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TSCA Section 5(b)(4) Listing: DINP and DIDP

Meeting with OMB
June 18, 2010

Agenda



- Chemical Management Principles
- Plasticizer Overview
- Phthalate Differentiation
- TSCA 5(b)(4) Listing
- Summary

Chemical Management Principles

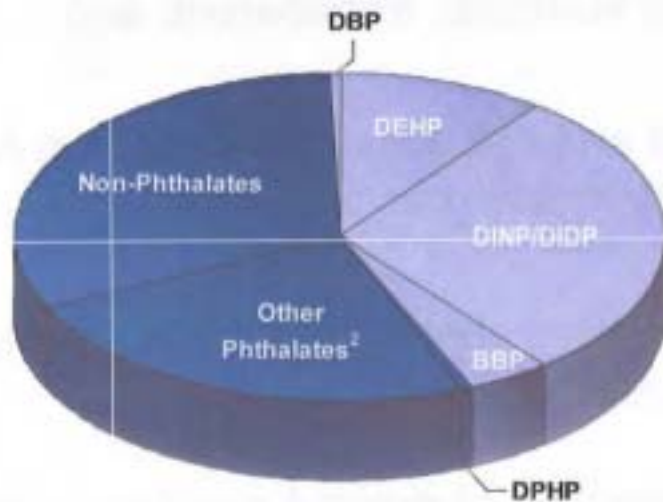


- Protecting human health and the environment are key objectives of chemical regulatory policy
- ExxonMobil supports EPA's stated objective of using science based policy
 - To demonstrate chemicals are safe for intended uses
 - Establish criteria for prioritization that are scientific, transparent, and applied uniformly to all products
 - Requires that each product be evaluated and risk assessed based on its own unique toxicology and exposure data; treating as a class ignores these differences
 - Requires that potential substitutes of restricted chemicals be adequately tested before determined to be safe for use
- ExxonMobil has a long commitment to testing chemical products and progressing advances in risk assessment

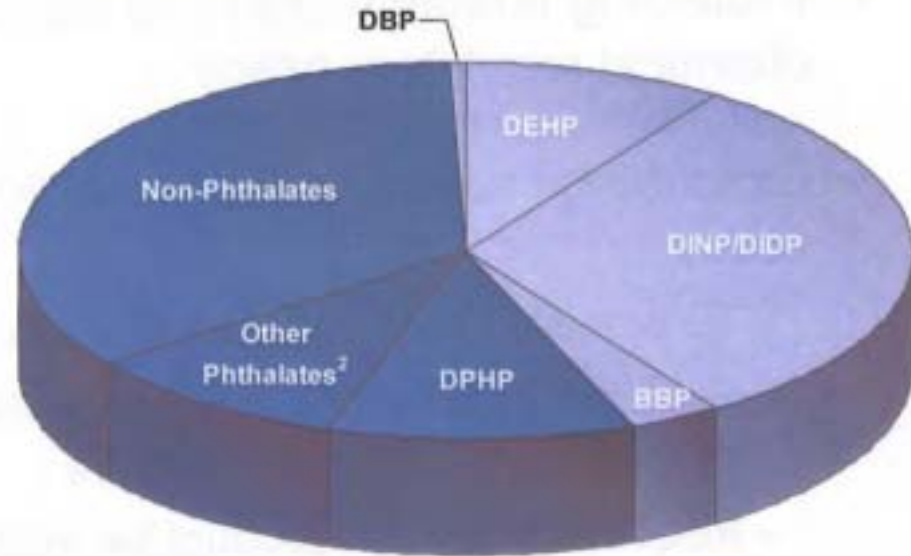
U.S. Commercial Plasticizers



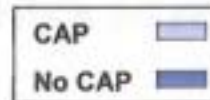
- 80 Plasticizers available today
- Less than half of plasticizer market included in CAP
- ~35% of phthalate production is excluded from CAP



