



Monday, October 20
4:30 pm-6:00 pm

304 Focus on Environmental Regulation of Products: How EPA Has Moved Beyond the Factories

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Faculty Biographies

Lee Braem

Lee Braem is senior corporate counsel and chief compliance officer at the North American offices of Evonik Degussa Corporation, a German global specialty chemical company. Mr. Braem advises on matters related to environmental, health, and safety (EHS), chemical plant security, trade compliance, and other regulatory and compliance matters.

Previously, Mr. Braem was EHS counsel at Tyco International, Quest Diagnostics, and Schering-Plough. At Tyco International and Schering-Plough, Mr. Braem advised on a number of international environmental and safety issues, especially in Europe and Central and South America. At Quest Diagnostics, Mr. Braem also served as operations counsel in the company's western region, handling commercial and compliance issues related to healthcare. In his early career, Mr. Braem worked at the US Environmental Protection Agency. Mr. Braem was also in private practice between his time at EPA and working in-house.

Mr. Braem's professional affiliations include: president of the New Jersey Corporate Counsel Association (NJCCA) and chair of NJCCA's environment and safety committee; chair of the ACC's EHS committee; member of the board of directors of the NJ State Bar Association's Environmental Law Section; and member of the NJ State Bar Association's Professional Responsibility Committee. Mr. Braem helped develop the curriculum and served as faculty for the ethics and professionalism program mandated by the NJ Supreme Court for all limited license in-house counsel.

Mr. Braem received a JD from DePaul University, Chicago and a BS from the University of Wisconsin-Milwaukee.

Fern Fleischer Daves

Fern Fleischer Daves is part of the legal department of ITT Corporation, a Fortune 500 high-technology engineering and manufacturing company with diversified businesses in water and fluids management, global defense and security, and motion and flow control. As senior counsel, Ms. Daves is involved in the full range of environmental, safety and health aspects of ITT's businesses including mergers and acquisitions, divestitures, regulatory compliance, litigation, insurance, and the management of legacy liabilities. She serves on ITT's corporate product safety council, and provides training to engineers and executives as part of the value based product development program.

Ms. Daves began her environmental career as an associate at Lowenstein Sandler Fisher Kohl & Boylan. Prior to that, she was a member of the legal department of Asarco Incorporated in New York City, and also served as Asarco's Superfund sites manager in Colorado. Previously, Ms. Daves was of counsel to Sedgwick Detert Moran & Arnold.

At American University in Washington, DC, Ms. Daves earned her BA and MS. Ms. Daves earned her JD at Georgetown University Law Center where she served on the editorial board of the first issue of the Georgetown International Environmental Law Review.

Carl Schultz

Carl Schultz is senior counsel and senior director, environment, health and safety, with Tyco Electronics Corporation, an electrical component manufacturer headquartered in Berwyn, Pennsylvania. Mr. Schultz is responsible for management of all aspects of Tyco Electronics' environmental and safety programs, including legal issues. During his tenure at Tyco Electronics, in addition to managing EHS, Mr. Schultz has handled various other legal matters and served as general legal counsel for Tyco Electronics' medical business.

Prior to joining Tyco Electronics (then AMP), he served as assistant counsel and assistant regional chief counsel with the Pennsylvania Department of Environmental Protection. Previously, he served as law clerk to the Honorable Malcolm Muir, United States District Judge for the Middle District of Pennsylvania, practiced with Jenner & Block in Chicago and taught at Vermont Law School.

Mr. Schultz attended John Hopkins University and the University of Illinois and received his law degree from the Boston University School of Law.



Roadmap

- Overview of Product Regulation
- Some Regulatory Examples
 - RoHS, WEEE, REACH
- Supply Chain (Hot Button Contract) Issues
 - Dealing with Customers
 - Dealing with Suppliers
- Looking Ahead
- Summary



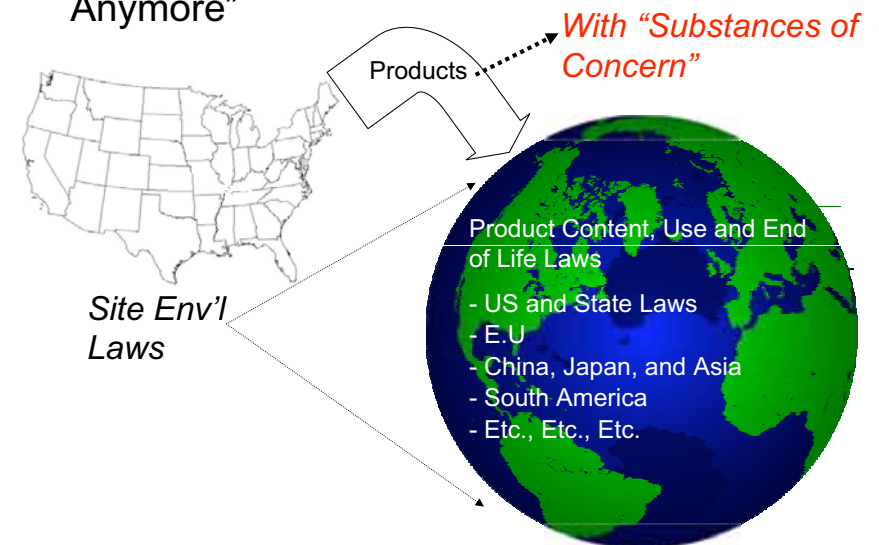
Relevancy

- Increase in laws banning or restricting substances in products and product components, e.g., no mercury, lead
- Global move towards safer/"greener" chemicals and products, recycling and reclamation, efficient use of resources, and transparency, led by:
 - Government regulation/policy
 - Non-governmental organizations
 - Market forces
- Increased producer liability for products at end-of-life, e.g., Polluter Pays or Extended Producer Responsibility policies
- Higher risks today
 - Globalization of suppliers & customers
 - Increased regulatory reporting or disclosure obligations.
 - Potential liability for personal injuries and property damage
- Protecting reputation and brand image (to customers and investors)

