Webinar - POP, REACH 67, Prop 65, IATA, Canada

Lesser Known. High Impact Legislations.

Presented by:
Bruce Calder
VP Consulting Services
Overview - Agenda

• Introduction
• EU POP
  • SCCPs
  • Stockholm Convention
  • Recall
  • Risks
  • Canadian Prohibition
• REACH 67
  • Asbestos
  • Cd
• Prop 65
  • April prosecutions
• IATA Lithium Battery
  • Brief overview
  • Returns
• Q&A

Webinar is 50 minutes with 10 minutes of Q&A (hopefully)
A LOT OF CONTENT TODAY
Lesser Known Regulations

• Regulations
  - Not well known
  - But high risk of business affecting event

• Today’s webinar
  - Lots of material to cover
  - Focus on salient points
  - Depth may be limited in some cases due to time
EU Persistent Organic Pollutants
SCCPs

- Short Chain Chlorinated Paraffins (SCCPs)
- Regulation (EC) No 850/2004
  - Updated in November by Regulation 2015/2030
  - Limit of 0.15% w/w of SCCP in articles (physical products)
  - One of the top causes of EU product recalls
- Primarily for PVC or vinyl
UN - Persistent Organic Pollutants

- Persistent Organic Pollutants are banned under the UN Stockholm Convention (2001)
  - Starting 2004
- However,
  - Legislative restriction will come from countries (or similar entities such as the EU)
- For POPs in articles
  - Specific POPs are banned unless incidental or trace in the article
- Legislative restrictions
  - Will ban a POP substance in articles except if trace
  - Will later identify a ppm level that represents ‘trace’
SCCP Typical Recall - 2016 / 2017

- Roughly 2 to 3 recalls per week
- All above 0.15%
- Example below

<table>
<thead>
<tr>
<th>A12/1742/15</th>
<th>Category: Communication and media equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product: Game Controller</td>
<td></td>
</tr>
<tr>
<td>Brand: Retro SNES</td>
<td></td>
</tr>
<tr>
<td>Name: Retro SNES Classic Controller USB Controller for PC and MAC</td>
<td></td>
</tr>
<tr>
<td>Type/Number of Model: 4541 alt. CN-PC-III</td>
<td></td>
</tr>
<tr>
<td>Batch number/Barcode: 08714CN0055</td>
<td></td>
</tr>
<tr>
<td>OECD Portal Category: 66000000 - Communications</td>
<td></td>
</tr>
<tr>
<td>Description: Grey Game Controller in retro style with buttons in grey, blue, red, green and yellow.</td>
<td></td>
</tr>
<tr>
<td>Country of Origin: China</td>
<td></td>
</tr>
</tbody>
</table>

**Environment**

The plastic in the cable contains up to 1.9% by weight short chain chlorinated paraffins (SCCPs). The placing on the market and use of articles containing SCCPs is banned. SCCPs persist in the environment, are toxic to aquatic organisms at low concentrations and bioaccumulate in wildlife and humans, posing a risk to human health and the environment.

The product does not comply with the Regulation on persistent organic pollutants (POPs Regulation).

Furthermore, certain solders on PCB contain lead (measured value up to 45.0%).

The product does not comply with the requirements of the Directive on the restriction of the use of certain hazardous substances in electric and electronic equipment (RoHS 2).

