

Phthalates:

the sword of Damocles
hanging over everyone's head

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From Xiu-Jie Wang's lab
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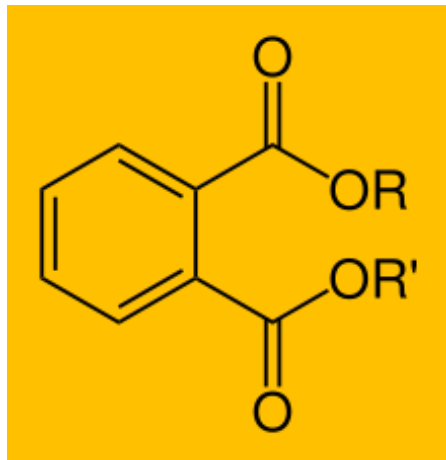
Center for Molecular Systems Biology, IGDB, CAS

What are phthalates?

With phthalates



Without phthalates



General formula



Where are phthalates? Everywhere



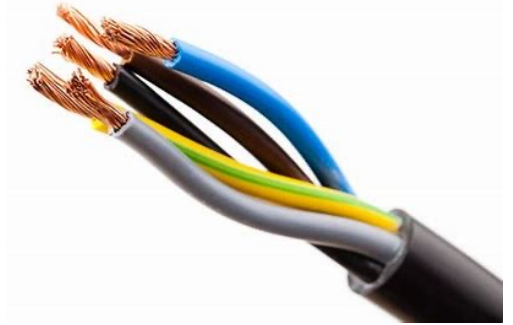
Food packages



Medical devices



Artificial leather



Electrical cables



Toys



Paints



Printing inks



Adhesives

Some episodes



内地含塑化剂药品销量等细节仍未公开

近日，葛兰素史克公司生产的药品力百汀因被检测出含塑化剂遭叫停销售和使用，到目前为止，国家药监局与葛兰素史克公司仍未对葛兰素史克公司是否人为添加塑化剂、“力百汀”塑化剂的含量是多少等细节进行解答。[\[详细\]](#)

媒体称香港未发4款方便面含塑化剂信息

港媒称辛拉面等四款方便面被查出含有塑化剂，内地超市紧急下架。昨日，记者从香港食物安全中心网站获悉，香港并未发布过4款方便面含塑化剂的信息。[\[详细\]](#)

▶ 事态进展 [更多](#)

- 台湾军队70万份军粮遭塑化剂污染(图)
- 大陆暂停进口台受塑化剂污染产品降至854种

▶ 台湾塑化剂风波 [更多](#)