Relevancy

- Contract Terms / Unintended Amendments
 - In battle of forms, purchaser's Green Procurement T&C's prevail
- Contracts Cancelled
 - Supplier cannot meet lead content restrictions
- Product Rejection (loss of business)
 - Product was not aware of/does not meet purchaser's/OEM's green specifications
 - Product out-of-spec – rejected!/damages
- Products Banned/Removed from Certain Markets
 - Product containing lead sold in California in violation of content disclosure limits
 - Mercury switches banned in several US states before non-mercury components could be procured
 - Product containing banned substance impounded by authorities at European port

Going Local to Global – “We’re Not in Kansas Anymore”





U.S. Federal Legislation – Early Focus

- Clean Water Act
- Clean Air Act
 - media specific
 - point sources from factories
- Resource Conservation and Recovery Act
- Comprehensive Environmental Response, Cleanup and Liability Act (Superfund)
 - hazardous waste
 - toxic dumps/release cleanup



Federal TSCA – Moving Beyond Factories

- Public – and Congress – grew concerned about many existing chemicals already in US commerce
- The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) was limited in scope; so was the Food Drug and Cosmetics Act (when it came to environmental effects)
- Congress enacted the Toxics Substances Control Act (TSCA) in 1976 to close this gap

Control Further
"Up-Stream"
In Commerce

TSCA's Framework for Chemicals

- Inventory of existing chemical substances
- New chemical review
 - Pre-Manufacture Notice/New Substance Notification
- Testing of existing chemicals
 - When EPA issues a test rule
- Direct regulation of highly hazardous chemicals
 - e.g., PCBs and Asbestos
- Reporting/recordkeeping requirements
 - Section 8: tracking/notice of alleged adverse effects or new information on unreasonable risks
- Import/export requirements

TSCA: Another View



- In theory: Gather data on and then manage chemical substances during life-cycle
- TSCA criticized for putting too large of a burden on EPA; too hard to take risky chemicals off market; too slow in gathering data



Other Federal Legislation – Going Beyond Factories

- Clean Air Act:
 - Ban on production of and products containing Ozone Depleting Substances (as propellants, fumigants, fire suppressants)
- RCRA:
 - Universal Waste rule (products at end-of-life) → to encourage recycling and proper disposal of products with certain hazardous/toxic constituents



State Legislation

- State laws
 - California Proposition 65 (labeling)
 - Ban on mercury/devices
 - Ban on batteries with toxic constituents
 - Electronic waste/recycling laws
 - Extended producer responsibility for e-waste
 - Packaging content (toxics) restrictions



International Developments

- Countries with TSCA-like legislation
 - Canada, EU, Japan, etc.
- EU Directives/Regulations
 - Batteries and accumulators, packaging, waste electronics, end-of-life vehicles
- China
 - Waste electronics (like EU)
- Japan
 - Packaging, end-of-life vehicles



Chemical/Product Labeling

- More transparency/provide knowledge to users
- Going beyond hazard communication for DOT (transport) or OSHA (occupational) purposes
- Content information for end-users



**LABELS &
WARNINGS**

- On the product
- Instructions pamphlet / inserts
- Marketing materials
- Websites
- Use & care manual / IOM
- Packaging

"Contains Mercury, Don't Put In Trash.
Recycle or Dispose as Hazardous Waste"

"Contains Mercury, Dispose According to
Local, State or Federal Laws"

"Contains Mercury, Dispose of Properly "



SOME REGULATORY EXAMPLES

The Big Three

RoHS

WEEE

REACH

(EU) RoHS and “China RoHS”

Legislative History . . .

- Originally WEEE and RoHS were a single piece of legislation
- Ultimately separated
- RoHS covers material content of electronic products
- WEEE covers take-back and recycling



RoHS Article 4, sec. 1:

“[EU] Member States shall ensure that, from 1 July 2006, new **electrical and electronic equipment** put on the market *does not contain* **lead, mercury, cadmium, hexavalent chromium, polybrominatedbiphenyls (PBB)** or polybrominated diphenyl ethers (PBDE).”



RoHS Scope Derives From WEEE Scope

“[T]his Directive shall apply to electrical and electronic equipment falling under the categories 1, 2, 3, 4, 5, 6, 7 and 10 set out in Annex IA to Directive No 2002/96/EC (WEEE) and to electric light bulbs, and luminaires in households.”

- RoHS Article 2 (“Scope”)



RoHS Scope Derives from WEEE Scope

WEEE Annex IA: “Categories of electrical and electronic equipment covered by this Directive”:

1. Large household appliances
2. Small household appliances
3. IT and telecommunications equipment
4. Consumer equipment
5. Lighting equipment
6. Electrical and electronics tools (with the exception of large-scale stationary industrial tools)
7. Toys, leisure and sports equipment
8. *(Medical devices (with the exception of all implanted and infected products)*
9. *(Monitoring and control instruments)*
10. Automatic dispensers



Exemptions, etc.

