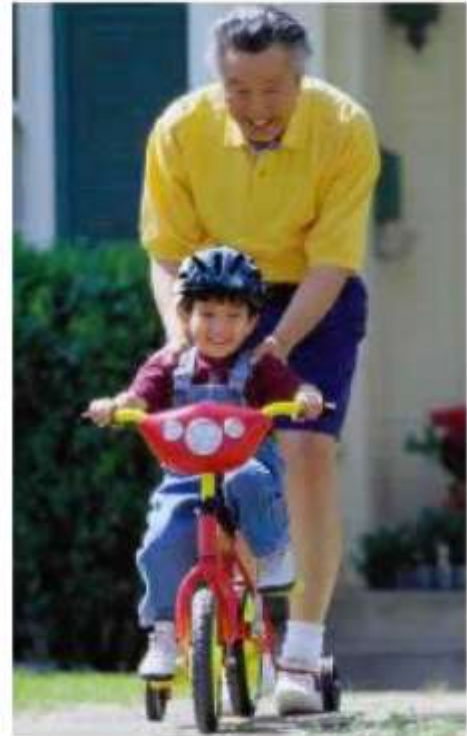
Search for Recalls

Sign Up for E-Mail

Información en Español

To provide better service in alerting the American people to unsafe, hazardous or defective products, six federal agencies with vastly different jurisdictions have joined together to create www.recalls.gov -- a "one stop shop" for U.S. Government recalls.

Follow the tabs above to obtain the latest recall information, to report a dangerous product, or to learn important safety tips.



[Consumer Products](#) | [Motor Vehicles](#) | [Boats](#) | [Food](#) | [Medicine](#) | [Cosmetics](#) | [Environmental Products](#)

Privacy and Security Notice. This site is provided as a resource for federal recalls. Please direct questions about specific recalls to the appropriate agencies listed above. Questions about this web site can be directed to pmargolies@cpsc.gov

WA Toxics Coalition - Safe Start for Kids

Provide guidelines for choosing safer products

- Arts & craft supplies
- Baby bottles, sippy cups, pacifiers
- Clothing & apparel
- Furniture
- Lunchboxes and storage
- Mattresses and changing pads
- Personal care products
- Toys
- Tableware

Choosing Safer Products: Baby Bottles, Sippy Cups, and Pacifiers



PRODUCT TYPE:	✓ CHOOSE	✗ AVOID
Baby bottles	<p>Glass bottles, opaque/cloudy plastic bottles, or clear plastic bottles labeled BPA-free. Examples include:</p> <ul style="list-style-type: none"> • Evenflo's glass, pastel, or opaque bottles • Gerber bottles • Medela bottles • BornFree bottles • Green to Grow bottles <p>(Plastic liners have not been shown to leach harmful chemicals.)</p> <p>Read more about baby bottles in our Growing Up Green newsletter!</p>	<p>Clear plastic bottles, <i>unless they are labeled BPA-free.</i></p>
Sippy cups	<p>Sippy cups made of stainless steel or opaque/cloudy plastic, such as:</p> <ul style="list-style-type: none"> • Avent Magic Cup • First Years Take & Toss • BornFree Trainer and Drinking Cups • Playtex Sippy 	<p>Sippy cups made of transparent, rigid plastic, (available in various colors). These are typically made of polycarbonate, a type of plastic that leaches bisphenol-A (BPA).</p>
PRODUCT TYPE:	✓ CHOOSE	✗ AVOID
Nipples	<p>Silicone (clear) nipples.</p>	<p>Rubber/latex (yellow) nipples, which may leach nitrosamines, chemicals linked with cancer.</p>
Pacifiers	<p>Pacifiers with silicone (clear) nipples. Examples include:</p> <ul style="list-style-type: none"> • Playtex Ortho-Pro Pacifier • Avent Translucent Clear Silicone Pacifier • Medici Baby Orthodontic Cherry Pacifier • Mam/Sassy Orthodontic Pacifier 	<p>Any pacifier with a yellow nipple, which is made of rubber/latex.</p>

Quick Tips Buying Guidelines

Choose

- ✓ Products made from natural materials
- ✓ Products labeled “phthalate free” and “BPA free”
- ✓ Made in the USA, Japan, Canada or Europe
- ✓ Solid wood instead of pressed wood with nontoxic paints and finishes
- ✓ Wood certified by FSC or SFI
- ✓ Organic and untreated cotton, hemp, wool
- ✓ Brands that have committed to using environmentally friendly or sustainable materials
- ✓ Call toll free number on product to contact manufacturer and ask about presence of PVC and/or BPA

Avoid

- ✗ Cheap metal jewelry due to lead content
- ✗ Old painted toys as the paint may contain lead
- ✗ Permanent markers and paints
- ✗ Pressed or layered wood due to toxic glue
- ✗ Lights and sounds due to small batteries with mercury
- ✗ Play cosmetics as they often contain heavy metals
- ✗ Plastic labeled vinyl, #3, or PVC as it typically contains lead and phthalates
- ✗ Plastic with #7, OTHER, or PC identification for storing foods and drinks
- ✗ Moth, stain, and fire proof fabrics

Questions?

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