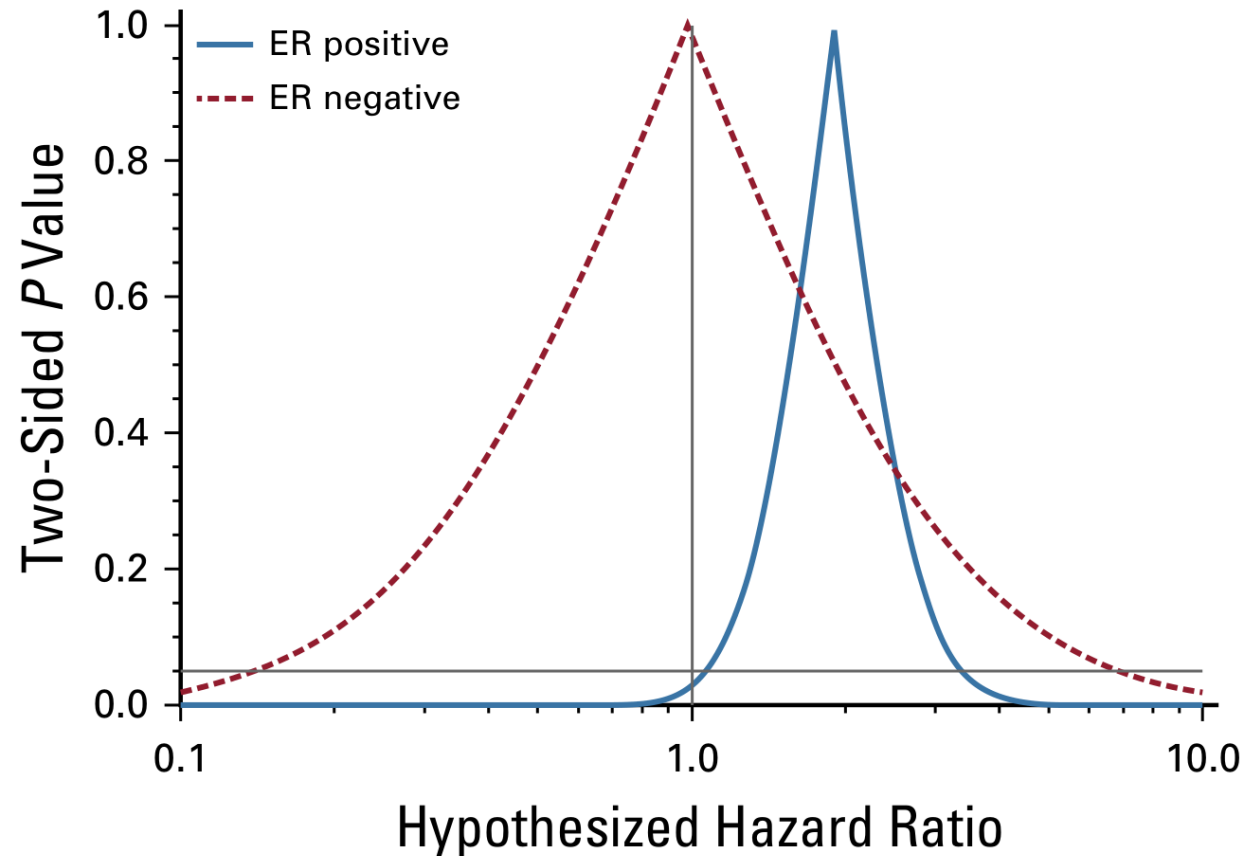
塑化剂风波：台湾昱伸公司被查出将塑化剂的1种DEHP当作起云剂的配方长达30年。至6月13日，受塑化剂污染的问题企业增加到294家，相关产品增加到973种。

涉及公司：昱伸公司是台湾最大起云剂供应商，供应全台至少45家饮料、乳制品制造商，还有健康食品的生物科



Are phthalates carcinogenic?

Maybe