- > 30 listed exemptions
 - e.g. “lead and cadmium in optical and filter glass”
 - exemptions regularly added and removed
- Trace amounts allowed:
 - “0.1 % by weight in homogeneous material” (1000 ppm) lead, mercury, Cr6, PBB, PBDE
 - 0.01 % (100 ppm): cadmium



Compliance at “Homogeneous Material” Level

Connector in phone



Plastic in connector



(1000 ppm lead allowed)



Industry Compliance

- Aggressive industry-wide effort:
 - reformulation/compatibility/data/part identification/etc., etc.)
- Potential recall and public relations risk
- Virtually no government enforcement

China RoHS (MMCPEIP?)



“Management Methods for Controlling Pollution by Electronic Information Products” (Ministry of Information Industry Order #39)

Jointly promulgated by:

Ministry of Information Industry, National Development and Reform Commission, Ministry of Commerce, General Administration of Customs, General Administration of Industry and Commerce, General Administration of Quality Supervision, Inspection and Quarantine, and State Environmental Protection Administration on February 28, 2006, and effective on March 1, 2007

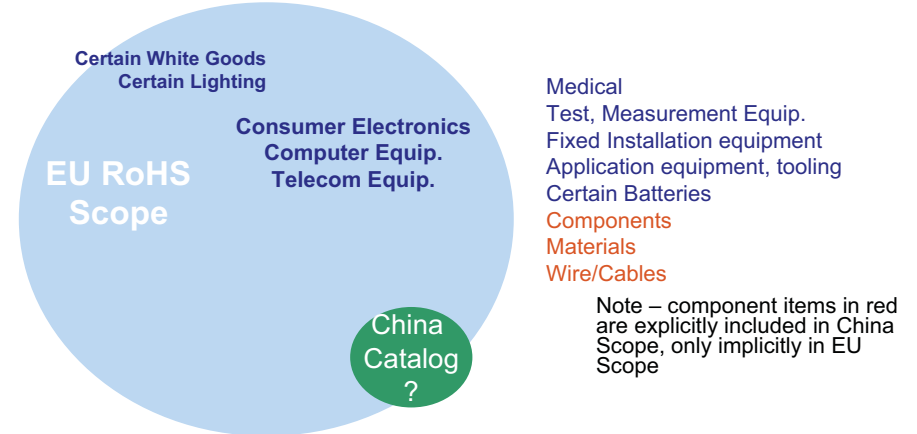


China RoHS

- Different from EU RoHS!
- “Electronic Information Products”
- Same substances as EU but no exemptions
- Requires Labeling
 - since March 2007
 - presence of lead, etc.; EPUP
 - Note end-item (label req'd) vs components (info available)
- Environmental Protection Use Period
- Catalog - TBD
 - in 2008?
 - items to be covered with effective date?
 - testing and certification for covered products



China RoHS vs. EU RoHS Scope





Labeling (info) Requirements - 1

Environmental Protection Use Period (EPUP) Symbols:



No Haz Mat Over threshold (no exemptions)



Haz Mat Over threshold - # = years environmental safe use

(note color not required)



Labeling (info) Requirements- 2

Haz Mat "Tic-Tac-Toe" Chart (in Chinese):

Cable Assembly 12345-3	hazardous substances' name					
	PB	Hg	Cd	Cr ⁶⁺	PBB	PBDE
Connectors	0	0	0	0	0	0
Solder	X	0	0	0	0	0
Bulk wire	X	0	0	0	0	0
Hardware	0	0	0	0	0	0
0 - indicates Hazardous substance concentration lower than MCV X - indicates Hazardous substance concentration higher than MCV						

(Not required if no hazardous materials above threshold)



Now let's make it interesting . . .

Other countries/US States adopting their own versions of RoHS: (Korea; Denmark; California (CRT/LCD). . .)

Customers add their own restrictions:

- halogens (used extensively as flame retardants in plastics)
- more restrictive thresholds (e.g. 25 vs 1000 [RoHS] ppm lead)

REACH "Substances of Very High Concern"

How to keep up with ever-changing lists of "substances of concern"?



(EU) - WEEE

- **DIRECTIVE 2002/96/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on Waste Electrical and Electronic Equipment**
- Imposes responsibilities on producers of electrical and electronic equipment for the collection and recycling of waste EEE at the end of life



WEEE – The Problem

*FERAL
WEEE!*

*And
Producers
Must Pay
for Take-
Back and
Recycling
(reverse
logistics)*



EU WEEE and ROHS

- EU's WEEE Directive is implemented in EU countries by national WEEE regulations.
- There are variations from country to country
- Some products ARE covered by WEEE but are NOT covered by ROHS (yet)
- Exemptions
 - Check lists of current and pending exemptions
 - **DecaBDE** exemption annulled by the European Court of Justice
- Exclusions
 - military products used for national security of EU member states



CATEGORIES OF ELECTRICAL AND ELECTRONIC EQUIPMENT COVERED BY WEEE

1. Large household appliances
2. Small household appliances
3. IT and telecommunications equipment
4. Consumer equipment
5. Lighting equipment
6. Electrical and electronic tools (with the exception of large-scale stationary industrial tools)
7. Toys, leisure and sports equipment
8. Medical devices (with the exception of all implanted and infected products)
9. Monitoring and control instruments
10. Automatic dispensers