**Voluntary measures:** Recall of the product from end users
## SCCP Typical Recall - 2016 / 2017

- **Extension cable**

<table>
<thead>
<tr>
<th>OECD Portal Category</th>
<th>78000000 - Electrical Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Black, flexible, extension lead in a transparent plastic package.</td>
</tr>
<tr>
<td><strong>Country of origin</strong></td>
<td>Unknown</td>
</tr>
<tr>
<td><strong>Notifying country</strong></td>
<td>Norway</td>
</tr>
<tr>
<td><strong>Risk type</strong></td>
<td>Environment</td>
</tr>
<tr>
<td><strong>Risk description</strong></td>
<td>The rubber coating on the portable plug socket cable contains 4.7% by weight short chain chlorinated paraffins (SCCPs). The placing on the market and use of articles containing SCCPs is banned. SCCPs persist in the environment, are toxic to aquatic organisms at low concentrations and bioaccumulate in wildlife and humans, posing a risk to human health and the environment. The product does not comply with the Regulation on persistent organic pollutants (POP Regulation).</td>
</tr>
<tr>
<td><strong>Measures adopted by notifying country</strong></td>
<td>Measures ordered by public authorities: Other, Withdrawal of the product from the market</td>
</tr>
<tr>
<td><strong>Products were found and measures were taken also in</strong></td>
<td>Finland</td>
</tr>
</tbody>
</table>

**Images**

![Image of extension cable]
SCCP Typical Recall - 2016 / 2017

- Cable accessory

<table>
<thead>
<tr>
<th>OECD Portal Category</th>
<th>78000000 - Electrical Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>A digital thermometer for measuring temperature inside and outside.</td>
</tr>
<tr>
<td>Country of origin</td>
<td>Hong Kong</td>
</tr>
<tr>
<td>Notifying country</td>
<td>Sweden</td>
</tr>
<tr>
<td>Risk type</td>
<td>Environment</td>
</tr>
<tr>
<td>Risk description</td>
<td>The black cable contains up to 1.1% by weight short chain chlorinated paraffins (SCCPs). The placing on the market and use of articles containing SCCPs is banned. SCCPs persist in the environment, are toxic to aquatic organisms at low concentrations and bioaccumulate in wildlife and humans, posing a risk to human health and the environment. The product does not comply with the Regulation on persistent organic pollutants (POP Regulation).</td>
</tr>
<tr>
<td>Measures adopted by notifying country</td>
<td>Measures taken by economic operators: Withdrawal of the product from the market, Withdrawal of the product from the market (By: Importer, Retailer)</td>
</tr>
</tbody>
</table>

Images of the thermometer and its packaging.
SCCP Typical Recall - 2016 / 2017

- USB Cable

<table>
<thead>
<tr>
<th>Description</th>
<th>Short black USB-cord</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country of origin</td>
<td>China</td>
</tr>
<tr>
<td>Notifying country</td>
<td>Sweden</td>
</tr>
<tr>
<td>Risk type</td>
<td>Environment</td>
</tr>
<tr>
<td>Risk description</td>
<td>The plastic in the cord contains up to 0.257% by weight short chain chlorinated paraffins (SCCPs). The placing on the market and use of articles containing SCCPs is banned. SCCPs persist in the environment, are toxic to aquatic organisms at low concentrations and biaccumulate in wildlife and humans, posing a risk to human health and the environment. The product does not comply with the Regulation on persistent organic pollutants (POPs Regulation).</td>
</tr>
<tr>
<td>Measures adopted by notifying country</td>
<td>Measures taken by economic operators: Withdrawal of the product from the market (By: Retailer)</td>
</tr>
<tr>
<td>Products were found and measures were taken also in</td>
<td>Finland</td>
</tr>
</tbody>
</table>

Images
SCCP Typical Recall - 2016 / 2017

- **Power cable**

<table>
<thead>
<tr>
<th>Batch number/Barcode</th>
<th>569644</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD Portal Category</td>
<td>72000000 - Home Appliances</td>
</tr>
<tr>
<td>Description</td>
<td>Kettle 1.7 liters in purple plastic</td>
</tr>
<tr>
<td>Country of origin</td>
<td>China</td>
</tr>
<tr>
<td>Counterfeit</td>
<td>Environment</td>
</tr>
<tr>
<td>Risk type</td>
<td>Environment</td>
</tr>
<tr>
<td>Risk description</td>
<td>The plastic in the cable contains 3.64% by weight short chain chlorinated paraffins (SCCPs). The placing on the market and use of articles containing SCCPs is banned. SCCPs persist in the environment, are toxic to aquatic organisms at low concentrations and bioaccumulate in wildlife and humans, posing a risk to human health and the environment. The product does not comply with the Regulation on persistent organic pollutants (POP Regulation).</td>
</tr>
<tr>
<td>Measures adopted by notifying country</td>
<td>Voluntary measures: Withdrawal of the product from the market</td>
</tr>
<tr>
<td>Products were found and measures were taken also in</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Images</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.jpg" alt="Image 1" /></td>
</tr>
</tbody>
</table>
SCCP Typical Recall - 2016 / 2017