Danish million-level cohort study for phthalate exposure and breast cancer incidence

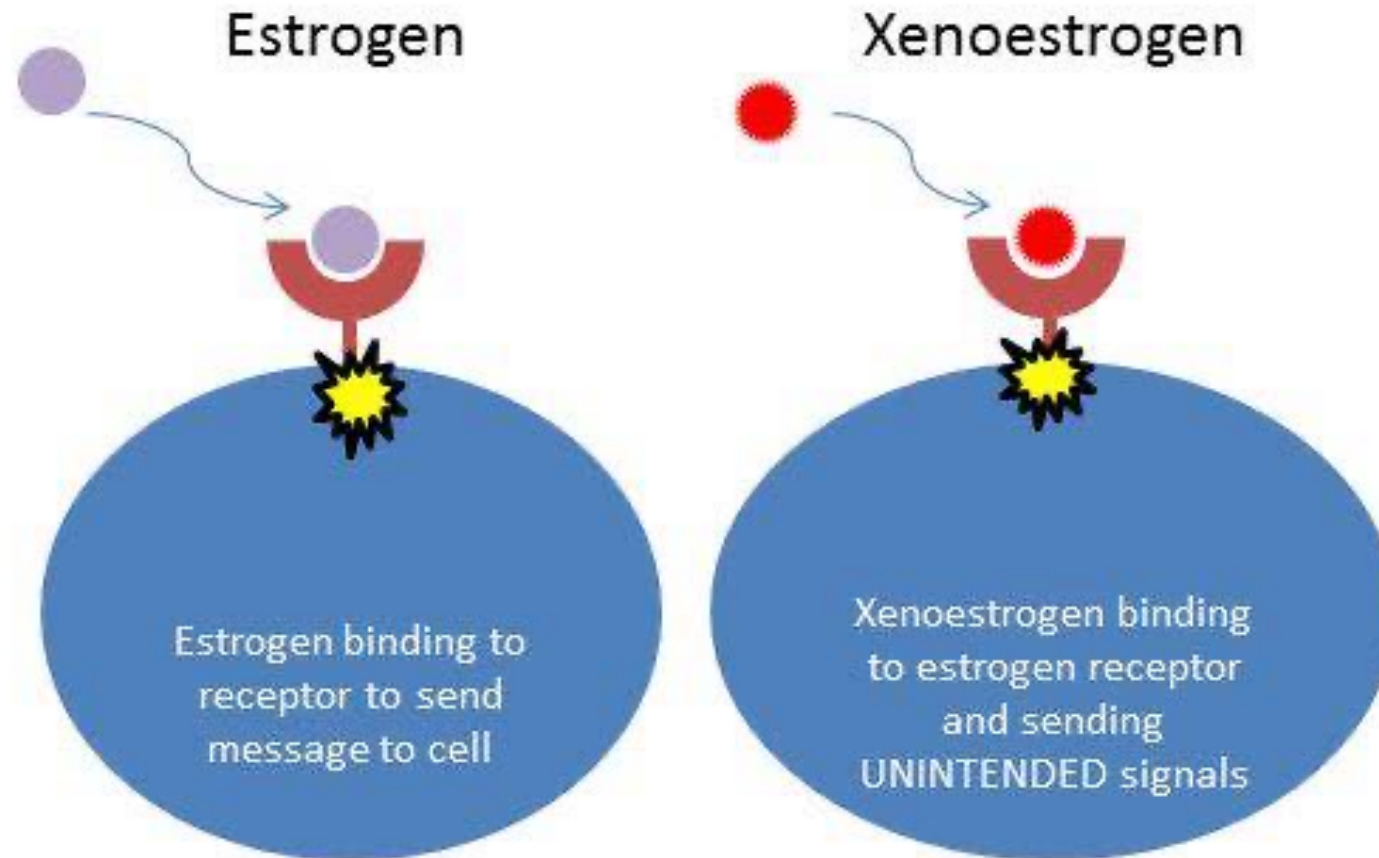
High-level dibutyl phthalate exposure
($\geq 10,000$ cumulative mg in medicine)