WEEE Options

- B2B Compliance Schemes in each country
- Web-based take-back across EU countries
- Product redesign



REACH

- Registration, Evaluation, Authorization and Restriction of Chemicals
 - Responsibility on industry to provide hazard data, understand use of chemicals and risks, and demonstrate safe usage
 - Non-compliance means chemical cannot stay on or enter EU market
 - Applies to chemical substances, components in preparations, and articles (if substance in article intentionally released)(> 1 ton/yr.)
 - Could force high hazard or low volume esoteric chemicals off the market



Impetus For REACH

- Some Issues with Chemicals
 - Lack of information on thousands of existing chemicals in commerce
 - Slow, inefficient chemical-by-chemical risk assessment processes
 - Lack of integrated approach to chemicals management
 - Public's increased concern about chemicals
 - Lack of public confidence in government and industry



REACH – How It Works

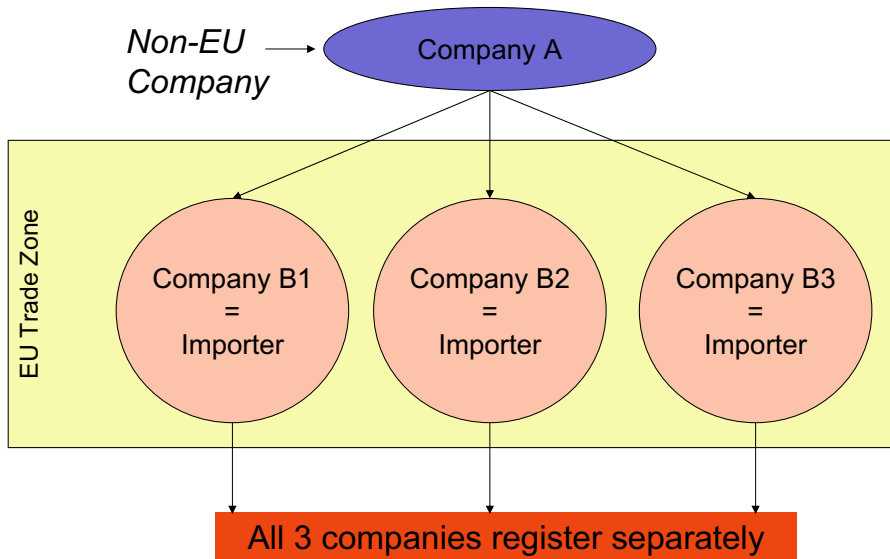
- Pre-Registration: for continued use of existing chemicals (“phase-in substances”) (June-Nov 2008)
 - If no pre-registration, immediate registration required
- Registration: manufacturers/importers must submit technical dossier for each chemical (2008-2018)
 - Dossier to cover hazards, amount produced, intended uses
 - One substance/one registration → joint registrations
 - IP, confidentiality, and antitrust issues
- Evaluation: Chemicals agency will review information selectively, based on risk (id data gaps)
- Authorization: Certain substances will require authorization to remain on market
 - Some “black list” chemicals will not survive



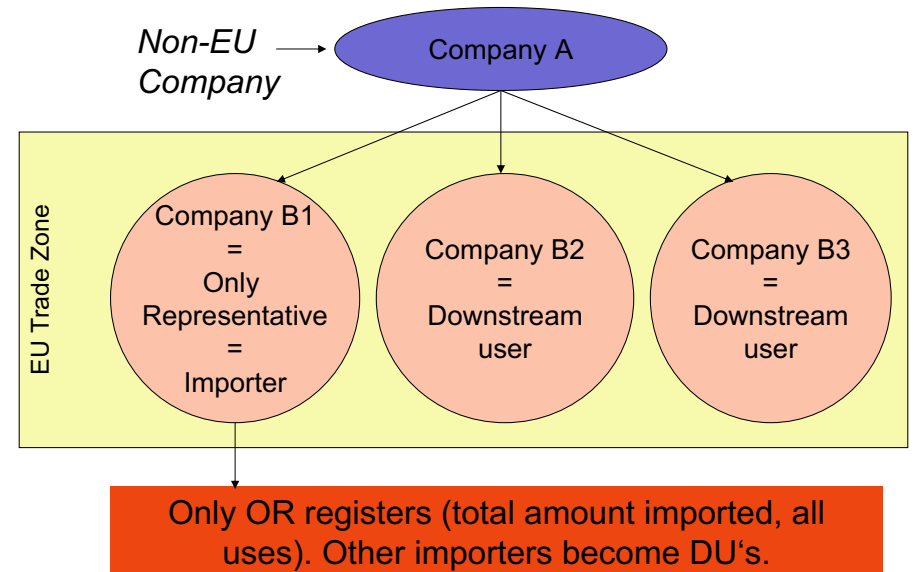
REACH – The Players

- EU-Based companies
 - Only EU legal entities have direct registration obligations
 - Manufacturer or Importer
 - “Only Representative” can assume role of Importer
 - An EU customer buying from EU company is a “Downstream User” that needs to ensure its use is protected
- Non-EU companies (shipping products to EU)
 - Non-EU companies have no direct obligations
 - EU Importer must register, or
 - EU customer of non-EU company must act as Importer, or
 - Non-EU company can appoint an “Only Representative” to act as the Importer (simplifies sales to EU customers)