2005 US Plasticizer Demands



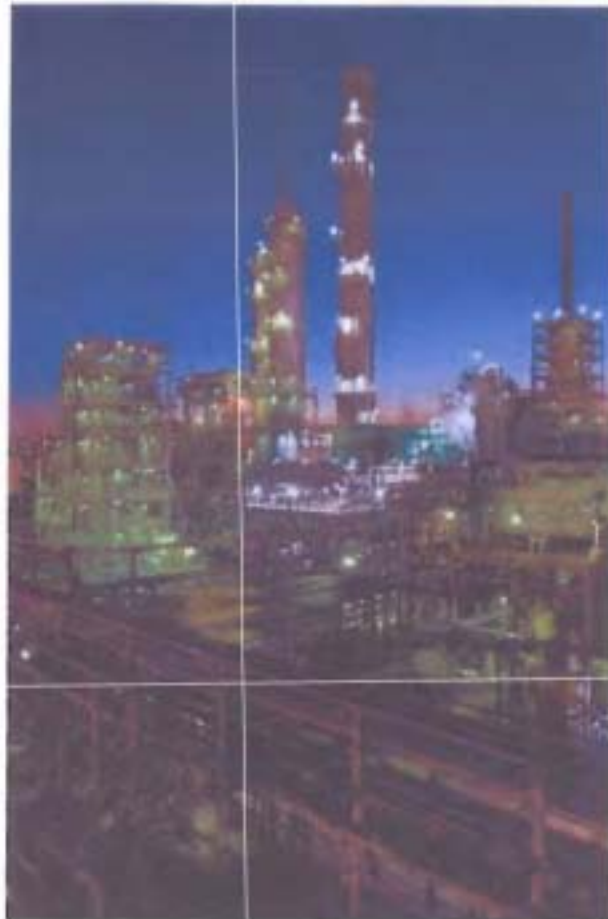
2013 US Plasticizer Demands



¹ US Plasticizer Demands estimates from SRI 2007 and 2009 Plasticizer CEH Report

² DIBP is included as a small percentage of Other Phthalates

New Product Development Potential



Commercial

New Product Idea
Development

- 30,000 proposed plasticizers
- ~300 marketed in past 60 years
 - >80% non-phthalate plasticizers
 - Majority no longer available.
- Today 80 PVC plasticizers available in US
 - ~20 are phthalates
 - Only subset achieve General Purpose status
 - Non-phthalate plasticizers are specialty products performance additives at premium prices

Raw Material
Availability

Safety,
Environment
and Quality
Testing

Pilot Plant
Testing

Global Scale
& Integration

Premium
Product

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Impact of Listing on Value Chain



Consumer Impact: Higher Costs Lower Performance Less Certainty of Safety Less Availability/Selection

Independent Assessments of DINP/DIDP



2003		US Consumer Product Safety Commission	"no demonstrated health risk" from use of DINP in toys
2003		National Toxicology Program	"minimal" and "negligible" concern for reproductive / developmental toxicity of DINP & DIDP
2004	OECD 	OECD	HMW phthalates (DINP/DIDP) are "low priority for further work" ¹
2005		US Centers for Disease Control	CDC (2005) report indicates that exposure is well within safe limits
2006		European Union	EU Risk Assessments find HMW phthalates (DINP & DIDP) safe for use in current applications ²³
2007		US Consumer Product Safety Commission	"CPSC staff has kept abreast of the new research and has not seen anything that would cause a change in staff's position" (Letter from CPSC staff to CA Senator Runner)
2009		European Union	DIDP registered under REACH
2010		European Union	DINP registered under REACH

¹OECD comments for high molecular weight phthalates including DINP and DIDP

²In case DIDP were to be used in toys to substitute for other phthalates, risk reduction would be required for infants under 3 years of age

³ExxonMobil recommends the use of DINP for vinyl toys

Not All Phthalates Are the Same



DINP/DIDP serve as the safe alternative to the REACH candidate listed LMW phthalates