Thomas P. Ahern et al., Journal of Clinical Oncology (2019)

Do phthalates cause other diseases?

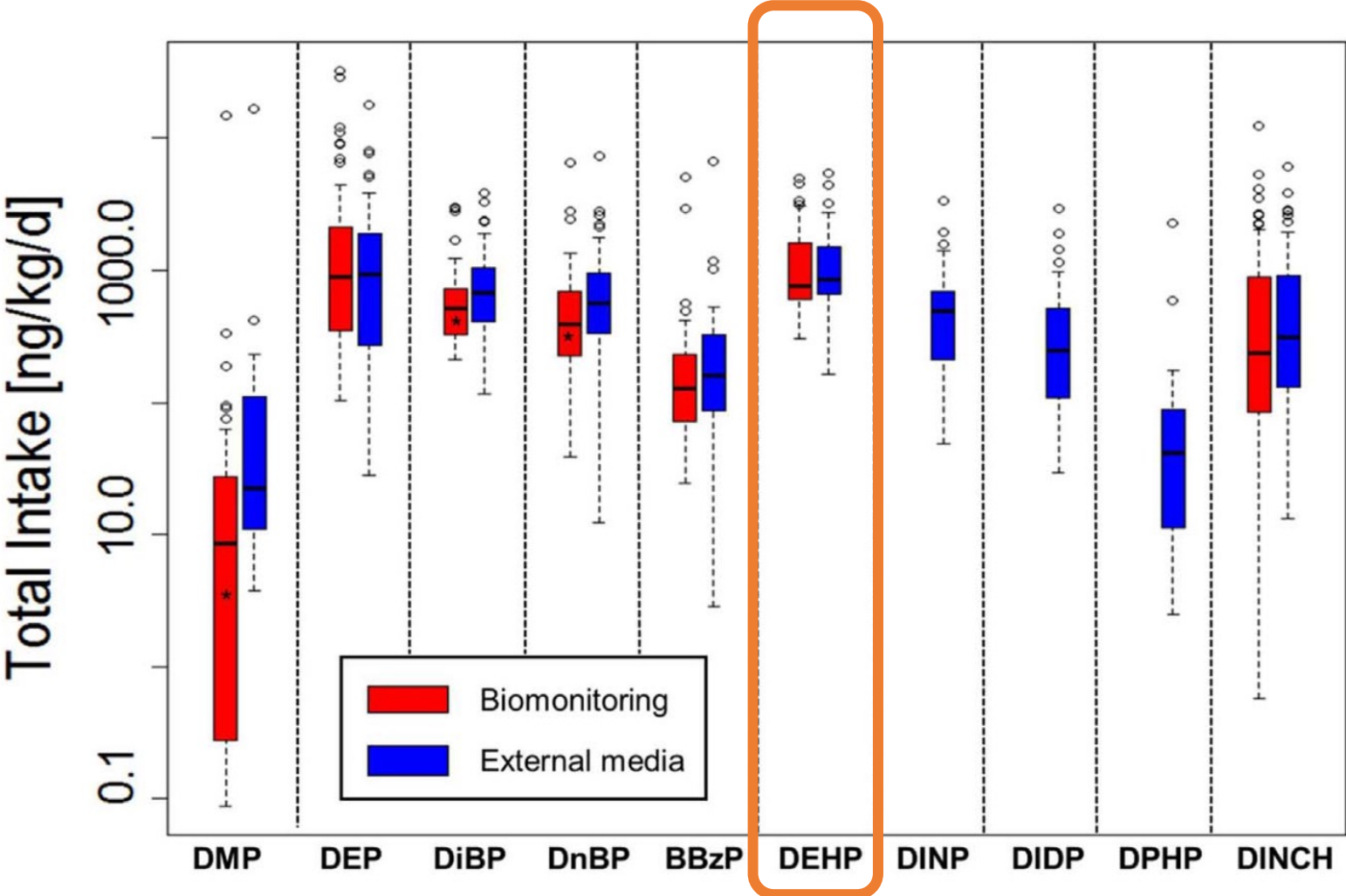


Known mechanisms



Calm down

W. H. O. DEHP tolerance:
25 $\mu\text{g}/\text{kg}$ body weight/day



Trends are what we really need to worry about



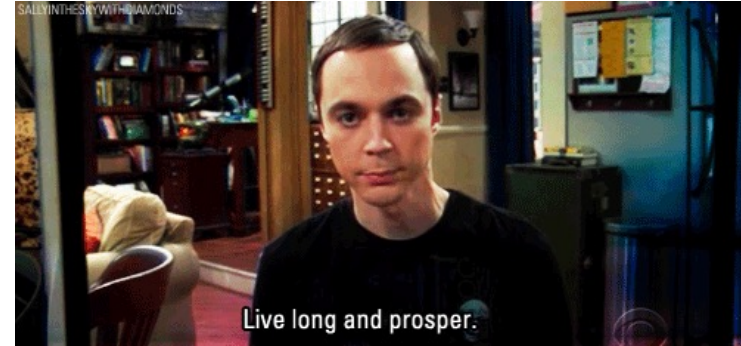
Time to move forward

1. Phthalates substitutes

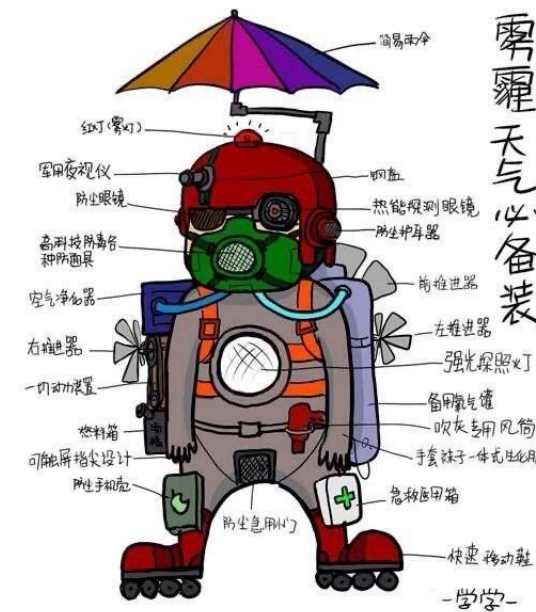
- Benzoates
- Citrates
- DINA
- EPZ (Edible Plasticizer)
- TXIB Plasticizer (hard oil)
- 168 Plasticizer
- DEHP is still used in medical devices although alternatives are being explored

2. PVC substitutes

3. Government regulation



Some advice



Thank you for your attention!