The Players - Import without Only Representative



The Players - Import with Only Representative





REACH – Implications to US Companies (proportionate to directness of EU market)

- Manufacturers (exporting to EU)
 - Establish route to EU Market: Importer/Only Representative
 - Provide or support data for registration; share in registration costs
 - Id Downstream Users in EU
 - Prepare MSDS and instructions for safe use
- Users of Chemicals that have “Touched” EU
 - Check whether supply chain complies with REACH
 - Check whether chemical on pre-registration list (post-1/1/09)
 - Right to provide use and exposure data to aid in Registrant’s risk assessment
 - If Registrant accepts use, it must develop safe use restrictions
 - If Registrant denies use (or if user wants to keep use confidential), then user must register use, make its own risk assessment
- Distributors/Suppliers
 - Duty to pass certain hazard, use, and risk information up or down supply chain: (i) to customers; and/or (ii) to their own supplier



REACH Implications

- REACH poses new approach for chemicals management for any company whose chemical product/supply chain touches the EU
- EU and Non-EU companies must understand their products, their chemistry, where they source, and where they sell
- Raw materials could have supply disruptions, be pulled from the market, have product substitutions, or be subject to price increases
- Some products could lose market access
- Suppliers that are not willing/able to provide information to EU companies or U.S. exporters risk losing their customers
- Understand how drive for lower risk chemicals, safer alternatives will affect your business



SUPPLY CHAIN ISSUES Hot Button Contract Issues



Dealing with Customers - Material Declarations and Compliance Certifications

- Customers demand adherence to:
 - Specifications/Standards/Norms/Lists/ etc.
- These cover materials, limits, laws, dates, testing, etc.
- Customers ask us to sign:
 - Letters
 - Agreements
 - Certifications
 - Contracts, etc.



Material Declarations

- % by weight of every chemical in every homogeneous material in every component
- Requires information from suppliers: TE has 20,000 suppliers globally, over 400,000 part number/supplier combinations . . .
- TE has 35 people full time compiling declarations; ~ 2 ½ hrs per part; 500,000 Tyco Electronics saleable parts



Customer Certification Example

Supplier's Declaration On Restricted or Banned Materials and Chemical Substances

1. Supplier agrees that all products supplied to Customer Co. will **comply with** all the requirements and provisions of Customer Co.'s Product Marking Specification, Doc. No. 456-01, **Customer Co.'s Environmental Requirements Specification Doc. No. 123-01** and with **all laws, rules and regulations governing protection of the environment, restriction of hazardous materials** and other restrictions on product content **in all countries** in which Supplier and/or Customer Co. do business.
2. Suppliers will warrant that **all the information provided to Customer Co. on any requested Materials Declaration Form(s) is accurate and complete.**
3. Supplier will submit to Customer Co., on reasonable request, reports of **test results** showing conformance to the aforementioned requirements.
4. Supplier **agrees to indemnify Customer Co. for any damages, costs or penalties** Customer Co. may incur as a result of Supplier's failure to comply with its obligations herein.

Signature: _____



Issues

- What products?
- What time period?
- What laws and/or standards? (what materials?)
- What are allowable thresholds? (same as RoHS?)
- What basis of knowledge? (what disclaimer?)
- What documentation/test data/audit rights?
- What indemnification?



Tyco Electronics' Policy on Responding to Customer Requests Regarding RoHS and WEEE Compliance

- Who Can Sign?
- Disclaimer for Tyco Electronics Reports to Customers
- Requests for a General Guarantee/Warranty of Compliance
- Requests for Indemnification or Other Special Contract terms
- Requests for Take-back, Payment of Costs, etc. for WEEE/recycling
- All Other Requests



Tyco Electronics' Position

- Certify "Compliance" only as to identified parts at present
- Certify future compliance only as to parts identified in catalog or otherwise as "RoHS compliant"
- Certifications are based on inquiry of suppliers and are subject to change
- No special indemnification
- No testing
- No WEEE responsibility for components
- No labeling of components for China RoHS



Dealing with Suppliers

- Are your suppliers...
 - Willing
 - Ready
 - Able
- To disclose all the information you need?

Dealing with Suppliers

- Issues
 - Contractual terms
 - Quality of information
 - Protection of trade secrets
 - Reluctance to sign blanket certifications

Supply Chain Issues under REACH

- What is your supplier telling you about REACH compliance?
- What are you telling your customers about REACH compliance?
- Management of data:
 - Accurateness and completeness of covered substances and info from multiple suppliers regarding hundreds of chemicals
 - Where will/will not REACH apply
- Accounting for changes in suppliers, chemicals, and formulations
- Need for and agreement with Only Representative
- Contract issues
 - Substance identification
 - REACH compliance obligations/registration/data sharing
 - Performance/product specifications
 - Changes in suppliers; reformulation; chemical substitutions
 - Duty to provide info/data
 - Notice provisions
 - Materiality
 - Confidential Business Information
 - Consequences, e.g., business disruption
 - Confirmation of presence/absence of high concern chemicals

LOOKING AHEAD

"If you don't know where you are going, you might wind up someplace else." Yogi Berra

Expect More (and More) of the Same

- Reasons
 - Impetus to legislate "copycat" or more protective laws
 - Market forces/green image value
 - Costs are diffuse and not obvious
- Adaptation of EHS management systems



Legislation/Regulation

- Continued state, federal, international restrictions on chemicals in products
 - e.g., Congressional strengthening of Consumer Product Safety Act (lead, phthalates, tracking labels)
 - CA (and others') efforts on chemicals in plastics
- Efforts to adopt REACH in US; adopt Europe's so-called precautionary principles
- Substitution
 - Many sources of efforts to drive high hazard chemicals off market
 - Maine's Safe Alternatives Bill
- EPA voluntary chemical assessment efforts
 - Tightrope between voluntary/regulation
 - The "Montebello" trilateral agreement (North America's Answer to REACH)
 - Builds on EPA's High Production Volume effort under TSCA
 - Goal: develop more environmental and health effects data on over 9,000 chemicals produced above 25,000 lbs/yr.