- Vinyl packaging

Alert number: A12/0172/17

Category: Childcare articles and children's equipment
Product: Breastfeeding pillow
Brand: BabyTrend
Name: Ammepute
Type / number of model: Unknown
Batch number / Barcode: 5704211007227

Risk type: Environment
The packaging contains 6% short chain chlorinated paraffins (SCCP). The placing on the market and use of articles containing SCCPs is banned. SCCPs persist in the environment, are toxic to aquatic organisms at low concentrations and bioaccumulate in wildlife and humans, posing a risk to human health and the environment. The product does not comply with the Regulation on persistent organic pollutants (POPs Regulation).

Measures taken by economic operators: Withdrawal of the product from the market (By: Retailer)

Description: The breastfeeding pillow is green with white/green/pink cows. The packaging is a transparent bag.

Country of origin: China
Alert submitted by: Norway
Risk level: Environment
Year - Week: 2017 - 7

Products were found and measures were taken also in: Denmark, Finland
SCCP Typical Recall - 2016 / 2017

- Hammer (handle)

**Alert number:** A12/0118/17

**Category:** Hand tools

**Product:** Hammer

**Brand:** ADAMANT

**Name:** Unknown

**Type / number of model:** HAMMER MINI 8 CZ STEEL HANDLE

**Batch number / Barcode:** 7330571068769

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**Risk type:** Chemical, Environment

The rubber in the handle of the hammer contains lead (measured value up to 0.28% by weight), short chain chlorinated paraffins (SCCPs) (measured value up to 0.77% by weight) and polycyclic aromatic hydrocarbons (PAHs) (measured value of PAHs 1220 mg/kg). The placing on the market and use of articles containing SCCPs is banned. SCCPs persist in the environment, are toxic to aquatic organisms at low concentrations and bioaccumulate in wildlife and humans, posing a risk to human health and the environment. The product does not comply with the Regulation on persistent organic pollutants (POP Regulation). The product does not comply with the REACH regulation.

**Measures taken by economic operators:** Withdrawal of the product from the market (By: Importer)

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**Description:** A hammer with black rubber handle.

**Country of origin:** China

**Alert submitted by:** Sweden

**Risk level:** Chemical, Environment

**Year - Week:** 2017 - 5

**Products were found and measures were taken also in:** Poland
Swedish RoHS and POP Enforcement

• In December 2016, Kemi (Swedish enforcement agency) released their report on RoHS and POP enforcement
  • Primarily on cables
    - pg 6 is a summary in English
  • Summary
    - 58 of 154 products tested had RoHS or POP substances above the threshold (38% failure rate)
    - POP substance - SCCP
## Example of Results

