Taking Action on Paint Strippers: Retailers and Suppliers Report from the Field

GC3 Innovators Roundtable
Wednesday May 8, 2019
Goal of this session

Explore the challenges faced by retailers and suppliers in identifying, marketing and adopting safer products and **identify ways to overcome these challenges**, through a focus on paint strippers.
Panelists

- Paul Ellis, Head, Sustainable Chemicals Management, Kingfisher
- Chris Cassell, Director, Corporate Sustainability, Lowe’s
- Tess Fennelly, CEO, remooble
- Greg Morose, Research Manager, Massachusetts Toxics Use Reduction Institute
Setting the Context – NGO pressure

How are big retailers implementing bans on toxic paint strippers?
Posted Mar 20, 2019 by Mike Schade and Jen Dickman in Mind the Store

A new resource: safer paint strippers for consumers and workers
Posted Apr 1, 2019 by Jen Dickman in Find Safer Products, Mind the Store

EPA paint stripper rule will leave workers’ lives at risk
Posted Mar 18, 2019 by Liz Hitchcock in Policy & Regulation

Let’s say it again: Dangerous paint strippers don’t belong on store shelves
Posted Mar 27, 2019 by Liz Hitchcock in Mind the Store, Policy & Regulation
News Releases

News Releases from Headquarters  >  Chemical Safety and Pollution Prevention (OCSPP)

EPA Bans Consumer Sales of Methylene Chloride Paint Removers, Protecting Public

03/15/2019
Setting the Context - Regulation

Effective January 1, 2019: Paint or Varnish Strippers Containing Methylene Chloride

DTSC has adopted regulations to list paint or varnish strippers containing methylene chloride as a Priority Product. Effective January 1, 2019, manufacturers of this product (see final regulations text for full description of the Priority Product) must notify the Department by March 4, 2019. To submit a Priority Product Notification, register on the Safer Consumer Products Information Management System, CalSAFER, and submit a notification.
Common Challenges

• Incumbency
• Need for education
• Regulations - insufficient or lacking
• Greenwashing and casting of doubt on new solutions
• Switching risk – concern that alternatives may pose other hazards
• Insufficient time to identify and implement alternatives
Question for audience

How you have overcome some of these common challenges/barriers as you have worked to bring a safer product to the market?
Kingfisher plc

Report from the Field - learning from Europe and beyond
Who are we?

We’re an international home improvement company

Offering home improvement products and services to nearly six million customers who shop in our stores and through our digital channels every week

Our main retail brands are B&Q, Castorama, Brico Dépôt and Screwfix

The Lowes and Home Depot of Europe....
Together we will make home improvement accessible for everyone.
About us

£11.7bn sales

£753m retail profit

6m customers per week

77,300 colleagues†*

1,300+ stores

10 countries

† Total, not full-time equivalent.
* Turkey joint venture not consolidated.
** as at 31 January 2019, unless otherwise stated
Where we are

1. B&Q UK & Ireland 296, Screwfix 627
2. Castorama 101, Brico Dépôt 123
3. Turkey joint venture not consolidated
Our journey to safer chemicals and products...in context of MC /NMP
Drivers

Regulation
- REACH restricts (MC) or restricting (NMP)
- Learnings told us we need to do more then just “substitute”

Our customer’s
- Our customers across all corners of Europe told us they want to live in a “toxin free life style”
- Asked when defining GoodHome strategy development

Policy and sustainable chemicals plan
- Combined drivers, led to Policy and a plan to phase out the most harmful
..our roadmap to enabling a GoodHome...

By 2020, achieve transparency of harmful chemicals in key supply chains.

By 2025, improve our products by phasing out a selection of hazardous and high risk chemicals of concern and introducing five green substances/materials across our ranges.
Learnings…

Negative Customer reactions
- Honesty is, we left the substitution to our suppliers
- Resulted in customer dissatisfaction and loss of business

Why?
- The product simply worked differently, took longer and not as effective
- Some customers returned the product, because they believed it was “faulty”
- We didn’t see the need (at that time) to consider the efficacy of new ingredients

This and others contributed to the term “unfortunate substitution”
Have we introduced safer alternatives and products?