Legislation/Regulation

- Nanotechnology
 - EPA currently addressing under TSCA
 - Nano Voluntary Stewardship Program
 - Widespread research on potential risks
- Global Harmonized System (GHS)
 - Changes to classification and labeling of chemicals, as well as Material Safety Data Sheets (MSDS)
 - Implementation in US started, e.g., DOT/OSHA
- Chemical Data
 - Disclosure of health and safety information vs CBI



Market Forces

- OEM's, manufacturer's, retailers placing more demands on suppliers for "green" products
 - Wall-Mart's green supply chain policy
- Government procurement policies
- Eco-Labeling / transparency / internet
- Top Four Pressure Points for Greening of Supply Chain (recent survey):
 - Desire to be thought leader in their industry
 - Need to control fuel and energy costs
 - Improve competitive advantage and market differentiation
 - Meeting current and expected regulation and compliance demands
 - Best In Class: 50% adopt material life-cycle approach; 43% adopt equipment/materials end-of-life handling (reverse logistics)



Other

- Product Stewardship
 - Cross-functional, integrated means to address and manage environmental/safety concerns
- Science advancements → driving innovations, as well as regulation
- More use and application of consensus frameworks:
 - Green chemistry
 - Green engineering
 - Design for environment
 - Chemical substitution



Environmental Law Beyond the Factory

- More laws to track
- Cost/liability: connecting dots back to producers
 - The “cradle to grave” concept in EHS regulation → not just for waste anymore
- Challenge of compliance
 - Must address many more internal functions and disciplines
 - Enormous data needs
- More external interactions
 - Supply chain; customers; suppliers; stakeholders
 - Contract issues



Environmental Law Beyond the Factories (Some Internal Issues)

- Is EHS Department alone in addressing?
 - What other departments or functions involved?
- Product design: chemical restrictions may affect reliability, safety, and functionality
- Sales: labeling, packaging, and notice requirements may hinder interstate/global sales
 - Educating on impact of material declarations; what documents from customers amend contracts
- Product inventory: e.g., maintain lead and lead free
- End-of-Life Mandates: who is internally responsible
 - Mandates can be costly → and who will pay?
- How do company policies on environment, sustainability, corporate social responsibility affect materials sourcing and product development?



Environmental Law Beyond the Factory (Some External Issues)

- Building data base of product/component chemistry
- Understand materials flows: up the supply chain; down product distribution
- Track legislation and developments
 - Not just at the factory
 - But at any critical location in supply/distribution chain
 - Critical to knowing whether you can legally export, import and distribute your product
- Track and respond to customer demands (especially if beyond law)
- Contracts: negotiating, amending sales/purchase agreements
 - Who's spec? Battle of forms. Significance of terms
- Management of Change
 - A change in suppliers, component, raw materials may have significant implications to market the product

Tyco Electronics Policy on Responding to Customer Requests Regarding RoHS and WEEE Compliance

Tyco Electronics Policy on Responding to Customer Requests Regarding RoHS and WEEE Compliance

Background:

Tyco Electronics is a leader in addressing the requirements of RoHS and WEEE. Our customers frequently ask for information on product content related to RoHS and WEEE. General information on how to respond to these requests can be found at <http://ehs2.us.tycoelectronics.com/customers/customers.htm>. For assistance in responding to these requests you can contact your business unit product hazardous material inquiry coordinator.

Customers also often ask for “certifications,” “certificates of compliance,” contract or agreement modifications or addendums, or similar documents. Customers often seek to impose various costs and penalty, recall and other liabilities on Tyco Electronics. Because these documents can create significant liabilities for Tyco Electronics, they must be carefully addressed.

Who Can Sign? Each business unit should define levels of authority and any necessary business unit controls. As a general rule, follow this guidance.

Type of document/request	Who can Sign	Comments
Any request for which the <u>template certificate of compliance</u> will be used for response AND part(s) are coded as “compliant” in STARTEC	Sales, quality, customer service, engineering or others	
Material content declaration or certificate with no Guarantee/warranty/indemnification or other statement or terms	Engineer or other person with knowledge of product content	Careful review is required; note customer specifications on content do not always match RoHS standards
Material content declaration with other terms for which a response as provided below will be used	Engineer or other person with knowledge of product content	
All other clauses, requests for contract modifications, certificates, etc.	Business Unit Product Haz. Materials Content Coordinator	Seek legal guidance as needed.

(Policy continues on following page)

Disclaimer for Tyco Electronics Reports to Customers

For any response regarding compliance or product material content, in addition to making sure that the response is factually accurate, add the following statement:

This information is provided based on reasonable inquiry of our suppliers and represents our current actual knowledge based on the information provided by our suppliers. This information is subject to change. This information does not in any way modify existing purchase specifications or existing contractual or other agreement terms between Tyco Electronics Corporation (or its affiliated companies) and its customers.

