Reduction in the use of Hazardous Substances

Enforcement...

Checking Preparedness
RoHS Overview

- Seeks to reduce the environmental impact of Electrical and Electronic Equipment (EEE)
- Precautionary Principle
- Mandated under the E-waste (Management and Handling Rules), 2011 notified by Ministry of Environment and Forests
- Came into force May 1, 2012
- 2 years time frame provided (May 2014)
- Modeled on EU RoHS
Benefits

- Design for the Environment
- More proactive approach than reactive
- Focus is on preventing long-term issues
- Address global issues verses domestic
RoHS Globalization

- **EU RoHS**
  Effective on 1 July 2006

- **US RoHS**
  Maine, Texas, California

- **China RoHS**
  January 2007

- **Japan, South Korea**
### Reduction in the use of Hazardous Substances (RoHS)

**Substances and Limits**

1. Lead (Pb) **1000 ppm**
2. Cadmium (Cd) **100 ppm**
3. Mercury (Hg) **1000 ppm**
4. Hexavalent Chromium (Cr6) **1000 ppm**
5. Polybrominated Biphenyles (PBB) **1000 ppm**
6. Polybrominated Diphenyle Ether (PBDE) **1000 ppm**
Where these substances are used?? Some examples...

- Lead is used in almost all solder joint & lead finish.
- Cadmium is used in cable sheathing as anti corrosive agent for protecting connectors & fixing in salt spray conditions.
- Mercury is used in thermostats, sensors & various forms of energy saving lamps
- Hexavalent chromium is used in metal coatings for corrosion protection and wear resistance
- PBB & PBDE are fire retardant materials and added to PCB, connectors, Plastics etc.
Application

Producers

- Any person who irrespective of selling technique used, manufactures & offers to sell EEE under his own brand
- offers to sell under his own brand, assembled EEE produced by other manufacturers or suppliers
- offers to sell imported electrical & electronic equipment
Application

- Applies to homogeneous material
- Applies to the final product; not process
- RoHS directive does not apply to components of EEE placed in 2006
- Exemption list

- **Responsible agency**: CPCB
Enforcement?

- Self Declaration on Conformity
- Market Surveillance Measures

- Investigations based on:
  - Market intelligence
  - Random selection
  - Products known to contain materials of high concern
  - High volume products
  - Short life products
  - Consumer products unlikely to be recycled

- Random Lab checks (Economics)
Enforcement?

- Labeling
- Exemption for Spare Parts

Role of Customs - Non-RoHS compliant not allowed?
Non-Compliance

- Fines & Penalties
- Product Recalls
- Prohibition of Future Sales
- Withdrawal of Operating Licenses
- Criminal Liabilities in Serious Cases
Regulatory Best Practices

- Environmental life cycle assessment of alternatives

- Transparent process
  - Technical input
  - Consultation with industry

- Clear regulations and enforcement plan

- Clear and efficient review process