Minnesota Pollution Control Agency

Information from Minnesota Pollution Control Agency's phthalates in children’s products project.

December 8, 2021

Submitted via Regulations.gov

U.S. Environmental Protection Agency
Chemical Control Division
Office of Pollution Prevention and Toxics
1200 Pennsylvania Ave. NW
MC 7406M
Washington, DC 20460
Attn: Sarah Cox

Re: Consumer product testing information submittal on Di-ethylhexyl Phthalate (1,2-Benzenedicarboxylic acid, 1,2-bis(2-ethylhexyl) ester), CASRN 117-81-7; TSCA Review, Docket number: EPA-HQ-OPPT-2018-0433

Dear Ms. Cox,

The Minnesota Chemicals in Products Interagency Team (Pollution Control Agency, Department of Health, Department of Commerce) undertook a project in 2019 to test plastic (especially vinyl) children's products for orthophthalate compounds – three of which are on the Minnesota Toxic Free Kids Act Priority Chemicals list and are restricted in children's products by the Consumer Products Safety Commission (CPSC) – including DEHP. We appreciate the opportunity to submit this summary of our DEHP results for your consideration during the risk evaluation process.

Products purchased included Halloween costumes, masks and novelties, balls and kids baseball mitts, themed toy sets, animal figures, dolls, noisemaking toys, bath toys, squishy toys, bath and play mats, shower curtains, mattress pads and covers, colognes, boots and shoes, food containers (cups, bowls, storage), bibs, flooring, bottle nipples, pacifiers, teethers, nasal aspirators, stickers, water play inflatables. We made purchases at 21 stores or online outlets.

In early 2020, we purchased a Fourier-Transform Infrared spectrometer (FTIR) with which to screen the products we purchased. Based on our screening results, we sent 11 samples to Legend Technical Services in St. Paul for CPSC phthalate analysis.

Briefly:

- Of 121 products screened and 11 sent to the lab, only one product was shown to contain illegal levels of a restricted phthalate (DEHP).
- The one noncompliant product was a set of miniature yellow duck bath toys. Our sample duck contained 370,000 PPM (37%) DEHP, 370 times the CPSC limit.
- The 10 other products the lab tested for phthalates showed detectable levels of DEHP, from 97 to 400 PPM, usually along with another plasticizer. While not CPSC violations, this indicates DEHP is used in a variety of products, with unknown additive effect – particularly on children.
- One product showed 570 PPM of DiNP – not a violation, but this product also contained 3500 PPM of DOTP plus 91,000 PPM of an isomer of DiDP (DPHP).
- All but two of the 11 products tested by the lab for phthalates showed detectable levels of DOTP from 2100 to 100,000 PPM. FTIR scanning prior to lab analysis identified DOTP in those 9 products plus another 31 among the 121 products purchased (33%) – showing how prevalent DOTP (GreenScreen Benchmark 3) is becoming as an orthophthalate substitute.

The set of ducks was purchased on Amazon in early 2020 and until recently was still listed there, and on Walmart.com. MPCA has passed its results on to CPSC, and our understanding is they have found the product online and are conducting their own investigation.

We are also talking with other states including Washington and Vermont which have children's product reporting laws which may have been violated by the manufacturer or seller. Finally, we plan to compare our results to the results of the state Department of Health children's biomonitoring project which is under way.

On the following page are the lab results for DEHP and DOTP. Please let me know if you and your team would like more details. Thank you for your time and attention.

Sincerely,

Signed electronically
Alister Innes
Safer Product Chemistry Program
Minnesota Pollution Control Agency
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See the next page for further information.

Pertinent Lab Results

		DEHP	DOTP	Primary polymer (by FTIR)	Secondary polymer (by FTIR)
CAS #		117-81-7	6422-86-2	? = low certainty	? = low certainty
	Purchased	(ppm)	(ppm)		
Yellow mini ducks bath toys	12-Feb-20	**370000**	ND	Vinylidene chloride (5%)/vinyl chloride copolymer	Polyvinyl chloride?
Reporting limit		*11000*	*470*		
White changing pad liner	07-Apr-20	**97**	2100	Polyester, tere- and isophthalic	Polyvinyl chloride?
Reporting limit		*57*	*475*		
Pink yellow blue white egg finger puppets	07-Apr-20	**140**	ND	Poly(ethylacrylate:ST: acrylamide)?	Polyvinyl chloride
Reporting limit		*57*	*475*		
Blue yellow animal toy	06-Apr-20	**160**	56000	Polyester, terephthalic	Polyvinyl chloride
Reporting limit		*60*	*500*		
Squishy animals toys	06-Apr-20	**180**	51000	Polyester, tere- and isophthalic	Vinylidene chloride
Reporting limit		*56*	*465*		
Squishy super heroes toys	06-Apr-20	**160**	88000	Polyester, tere- and isophthalic	Poly(1,4-butylene terephthalate)
Reporting limit		*60*	*500*		
Squishy sea animal finger puppets	06-Apr-20	**400**	88000	Polyester, tere- and isophthalic	Polyvinyl chloride
Reporting limit		*60*	*500*		
Pink and green baseball glove and ball	16-Apr-20	**150**	3500	Acrylic polymer #1	Vinyl chloride?
Reporting limit		*55*	*460*		
Translucent purple and pink boots	16-Apr-20	**150**	95000	Polyester, tere- and isophthalic	Poly(1,4-butylene terephthalate)
Reporting limit		*60*	*500*		
Orange and white fish with green balls toys	28-Oct-20	**190**	45000	Polyester	Polyvinyl chloride
Reporting limit		*64*	*550*		
Clear nasal aspirator	04-Nov-20	**140**	100000	Polyester	Polyethylene terephthalate
Reporting limit		*60*	*500*		