Requests for a general guarantee/warranty of compliance:

If a customer requests a certification or statement regarding future compliance (as opposed to current compliance for identified part numbers), use the following response:

Because Tyco Electronics is required to maintain an inventory of non-compliant products along with RoHS compliant products, Tyco Electronics cannot make a general statement that it will provide only compliant products in the future. Rather, Tyco Electronics can guarantee that, subject to the following, Tyco Electronics will supply compliant products provided you order products identified as RoHS compliant in the Tyco Electronics catalog. Information regarding product compliance is provided based on reasonable inquiry of our suppliers, represents our current actual knowledge based on the information provided by our suppliers, and is subject to change.

Requests for Indemnification or Other Special Contract terms:

Tyco Electronics will not provide special indemnification or other special contract terms regarding RoHS, WEEE or related matters. Requirements, remedies and liability terms shall be the same as those provided for all aspects of the parties’ commercial relationship, as set forth in the contract or other agreement between Tyco Electronics and its customer and/or terms and conditions set forth in order acknowledgments or other such documents.

Requests for take-back, payment of costs, etc. for WEEE/recycling

For products that are components incorporated into our customer’s end-product, Tyco Electronics is not the “producer” under WEEE and will not agree to any responsibility for take-back, recycling or WEEE costs or liabilities.

All other requests

If the customer is asking for a signature, representation, certification, warranty, indemnification or in any way asking for something more than a simple statement as to what our products currently contain, and the information provided above does not sufficiently address the issue, consult with your product hazardous material inquiry coordinator and the Tyco Electronics Law Department regarding how to proceed.

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Tyco Electronics Our commitment. Your advantage.

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Product Compliance Initiatives

RoHS (Restriction on the Use of Hazardous Material)

Legislation by the EU, China, Korea, etc. restricts the use of lead, mercury, cadmium, hexavalent chromium, PBB and PDBE in certain products and applications. Tyco Electronics has essentially completed migration of impacted product lines to RoHS compliance as required. The following document provides an overview of the strategy used to implement RoHS compliance in Tyco Electronics.

- [RoHS Program Overview](#)

Tyco Electronics actions to address Annulment of decaBDE exemption in EU RoHS:

- [View decaBDE Customer Letter](#)
- [European Court of Justice Ruling](#)

REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals)

Requires substances manufactured in or imported into the European Union be registered. Substances will be evaluated from information gathered as part of the registration, and either authorized for general use or restricted for all or certain uses.

Tyco Electronics is actively engaged in determining and fulfilling any REACH obligations to ensure no interruption of product supply.

- [EU Regulation 1907/2006/EC Registration, Evaluation, Authorization, and Restriction of Chemicals \(1.8 MB\)](#)
- [View REACH Compliance Letter](#)

PFOS (Perfluorooctane Sulfonates)

EU Directive 2006/122/EC restricts the use of perfluorooctane sulfonates PFOS, beginning 27 June 2008.

Tyco Electronics is in compliance with this Directive.

- [EU Directive 2006/122/EC](#)
- [View PFOS Compliance Letter](#)

Other "Substances of Concern"

Overview of substances of concern and where they may occur in Tyco Electronics products.

- [Hazardous Materials and Tyco Electronics Products](#)

Material Declarations

- [Tyco Electronics Position/Plans for Material Declarations](#)

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Tyco Electronics RoHS Website Pages

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RoHS Support Center

FAQs Get answers to your questions about our RoHS product initiatives. China RoHS information now available.

- **Find Compliance Status & RoHS/ELV Alternates** - Easy access to compliance information including Statements of Compliance and Cross reference of Tyco Electronics parts to RoHS/ELV Compliant versions. **Now includes information in support of China RoHS.**
- **Download Technical Data** - Download documents about Solderability, Whiskering, Durability/Friction, Contact Resistance, Press-fit Terminations, Heat Resistance of Polymers, Wire Deformation, Relays, and Hazardous Materials.
- **Search For Compliant Products** - Browse our online catalog for products that are RoHS and/or ELV Compliant. Our Product Feature Selector includes compliance status, so you can choose the products that meet your needs.
- **View Product Compliance Initiatives** - Information on REACH, Material Declarations, and other RoHS related initiatives.
- **Download Legislation Documents** - Download current documents from the European Union and China RoHS official websites.

Other Tyco Electronics RoHS Information sites:

- [Axicom Relays](#)
- [Corcom](#)
- [Elo TouchSystems](#)
- [M/A-COM](#)

Learn More About This Site by viewing a narrated presentation about what information you can obtain from our RoHS Compliant Products website.

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Environmental Legislation

RoHS

The European Union has implemented a number of directives which control or restrict the use of certain hazardous materials in electronic products. The directives cover automotive products (ELV), recycling initiatives (WEEE) and hazardous materials in electronics (RoHS). Links to the original directives and certain applicable amendments to the directives are provided here. For additional directives and amendments, see the Europa website at: <http://europa.eu.int/>.