<table>
<thead>
<tr>
<th>Inköpt hos</th>
<th>Leverantör i Sverige</th>
<th>Produkt</th>
<th>Art nr / Model nr</th>
<th>Innehål av analyserade reglerade ämnen över haltgräns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teknikmagasinet Sweden AB</td>
<td>Super bright micro light/Perel Framlyse cykel</td>
<td>EBL11W 901828 EAN 5410329470210</td>
<td>Nej</td>
<td></td>
</tr>
<tr>
<td>Temnet Handelsbolag</td>
<td>USB Fotboll Massage</td>
<td>Best nr DA27 Art nr OY22 EAN 4260135996969</td>
<td>Pb, SCCP, DEHP</td>
<td></td>
</tr>
<tr>
<td>Temnet Handelsbolag</td>
<td>PC optisk mus Röd</td>
<td>Best nr DA16 Product nr 2145</td>
<td>Pb, SCCP, DEHP</td>
<td></td>
</tr>
<tr>
<td>Temnet Handelsbolag</td>
<td>6 spel i 1</td>
<td>Best nr HF12 Model QGM5010-TOG</td>
<td>Pb</td>
<td></td>
</tr>
<tr>
<td>Tretti AB</td>
<td>Wilfa HydraTemp Hygro- and Thermometer</td>
<td>Hygrometer HY-1/V Art nr 609971</td>
<td>Nej</td>
<td></td>
</tr>
<tr>
<td>Tretti AB</td>
<td>Beurer - Väderstation</td>
<td>HM 16 Art nr 679.15</td>
<td>Nej</td>
<td></td>
</tr>
<tr>
<td>Tura Scandinavia</td>
<td>POP POWER Synkkabel MicroUSB LIPS 1m</td>
<td>Art nr 609063 EAN 5015909415119</td>
<td>SCCP, Pb</td>
<td></td>
</tr>
<tr>
<td>Tura Scandinavia</td>
<td>KITSOUND mini buddy portable speaker/Högtalare Ren Brun 3,5mm Seriekopplingsbar</td>
<td>Art nr 573018 EAN 5030578885216</td>
<td>DEHP, Pb</td>
<td></td>
</tr>
<tr>
<td>Tura Scandinavia</td>
<td>HAMA USB Hub 1:4 Vit</td>
<td>Art nr 012178</td>
<td>Nej</td>
<td></td>
</tr>
<tr>
<td>Ur &amp; Penn AB</td>
<td>Traveller alarm clock</td>
<td>M204-2 EAN 7300000033332</td>
<td>Nej</td>
<td></td>
</tr>
<tr>
<td>Ur &amp; Penn AB</td>
<td>OCC cable lightning to USB charge &amp; sync cable</td>
<td>C-USB-3 EAN 73000000421670</td>
<td>Nej</td>
<td></td>
</tr>
</tbody>
</table>
SCCP Results - Claigan Lab

• Restricted SCCP (>1,500 ppm)
  - 2016: 4% failure rate in high risk parts
  - high risk materials
    - PVC, neoprene, nitrile rubber, sbr rubber

• Stop ship issue in
  - EU & Canada
SCCPs - Canada

- Limited to 0.15% w/w in the EU
- Also banned in Canada
  - Under the name ‘short-chain chlorinated alkanes’
  - Unless incidental
    - Commonly interpreted to be the 0.15% w/w limit used by the EU

**Description:** The *Prohibition of Certain Toxic Substances Regulations, 2012* (hereafter the Regulations) repeal and replace the *Prohibition of Certain Toxic Substances Regulations, 2005* (hereafter referred to as the former Regulations).

The Regulations prohibit the manufacture, use, sale, offer for sale or import of BNST, short-chain chlorinated alkanes, PCNs and TBTs in Canada, and of products containing them with a limited number of exemptions. These substances are added to the list of substances already controlled under the former Regulations.
EU REACH Article 67

• Substances restrictions
  - materials restrictions
  - separate from SVHC communication requirements

• Common restrictions
  - phthalates in toys
  - PAHs in prolonged or repeat human contact
  - nickel in prolonged human contact
  - asbestos
  - cadmium
REACH Article 67
Cadmium

• Restrictions
  - wide range of restrictions beyond just electronics
  - https://echa.europa.eu/documents/10162/3befe8a3-8c97-4d85-ae0b-ac6827de49a9

• Samples of restrictions
  - Painted articles shall not be placed on the market if the concentration of cadmium (expressed as Cd metal) is equal to or greater than 0.1% by weight of the paint on the painted article.
  - Shall not be used in mixtures and articles produced from the following synthetic organic polymers (hereafter referred to as plastic material)
    - (virtually all plastics)
    - Cadmium plating (most applications)
Cd Typical Recall - 2016 / 2017

- **PVC packaging**

**Alert number:** A12/0568/17

**Share on:** Facebook, Twitter, Google+

**Category:** Electrical appliances and equipment

**Product:** Hard-shell case for laptop

**Brand:** mCover

**Name:** See-through Hard Shell Case

**Type / number of model:** Unknown

**Batch number / Barcode:** Unknown

**Risk type:** Environment

The plastic packaging contains cadmium (measured value 0.05% by weight). Cadmium is harmful to human health, because it accumulates in the body and can damage organs and may also cause cancer. The product does not comply with the REACH Regulation and with the requirements of the Directive on packaging and packaging waste.

