

US EPA ARCHIVE DOCUMENT



# Tin Stabilizer Handling Environmental Performance Agreement

GLBTS, Chicago – December 1, 2010  
Vinyl Council of Canada (VCC)  
Canadian Plastics Industry Association  
Graham Knowles



# Presentation Sequence

- Technical origins
- VCC proactivity
- Compounders reaction
- Env. Perf. Agreement (EPA)
- Verification progress
- Summary & Future



## Issues re non-pesticidal organotins in the early 2000s

- Tributyl tin - toxic pesticide, used in ship coatings
- Non-pesticidal organotins (mono & di) a Priority Substance List #1 item – but on hold for data
- 3 year Organotin Environmental Program data gathering by tin sector for US EPA and EU
- Major volume increase – EC/VCC study in 2000
- Concerns re surrogates, assumptions on rinsing blending vessels and significant use of drums
- Health Canada determined in Oct 2002 mono & dialkyl organotins not toxic for human health



## VCC Approach

- Maintained and augmented technical dialogue
- Accepted mono & dialkyl tins warrant careful handling to prevent entry to the aquatic environment, whether they have been designated CEPA toxic or not
- Set up a Steering Group of Tin Stabilizer Assoc. (TSA) and VCC personnel to direct action
- Initiated a handling survey to determine the weak and strong elements of the sector's approach – using this activity to create awareness of issue
- Using Survey data created a handling Guideline which was critiqued by both compounders and by EC and improved through several iterations



## VCC Approach

- After 2 prior iterations the May 2004 Guideline version was circulated to all known compounders, so they could begin the implementation and have Appendix G ready to communicate implementation status in Spring 2005
- 100% of compounders responded with completed App G and VCC provided consolidated report on status to EC
- EC then proposed MOU and later an EPA as vehicle to guarantee continuance of the implementation & reporting, obviating need to consider toxic designation for mono/di
- Risk, being a function of hazard and exposure, was being managed and minimized by virtually eliminating exposure



# Annual Compliance Report – 2010

## Appendix G Highlights

- 10 of 32 facilities use bulk – high volume, minimal risk
- 28 of 32 facilities use totes (IBCs), typical for SMEs
- 4 of 32 facilities use drums, but only 2 use drums solely
- Only 2 facilities rinse lines or vessels, rinsate reused or HW
- Tin contaminated solid waste drum takes many years to fill. Waste mgmnt companies provide written assurance to all but one facility that final disposal is either incineration or secure landfill for HW
- All have spill procedure/s in place and none have had spills in last year
- 30 out 32 advise they have fully implemented the Guideline. One minimal user having difficulty arranging written assurance for miniscule amount of tin contaminated waste, the other facility undertaking action plan



# Performance Agreements

- Policy Framework published June 2001
- Key Design Criteria
  - Senior-level commitment
  - Clear objectives
  - Defined roles & responsibilities
  - Public Reporting
  - Verification
  - Incentives & Consequences
- Agreement Spring 2007 and posted on website coincident with the draft follow-up to the ecological risk assessment of organotins on the DSL
- Further revised Guideline (October 2006)





# Verification Approach

- Once PA was signed (Mar '08), the verification protocol was negotiated and agreed by Summer 2008
- Set of Questions created to ensure consistency and to communicate key issues that the verifiers will check
- Training of technical and sales staff of TSA companies, so they can provide adequate product stewardship
- Training of “Compliance Promotion” EC staff in Toronto who would be assigned to undertake verifications
- First Pilot Verification in December 2008 in Ontario



# Verification Protocol

- Team of 2 Verifiers: 1 from VCC, 1 from EC, Tin supplier can participate if willing. Observers OK for training!
- Companies given opportunity to volunteer for verification
- Process is targeted to be constructive
- Verification should be booked 2-3 months in advance
- Conference call takes place 1-2 months prior
- Visits take approx 5 hours
- Lead Verifier from VCC writes Interim report for EC critique/edit
- Interim Report in 6 weeks from visit
  - background, observations, documentation, opportunities for improvement, suggestions
- Facility response within further 4 weeks
  - actions taken, with evidence & plans; can advise errors/omissions & proprietary items
- Final Report within further 6 weeks
  - Incorporating actions taken if these resolve the issues, note anything still outstanding
- Corrective Action Plan, if required, within further 4 weeks



# Verification Learnings

- The approach is constructive, allowing for a coaching role for the verifiers that sometimes covers related activities but outside the Guideline
- We need to better respect the planned timelines, which sometimes have slid either due to VCC verifier distractions or to allow resolution of requested upgrades.
- We need to book earlier to better space visits
- “Treat as hazardous waste” created complications, better to arrange for incineration or secure landfill, suitable for hazardous waste, but not define as HW



# Verification Outcomes

- All Participants checked so far have taken the issue seriously and invested time and materials to improve
- Most facilities are in good shape with only two requiring Corrective Action after receipt of their final report. Most have 3 to 7 minor items to fix, which are resolved by the time the Final Report is completed
- Some excellent examples of work instructions/training
- Approx half way thru - 19 to do in 2011, 2012, 2013
- Can expect the later half to be less well prepared
- The aquatic environment, so far, is well protected



## Environmental Performance Agreement (EPA) Summary of the Tin Stabilizer Journey

- Elements of concern in early 2000s
- Technical dialogue on assessment approaches
- Parallel VCC Survey, Guideline, Compliance Tool
- 100% compounder response
- EC proposal of MOU, modified later to an EPA
- EPA negotiation, Organotin Risk Assessment
- EPA signed Mar'08, Verification Protocol agreed
- First verification Dec'08, 15 so far till end 2010
- 19 yet to do in 2011, 2012 and early 2013
- Aquatic Environment is being protected