

# Pollution Prevention in the European Union

WEEE and RoHS  
Directives

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Presented by:

Jeremy Poliquin  
CHMM



# Did you say Oui and Arroz?



- Just when you thought you had a firm grip on the environmental acronyms in the USA & California, the European Union decides to enter the fray with :

**WEEE & RoHS**

# Agenda

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- The EU and Electronics
- Definitions
- Requirements
- Exemptions
- Applicability
- Compliance Strategies



# The European Union

- The European Union:
  - “Family of democratic European countries, committed to working together for peace and prosperity”
    - Originally 6 countries in 1973
    - 15 original member states (yellow)
    - 10 new member states (blue)
    - 3 applicant states (pink)



# The EU and Electronics



- On January 27, 2003 the EU adopted two laws regulating electrical and electronic equipment, including:
  - Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Directive (RoHS Directive)
  - Waste Electrical and Electronic Equipment Directive (WEEE Directive)

# Definitions



- The WEEE Directive places an obligation on the producers of electronics to take back ‘end-of-life’ or waste products free of charge in an effort to reduce the amount of such waste going to landfill
  - The WEEE Directive covers all products already sold to consumers, as well as products that will be sold in the future to private and business consumers
- The RoHS Directive compliments the WEEE Directive by banning the presence of specific hazardous substances in products at the design phase

# Definitions



- **Electrical and Electronic Equipment (EEE)**
  - Equipment which is dependent on electric currents or electromagnetic fields in order to work properly; and
  - Equipment for the generation, transfer, and measurements of such currents and fields falling under applicable categories and designed for use with a voltage rating not exceeding 1000 Volts for alternating current and 1500 Volts for direct current.

# Definitions

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- EEE Examples:
  - Large Household Appliances
  - Small Household Appliances
  - IT and Telecommunications Equipment
  - Consumer Equipment
  - Lighting Equipment
  - Electrical and Electronic Tools
  - Toys, Leisure and Sports Equipment
  - Medical Devices
  - Monitoring and Control Instruments

# Requirements



- RoHS : July 1, 2006
  - Bans the following compounds from all EEE put on the market :
    - Lead;
    - Mercury;
    - Cadmium;
    - Hexavalent Chromium;
    - Poly Brominated Biphenyls; and
    - Poly Brominated Diphenyl Ethers.

# Requirements

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- WEEE : August 13, 2005
  - Requires existing producers to pay for the collection, recycling, recovery and proper disposal of EEE

# WEEE Exemptions



- The WEEE Directive explicitly excludes four types of EEE:
  - Equipment intended specifically for military purposes;
  - Large-scale stationary industrial tools;
  - Implanted and infected medical devices; and
  - EEE that is a part of another type of equipment.

# ROHS Exemptions



- The RoHS Directive exempts the inclusion of hazardous materials used in the following applications:
  - Mercury in some lighting applications
  - Lead in the glass of cathode ray tubes, electronic components and florescent tubes
  - Lead in certain steel, aluminum and copper alloys

# RoHS Exemptions (cont.)



- Lead in high melting temperature type solders (SnPb solder >85% lead)
- Lead in solders for servers, storage and array systems (exempted until 2010)
- Lead in solders for network infrastructure equipment for switching, signaling, transmission, as well as network management (exemption expiration date TBD)

# RoHS Exemptions (cont.)



- Lead in electronic ceramic parts (e.g., piezoelectronic devices)
- Cadmium plating (e.g., anti-corrosion plating for sheet metal)
- Hexavalent chromium (in absorption refrigerators)

# RoHS Exemptions (cont.)

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- This Directive does not apply to spare parts for the repair, or to the re-use, of electrical and electronic equipment put on the market before July 1, 2006

# Compliance Strategies



- WEEE and RoHS Directives close the loop from cradle to grave
- Industry Involvement
- Product Stewardship
  - Involves new product engineering, legal, corporate compliance, manufacturing, quality, sales, EHS, etc.
- Environmental Management System
  - ISO 14001
  - Incorporate compliance effort into EMS goals and objectives

# Compliance Strategies



- Design for Environment
  - Identify restricted hazardous substances
  - Recyclability standards
  - Product end of life / Reliability
- Supply Chain Management
  - Certification system
  - Auditing program
  - Response to product inquiries
- Product Take Back
  - Establish infrastructure
  - Recyclability criteria
  - Coordinate with sales and customers

# Summary



- The EU aims to minimize the impact of waste electronic products to human health and the environment through WEEE and RoHS legislation by:
  - Restricting certain hazardous materials from inclusion in electronic products
  - Forcing producers to take back and ensure the proper disposal of electronic products
- Equipment manufacturers, manufacturing services, and suppliers must take steps to ensure legal sale of products in EU
- Compliance may be difficult - Assess applicability and develop a strategy before it is too late!

# The End

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Thank You!