Low molecular weight

DEHP, BBP, DBP

NTP – male reproductive tract effects

EU Cat 2 Reproductive Agents

Risk reduction required

REACH Candidate List

High molecular weight

DINP & DIDP

✓ NTP – no reproductive tract effects

✓ Not CMR

✓ Not classified and labeled

✓ No risk reduction required

✓ REACH registered, not SVHC

✓ Not endocrine disruptors

Phthalate Differentiation

PHTHALATE		Alcohol Backbone	EU Classification	EU Risk Assessed	Proposed 5(b)(4)
Low Molecular Weight	DMP	1	Not Classified		
	DEP	2	Not Classified		
	DIBP (SCL = 25%)	3	Cat 2/3 Repro Agent		✓
	DBP	4	Cat 2/3 Repro Agent	✓	✓
	DPP	3 - 5	Cat 2/2 Repro Agent		✓
	BBP	4	Cat 2/3 Repro Agent	✓	✓
	DIHP	5 - 6	Cat 2 Repro Agent		
	711P (Highly branched)	5 - 9	Cat 2/3 Repro Agent		
	DEHP	6	Cat 2/2 Repro Agent	✓	✓
High Molecular Weight	DPHP	7	Not Classified		
	DINP	7 - 8	Not Classified	✓	✓
	DIDP	8 - 9	Not Classified	✓	✓
	DIUP	10 - 11	Not Classified		
	DTDP	11 - 13	Not Classified		
	79P (Slightly branched)	7 - 9	Not Classified		
	911P (Slightly branched)	9 - 11	Not Classified		

Note: Not Classified = Evaluated, and does not meet criteria for Category 1, 2 or 3 Classification. Refer to back up for further explanation of table

TSCA 5(b)(4) Standard



- EPA finding that manufacture, processing, etc. of substance presents or may present an unreasonable risk of injury to health or the environment
- EPA is to consider “all relevant factors”
 - Effects of substance on human health or the environment (toxicity)
 - Magnitude of human or environmental exposure to substance
- TSCA section 2
 - EPA is to carry out TSCA in a reasonable and prudent manner
 - EPA shall consider the environmental, economic, and social impact of any action it takes or proposes to take under TSCA

DINP/DIDP Toxicity and Exposure



- DINP and DIDP both have very robust data bases regarding animal toxicity, environmental toxicity and fate, and exposure
- Based on CPSC and EU assessments and CDC biomonitoring:

	<u>Safety Level</u>	<u>Exposure</u>
DINP	120	<4
DIDP	330	<<4

(values in micrograms per kilogram per day)

- The CDC biomonitoring represents the aggregate of exposure from all sources
- DINP and DIDP are not PBT
 - Very low water solubility and vapor pressure



Back-up

US EPA Chemical Action Plan



- US EPA published (12-30-09) a Chemical Action Plan (CAP) on 8 phthalates- DINP, DIDP, DnOP, DnPP, DEHP, DBP, BBP, DIBP
- Phthalate CAP states intention to initiate rulemaking by Fall 2010 to:
 - Add 8 products to the Concern List under TSCA Section 5(b)(4)
 - Add 6 products not already listed on Toxic Release Inventory to the TRI
- CAP will consider initiating rulemaking by 2012 to:
 - Limit or ban products under TSCA Section 6 and will take CPSC and FDA input into this action
 - Conduct Green Chemistry assessment to encourage industry to move away from phthalates

Significant Scientific Study



- Independent, but wholly owned research center
- 100+ Full-time scientists including chemists and toxicologists
- Transparency and sharing of technical knowledge and expertise; peer review of science
- Health and toxicology studies using well established risk characterization methods
- >\$30M testing DINP and DIDP

ExxonMobil Biomedical Sciences, Inc.

Chemical safety evaluation



Classification & Labeling



Reflects the differences between those products with reproductive effects and those without

- **Category 1 (CLP/GHS Category 1A)**
 - Substances known to cause effects in humans. Based on human epidemiological data.
- **Category 2 (CLP/GHS Category 1B)**
 - Substances to be regarded as if they cause effects in humans. Based on clear evidence in animal studies.
- **Category 3 (CLP/GHS Category 2)**
 - Substances causing concern for humans. Based on less convincing evidence in animal studies.
- **Not Classified**
 - Evaluated and does not meet criteria for Category 1, 2 or 3 Classification
- **Not Evaluated**
 - Has not been evaluated against criteria

Note: CLP = Classification and Labeling Program; GHS = Global Harmonized System



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