Yes - we have taken action on

• **Neonic’s**, banning their use on live plants in the growing phase
• Plus introducing a safer organic range of garden chemicals

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**Plus..**

**A Progressive 5yr plan to phase out**

<table>
<thead>
<tr>
<th>SUBSTANCES</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per &amp; Poly fluorinated chemical (PFCs)</td>
<td>Textiles, waterproofing spray, paints, biocides and coatings.</td>
</tr>
<tr>
<td>Ortho - Phthalates</td>
<td>PVC, textiles, sealants</td>
</tr>
<tr>
<td>Alkylphenol (AP) and Alklyphenol Ethoxylates (APEOs)</td>
<td>Textile supply chain; detergents and cleaning products</td>
</tr>
<tr>
<td>Solvents – developing a scaleing of Good &amp; Bad solvents move towards safer and new innovation</td>
<td>Forumulated Product</td>
</tr>
<tr>
<td>Halogenated and organophosphate flame retardants</td>
<td>Polymers</td>
</tr>
<tr>
<td>TDI (Toluene-diisocyanate)</td>
<td>Chemicals formulations</td>
</tr>
<tr>
<td>MDI (methylene diisocyanate)</td>
<td>Composite woods, chemicals formulations</td>
</tr>
</tbody>
</table>
Our 5 biggest challenges

1. Reluctance from incumbent suppliers to change formulations

2. Lack of transparency from suppliers, refusal to provide 100% ingredient disclosure.

3. Lack of “innovation seeking” from 1st tier finished goods suppliers

4. Perceived cost increases
   *many cases no cost impact and in some, action taken already*

5. Legal constraints in some European countries, meaning we are locked into suppliers for a period of time.
   *Limiting movement to more responsive suppliers with new innovations to offer*
Our advice to others...

1. Internally, sell in the reasons for change in the context of the consumer and the potential risks

2. Create a process that avoids unfortunate substitutions. Manage expectations on the extra time needed and the additional process steps

3. Ensure the Efficacy is managed, and risks and hazards are measured

4. Ensure consumer expectations are met, by understanding the performance expectations

5. Explore new innovative chemicals to enhance and grow brand
ABOUT LOWE'S

- Founded in 1946 in North Carolina
- One of the world’s largest home improvement retailers – over $71B in sales
- Approximately 300,000 employees
- More than 2,200 home improvement & hardware stores in US and Canada
- A typical store stocks ~39,000 items and we carry hundreds of thousands of items via special order and online
Together, deliver the right home improvement products, with the best service and value, across every channel and community we serve.
CORPORATE RESPONSIBILITY STRATEGY

Product Sustainability

Our People & Our Communities

Operational Excellence
Promote sustainable practices throughout our value chain

Provide customers with the highest quality, safest products

Help customers reduce their impact on the environment
PUBLIC COMMITMENTS

Product Sustainability

- Eliminate neonicotinoids from all on-shelf products and live goods
- Eliminate methylene chloride and NMP from all paint remover products
- Eliminate corded blinds from in-stock selection
- 100% FSC Certification for all wood products sourced from identified regions at risk
- 100% of our wood products will be responsibly sourced
- 100% of strategic suppliers will have sustainability goals
- Save customers more than $40B in energy costs through the sale of ENERGY STAR products
- Increase the number of eco-products available to customers

2018

2020

2025
Green Chemistry and Regrettable Substitutions

May 8, 2019

Greg Morose, Sc.D.
Research Manager, Toxics Use Reduction Institute (TURI)
Research Professor, University of Massachusetts Lowell
Chemical Substitution Approaches

1) Green Chemistry (Principle #4)

   Design chemical products that are fully effective while reducing toxicity.

2) Regrettable Substitution

   Replacing a highly toxic chemical with another highly toxic chemical.
## NMP Substitution

### NMP

<table>
<thead>
<tr>
<th>State</th>
<th>Cal Prop 65 (Developmental) MA TURA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fed.</td>
<td>EPA Hazardous Air Pollutant EPA TRI</td>
</tr>
<tr>
<td>Global</td>
<td>EU Annex VI CMR</td>
</tr>
</tbody>
</table>

### Toluene

<table>
<thead>
<tr>
<th>State</th>
<th>Cal Prop 65 (Developmental) MA TURA</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>