**Measures taken by economic operators:** Ban on the marketing of the product and any accompanying measures (By: Retailer)

**Description:** A hard-shell case for laptops, different colours available, packaged in transparent plastic bag with a colour-printed label.

**Country of origin:** China

**Alert submitted by:** Germany

**Risk level:** Environment

**Year - Week:** 2017 - 18

Products were found and measures were taken also in:
Cd Typical Recall - 2016 / 2017

• PVC Packaging

**Risk type:** Environment

The PVC packaging of the toy contains cadmium (measured value 0.057 % by weight). The packaging does not comply with the REACH Regulation and the requirements of the directive on packaging and packaging waste.

**Measures ordered by public authorities (to: Retailer):** Ban on the marketing of the product and any accompanying measures

**Description:** Colourful toy snakes in transparent plastic packaging.

**Country of origin:** China

**Alert submitted by:** Finland

**Risk level:** Environment

**Year - Week:** 2017 - 5

**Products were found and measures were taken also in:** Sweden
Cd Typical Recall - 2016 / 2017

• ‘Red’ pencil crayons

Risk type: Chemical
The pencil lead contains an excessive amount of: cadmium (pink, purple and dark blue pencils); zinc (dark green pencil); and lead (orange and purple pencils). A child playing with the pencils could put them in the mouth and ingest these chemicals. Cadmium is harmful to human health, because it accumulates in the body and can damage organs and/or cause cancer. Zinc can be toxic when exposure exceeds physiological needs. Exposure to lead can result in severe and irreversible neurotoxicity, particularly in the case of children. The product does not comply with the requirements of the Toy Safety Directive and the relevant European Standard EN 71-3.

Measures ordered by public authorities (to: Importer): Withdrawal of the product from the market

Description: Pencil case containing pens, crayons, eraser, etc. The metal pencil case is yellow and has a picture of Winnie the Pooh and Piglet on it. There are 32 pieces: 12 coloured pencils, 6 oil pastels, 6 crayons, 6 coloured pens, 1 sharpener and 1 eraser.

Country of origin: China
Alert submitted by: Spain
Risk level: Chemical
Year - Week: 2017 - 9
Cd Typical Recall - 2016 / 2017

- Cd jewelry

Alert number: A12/0224/17

Category: Jewellery
Product: Necklace
Brand: Unknown
Name: Kette
Type / number of model: 215
Batch number / Barcode: 39924001751000000150

Risk type: Chemical
The product contains cadmium (measured value 0.03 % by weight). Cadmium is harmful to human health because it accumulates in the body, can damage organs and may cause cancer. The product does not comply with the REACH regulation.

Measures ordered by public authorities: Withdrawal of the product from the market

Description: A silver coloured necklace with 3 hearts on a white cardboard.

Country of origin: China
Alert submitted by: The Netherlands
Risk level: Chemical
Year - Week: 2017 - 8
**Cadmium**

- Common sources
  - PVC
  - ‘Red’ materials
  - Nickel coated materials
    - very common in electronics
    - even in RoHS compliance materials
Asbestos

• Restricted
  - Crocidolite, amosite, anthophyllite, actinolite, tremolite, chrysotile
  - restriction is for intentionally added
    - however recalls have focused on ‘friable’ asbestos
    - which would include asbestos in talc

**Conditions of restriction**

1. The manufacture, placing on the market and use of these fibres and of articles and mixtures containing these fibres added intentionally is prohibited.
Asbestos Typical Recall - 2017

- Asbestos in the cord

**Alert number:** A12/0403/17

**Category:** Other

**Product:** Sky lanterns

**Brand:** Lantern Sky

**Name:** Unknown

**Type / number of model:** LX-0868

**Batch number / Barcode:** 8053908540668

**Risk type:** Chemical

The cord contains and may release friable chrysotile-asbestos fibres. Asbestos fibres are carcinogenic. The product does not comply with the REACH Regulation.