- [RoHS Directive](#)
- [RoHS Maximum Concentration Values](#)
- [RoHS Annex amendments \(includes Deca-BDE exemption\)](#)
- [RoHS Annex amendments \(includes compliant pin & cadmium contacts exemption\)](#)
- [RoHS Annex amendments \(April 21, 2006\)](#)
- [RoHS Annex amendments \(includes lead in glass exemption\) Oct 12, 2006](#)
- [RoHS Annex amendments \(includes hexavalent chromium exemption\) Oct 12, 2006](#)
- [RoHS Annex amendments \(includes lead in garnet and fine pitch components exemption\) Oct 12, 2006](#)
- [WEEE Directive](#)
- [ELV Directive](#)
- [ELV Annex II Amendment](#)
- [EU PFOS Directive 2006/122/EC](#)
- [EU Regulation 1907/2006/EC Registration, Evaluation, Authorization, and Restriction of Chemicals \(REACH\)](#)
 - For additional REACH information, visit the European Chemical Agency (ECHA) website

China RoHS

China has issued Management Methods and Standards related to the control and identification of hazardous materials in certain Electronic Information Products (EIP). English translations of key documents have been provided by AeA and are available at their website; however, it should be noted that the official documents are in Chinese only and can be found at <http://www.mil.gov.cn/>.

Links to noteworthy documents:

- [Management Methods for Controlling Pollution Caused by Electronic Information Products Regulation \("China RoHS"\)](#)
- [Scope of Electronic Information Products \(EIP\)](#)
- [Maximum Concentration Values \(MCV\) Standard](#)
- [China Label Standard](#)

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REACH Suggested Steps to Prepare for Compliance*(Lee Braem, Evonik Degussa Corporation, 9/10/08)*

The following applies to Manufacturers (M), Importers (I), or Downstream Users (DU). Each legal entity will need to define its role under each, or all, categories. Pre-registration and registration is on a separate legal entity basis and cannot be consolidated at a corporate parent level.

1. Produce your company's inventory of individual chemical substances (individually, in preparations, or in articles).
2. For each substance or preparation, define your company's status or role (M/I/DU) and your company's position in the supply chain.
3. Establish whether a substance falls into the following categories:
 - a. Manufactured by your company within the EU;
 - b. Imported by your company into the EU; and/or
 - c. Purchased by your company from a supplier established within the EU.
4. If your company uses polymers, ensure that the monomers they use are properly registered, or exempt.
5. Establish annual manufactured or imported volumes for substances. Threshold for registration is 1 MT/yr.
6. Identify the CAS numbers of substances and, if possible, the EINECS or ELINCS number.
7. Identify and list your customers (per substance).

If M/I (Registrant), go to #8.

If DU, go to #11.

8. Establish whether the following is available for each substance:
 - a. Information on intrinsic properties and data which could be used for exemptions (Articles 2 and 9 and Annexes IV and V)
 - b. All relevant documentation about the cost of studies and/or payments for shared/jointly owned studies.
 - c. Whether the company owned data are based on vertebrate animal tests or not.
 - d. Classification and labeling information.
 - e. Safety Data Sheets compliant with current regulations. The Data Sheets are part of registration dossier and is key tool for communication in supply chain.
9. Ensure that data owned by our company remains the property of the company unless there are formal contractual arrangements with other legal entities in place that address ownership of information, its use when shared and compensation.

When involved in voluntary programs ensure that there is clarity about the ownership and the use of shared data, for example, through either contractual arrangements or rules between consortia members.

10. Establish which legal entity of your group of companies is involved as a Manufacturer or Importer, or both, for a particular substance.

If you are M/I, go to #12.

If you are a DU, go to #11.

11. Identify and list your suppliers (per substance).
12. Compile readily available data on uses and conditions of uses (exposures) for the substance, i.e., exposure of the environment, your own workforce, at your customer's workplaces, and eventually in final uses. Early on, it is sufficient to indicate for each substance a broad use category, e.g., industrial use, professional use, or consumer use.

Initial inventory complete.

.....
Other Actions for Collaboration within Supply Chain.

- a. It is suggested that Registrants (M/I) use standardized questionnaire to collect data about uses and exposure from their direct customer(s) and other downstream (indirect) customers. Use and exposure information is critical for substance registration since substances will be registered according to their uses. Exposure information related to a specific use is needed for a risk assessment of the uses.
- b. Importers will need to contact suppliers for disclosure of compositions of imported preparations.
- c. If a Registrant sells a substance or preparation through a distributor, it may be harder to gather use and conditions of use data. Arrangements will need to be made through distributors to gather such information or work out details of a collaboration for REACH purposes.
- d. DU's will need to ensure that the particular substance or preparation they are purchasing will be registered by their supplier. Prioritize and focus discussions on critical materials of strategic importance, e.g., catalysts, key ingredients in preparations, or key feedstocks. If a Registrant will not register a substance for a particular use, the DU should make its own Chemical Safety Assessment/Chemical Safety Report for its own use and notify the EU Chemical Agency. A DU may also elect to keep its use confidential and make its use known directly to the Chemical Agency.
- e. M/I's which exist as legal entities outside the EU cannot register (or pre-register). They may appoint an Only Representative (OR) legal entity in the EU to take on the duties of an Importer.
- f. When a non-EU supplier appoints an OR, the supplier must inform its customers of the appointment. After this, all EU customers of this supplier are treated as DU's, even though who may be importers (the EU customers will have obligations of a DU, but will not be responsible for registration).

Note: Adopted from European Chemicals Agency guidance (http://echa.europa.eu/home_en.asp) and European Chemical Industry Council Industry Preparation Letters – www.cefic.org