**Green Chemistry or Regrettable Substitution?**
Methylene Chloride Substitution

<table>
<thead>
<tr>
<th></th>
<th>Methylene Chloride</th>
<th>Naphthalene</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>State</strong></td>
<td>Cal Prop 65 (Carcinogen)</td>
<td>Cal Prop 65 (Carcinogen)</td>
</tr>
<tr>
<td></td>
<td>MA TURA</td>
<td>MA TURA</td>
</tr>
<tr>
<td><strong>Fed.</strong></td>
<td>EPA Hazardous Air Pollutant</td>
<td>EPA Hazardous Air Pollutant</td>
</tr>
<tr>
<td></td>
<td>EPA TRI</td>
<td>EPA TRI</td>
</tr>
<tr>
<td><strong>Global</strong></td>
<td>EU Annex VI CMR IARC Carcinogen</td>
<td>EU Annex VI CMR IARC Carcinogen</td>
</tr>
</tbody>
</table>

Green Chemistry or Regrettable Substitution?
Media Coverage

November 2018

“Consumers should read the warnings on products carefully, and avoid exposing themselves to methylene chloride as well as NMP and a handful of other toxic chemicals, including toluene, xylene and naphthalene”

December 2018

“There’s a long history of regrettable substitution in the United States — one dangerous chemical swapped for another. Some products, meanwhile, took out methylene chloride ... only to put in toluene and methanol, both linked to birth defects.”

“California will require that firms selling paint strippers with methylene chloride in the state to investigate alternatives. If the new options are problematic, California’s Department of Toxic Substances Control can require the companies to keep looking.”
“consumers and retailers face a conundrum. Some of the chemicals manufacturers have substituted for methylene chloride are safer while others are highly toxic.”

“California’s Department of Toxic Substances Control (DTSC) is working to understand which of many potential methylene chloride substitutes may be safer and also effective”

“We have seen a number of paint removers on the market with other chemicals of concern, such as toluene”
**Green Screen Chemical Hazard Assessment**

<table>
<thead>
<tr>
<th>Ecotoxicity and fate in the environment</th>
<th>Toxicity to humans (Group I)</th>
<th>Toxicity to humans (Group II)</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Acute aquatic ecotoxicity</td>
<td>• Carcinogenicity</td>
<td>• Acute toxicity</td>
<td>• Reactivity</td>
</tr>
<tr>
<td>• Chronic aquatic ecotoxicity</td>
<td>• Mutagenicity and genotoxicity</td>
<td>• Systemic toxicity and effects on organs</td>
<td>• Flammability</td>
</tr>
<tr>
<td>• Other ecotoxicity studies (if available)</td>
<td>• Toxicity for reproduction</td>
<td>• Neurotoxicity</td>
<td></td>
</tr>
<tr>
<td>• Persistence</td>
<td>• Toxicity for development</td>
<td>• Skin sensitisation</td>
<td></td>
</tr>
<tr>
<td>• Bioaccumulation</td>
<td>• Endocrine activity</td>
<td>• Respiratory sensitisation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Dermal irritation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Eye irritation</td>
<td></td>
</tr>
</tbody>
</table>

Ratings: very low, low, medium, high, very high, data gap

Developed by Clean Production Action

https://www.greenscreenchemicals.org/
Green Screen Benchmark Levels

Benchmark 4
Prefer – Safer Chemical

Benchmark 3
Use but Still Opportunity for Improvement

Benchmark 2
Use but Search for Safer Substitutes

Benchmark 1
Avoid – Chemical of High Concern

Use
Avoid
<table>
<thead>
<tr>
<th>Chemicals Used in Paint Strippers</th>
<th>Green Screen Benchmark</th>
<th>EPA HAP, EPA TRI &amp; MA TURA</th>
<th>California Prop 65 Listed</th>
<th>California Chemical Candid. List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DMSO</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetone</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzyl alcohol</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEGME</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dibasic esters (DMA, DMG, and DMS)</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D-Limonene</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,3 Dioxolane</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formic acid</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyl acetate</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethyl benzene</td>
<td>LT-1</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Methanol</td>
<td>1</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Methylene chloride</td>
<td>1</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>1</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>NMP</td>
<td>LT-1</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Toluene</td>
<td>1</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Xylene</td>
<td>1</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Paint Stripping Performance Test Results