**Measures ordered by public authorities (to: Importer):** Ban on the marketing of the product and any accompanying measures

**Description:** Paper sky lantern with cord supporting the structure of the lantern, wrapped in transparent packaging

**Country of origin:** China

**Alert submitted by:** Italy

**Risk level:** Chemical

**Year - Week:** 2017 - 14

Products were found and measures were taken also in:
Australia Asbestos

- Asbestos banned in all forms
- Evidence needs to be provided to brokers on import
  - As of October 2016
  - Related to investigation by Australian border services that brokers were just ‘checking the box’ on asbestos
- Failure to provide evidence to the broker results in inability to import
Asbestos Fail - 2017

• Claigan testing
  - found asbestos (chrysotile and tremolite) in talc powder in electronics
  - Chrysotile and tremolite are common contaminants in talc
    - talc and asbestos are silicon, magnesium oxides.
  - a non-compliance event for EU and Australia.

• Example below (but not of the specific failing cable)
US (California) - Proposition 65 - Overview

• The Safe Drinking Water and Toxic Enforcement Act of 1986

• Summary
  - > 900 substances
  - If a consumer or worker is exposed over the daily exposure limit (in ug/day), the manufacturer is required to either
    • Remove the substance, or
    • Put a warning on the product (or in the manual for complex products)
  - Exposure
    • Dermal or oral (including through drinking water)
Exposure Types

• Three (3) different types of exposure
  • Consumer exposure
    - Exposure to a private citizen
  • Occupational exposure
    - Exposure to a worker or employee
  • Environmental exposure
    - Exposure to the environment (often water or air)
US (California) - Proposition 65

- April 2017:
  - One hundred seventy-one (171) prosecutions
- Primary products / substances involved
  - DEHP, DBP, DIDP, and DINP (phthalates)
    - Consumer vinyl products
    - Cables (USB, extension cords, audio, charging), headphones
    - Hoses, adult toys
  - Pb
    - Brass components (pulley, centre punches, quick connect, flow meters, valves)
    - Cavalry bugle
    - Tools (pliers, calipers)
    - Dietary supplements, tumeric, ginger, organic chocolate
  - BPA
    - thermal paper
  - Others
    - Flammable products (carbon monoxide), marijuana smoke, fries (acrylamide)
Pb - Prosecution - Brass Fitting

Pb in Brass
DEHP - Proposition 65 - Headset
DIDP - Proposition 65 - Hose
DINP - Prosecution - Vinyl Gloves

DINP in vinyl
IATA Shipping Restrictions
Lithium Batteries

• International Air Transport Association (IATA) has shipping restrictions for lithium batteries
  • as does the US Department of Transportation (DoT)

• Related to
  - airplane and airline accidents related to lithium battery fires

• Similar requirements also apply to sea shipments
IATA Shipping Restrictions
Lithium Batteries - Oversimplified

• Main requirements
  • Testing to UN 38.3
  • Proper packaging
    • Packaging instructions (PI)
  • Outer box labelling
  • Risk communication

• Includes
  - lithium batteries on their own
  - lithium batteries packaged with equipment
  - lithium batteries packaging in equipment
  - also includes button cell batteries
IATA Shipping Restrictions
Lithium Batteries - Returns

• Prohibition
  • Defective lithium batteries cannot be shipped by air

• Product returns
  - if you cannot be assured that the product battery is not defective, then returns cannot be shipped by air
  
  - also includes button cell batteries
Claigan - Extended Requirements

- Evaluation and testing of products for
  - RoHS 2 & 3
  - REACH SVHC
  - EU Persistent Organic Pollutant (POP)
  - REACH Restrictions
  - Proposition 65
  - Asbestos
  - EU MDD, US FDA, Health Canada
  - WEEE

- Claigan has evaluated and tested thousands of products
- Let us help you.