<table>
<thead>
<tr>
<th>Primary Chemical Ingredient</th>
<th>Green Screen Benchmark</th>
<th>Performance (Paint, Epoxy, &amp; Varnish)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone, DEGME</td>
<td>2</td>
<td>5 – 7 hours</td>
</tr>
<tr>
<td>Benzyl alcohol, water</td>
<td>2</td>
<td>2 – 6 hours</td>
</tr>
<tr>
<td>Benzyl alcohol, DEGME</td>
<td>2</td>
<td>3 – 5 hours</td>
</tr>
<tr>
<td>Dibasic esters, water</td>
<td>2</td>
<td>4 – 8 hours</td>
</tr>
<tr>
<td>Dibasic esters, triethyl phosphate</td>
<td>2</td>
<td>5 – 8 hours</td>
</tr>
<tr>
<td>Dibasic esters, benzyl alcohol</td>
<td>2</td>
<td>2 – 5 hours</td>
</tr>
<tr>
<td>Methyl acetate, DMSO, 1,3 dioxol.</td>
<td>2</td>
<td>&lt; 40 minutes</td>
</tr>
<tr>
<td>Methylene chloride</td>
<td>1</td>
<td>&lt; 40 minutes</td>
</tr>
<tr>
<td>NMP</td>
<td>LT-1</td>
<td>2 – 7 hours</td>
</tr>
<tr>
<td>Ethylbenzene, methanol, naphthalene, toluene, or xylene</td>
<td>1</td>
<td>&lt; 40 minutes - 5 hours</td>
</tr>
</tbody>
</table>
Retailer Progress

It is a challenge for retailers to review their entire paint stripper product portfolio and ensure that their products do not contain methylene chloride, NMP, or any other Benchmark 1 chemicals.

Retailers that are currently selling only safer paint stripping products with NO Benchmark 1 chemicals include:

- AutoZone (U.S.)
- Canadian Tire (Canada)
- Home Hardware (Canada)
- Kelly-Moore (U.S.)
- Sherwin-Williams (U.S.)

Safer Chemicals Healthy Families: 12 paint stripping products with NO Benchmark 1 chemicals: https://saferchemicals.org/get-the-facts/chemicals-of-concern/methylene-chloride/
Safe Products that Work

Panel Presentation: Taking Action on Paint Strippers: Retailers and Suppliers Report from the Field
May 8, 2019

Presented by Tess Fennelly
CEO remooble
tess@remooble.com
www.remooble.com
612-201-7980
remooble has chosen to unfollow the notion that only harsh chemicals perform.
remooble DNA

WHO  Trusted partners in environmental stewardship

WHAT  Products that remove inks, adhesives, paint and are safe for human health & the environment

HOW  Following the principles of green chemistry
Remooble offers more than just new performance products.

Remooble offers peace of mind to consumers that the products they bring into their homes and workplace are not harmful.
We did the impossible, because we wouldn’t take impossible as an answer.
Exhale the past, inhale the future

Completely clean SDS for every removable contractor and DIY product

- Contains no hazardous ingredients at levels requiring disclosure by the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Exhale the past, inhale the future

Completely clean SDS for every remooble office, school and artist product

- Contains no hazardous ingredients at levels requiring disclosure by the OSHA Hazard Communication Standard (29 CFR 1910.1200)
remooble paint stripper performance

REMOVING 3 LAYERS OIL PAINT

REMMOVING 3 LAYERS LATEX

Also removes varnish, epoxy, polyurethane, stain, acrylic and other coatings.
It’s not easy being green, but it is the only choice for us.

Commercialization Hurdles...

- Incumbents/Legacy Suppliers own the supply chain and provide a breadth of other products in the category

- Confusion: “green washing” confusing the buyers and customers on
  - What is truly sustainable and green
  - Hidden hazards

- Switching risks - worries of failures due to poor performance, brand tarnishing, other hidden costs

- Supply & Demand worries will new suppliers be able to meet Big Box Big Demands.

- Skepticism: Safe or green products don’t perform.
At remooble, we are proud to be building a company that truly reflects our vision and core values.

Vision: To be a global leader delivering product formulations that work without harming the environment or human health.

We live by our core values:

- Integrity
- Passion
- Environmental Stewardship