ELECTRONIC WASTE WHERE DO WE GO NOW?

FIRST THINGS FIRST

- What are some toxic substances in electronics?
 - Heavy metals, rare earth metals
 - Exposure to many of these can have significant physiological and neurological side effects
 - Some are classified as dangerous goods (IATA Dangerous Goods Regulation, currently 58th edition)
 - Class 5: Oxidizing Substances
 - Class 6: Toxic and Infectious Substances
 - Class 7: Radioactive Material
 - Class 9: Miscellaneous Dangerous Goods

Federal Motor Carrier

Safety Administration

Nine Classes of Hazardous Materials Class 1: Explosives Class 5: Oxidizer and Class 2: Gases Class 3: Flammable Class 4: Flammable Divisions: 2.1, 2.2, 2.3 Organic Peroxide Divisions: 1.1, 1.2, 1.3, 1.4, Liquid and Solid, Spontaneously **Combustible Liquid** Combustible, and Divisions 5.1, 5.2 1.5, 1.6 **Dangerous When Wet** Divisions 4.1, 4.2, 4.3 RADIOACTIVE POISON **CORROSIVE** Class 6: Poison (Toxic) and Class 8: Corrosive Class 9: Class 7: Radioactive **Dangerous** Poison Inhalation Hazard Miscellaneous Revised 06/05

U.S. Department of Transportation

www.fmcsa.dot.gov

FIRST THINGS FIRST

- The Material Safety Data Sheet
 - Covers many safety aspects of electronic devices
 - Materials used, potential risks, first aid, handling, etc.
 - That includes how they should be disposed
 - However, they often say something akin to 'Check Local Regulations'
 - What are the local regulations?

ELECTRONIC WASTE

- Known as 'Universal Waste' in CA.
 - Seven categories
 - Electronic devices
 - Batteries (Li-ion)
 - Electric lamps
 - Anything containing Mercury
 - CRTs (And their glass)
 - Non-empty aerosol cans
- Three regulatory levels: Handlers, Transporters, Destinations

- Lavvs
- Regulations
- O PO ICIES





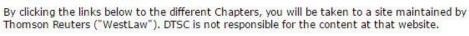
Quick Links:

- O California Statutory Law
- Official California Legislative Information
- DTSC Legislative Summaries
- CA Code Excerpts / Health and Safety Codes
- Hazardous Waste Fee Summary
- Governor's Reorganization Plan 1 of 1991 (uncodified)
- U.S. EPA List of Major Environmental Laws

Official California Code of Regulations (CCR), Title22, Division 4.5

Laws | Regulations | Policies

The list below of the Chapters of CCR, Title 22, Division 4.5 are links to the OFFICIAL version of CCR, Title 22, Division 4.5, that is maintained by Thomson Reuters under contract with the California Office of Administrative Law.

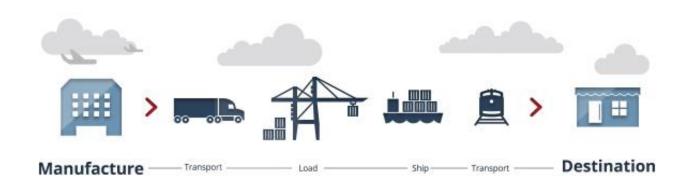




Chapter	Title	Section Range
10	Hazardous Waste Management System: General	§66250 - §66260.210
11	Identification and Listing of Hazardous Waste	§66261.1 - §66260.210
12	Standards Applicable to Generators of Hazardous Waste	§66262.10 - §66262.89
13	Standards Applicable to Transporters of Hazardous Waste	§66263.10 - §66263.50
14	Standards for Owners and Operators of Hazardous Waste Transfer, Treatment, Storage, and Disposal Facilities	§66264.1 - §66264.1103
15	Interim Status Standards for Owners and Operators of Hazardous Waste Transfer, Treatment, Storage, and Disposal Facilities	§66265.1 - §66265.1103
16	Recyclable Materials (Recyclable Hazardous Waste)	§66266.1 - §66266.120
17	Military Munitions	§66267.10 - §
18	Land Disposal Restrictions	§66268.1 - §66268.124
19	Fees	§66269.1 - §66269.2
20	The Hazardous Waste Permit Program	§66270.1 - §66270.73
21	Procedures for Hazardous Waste Permit Decisions	§66271.1 - §66271.33
22	Enforcement, Inspections, and Informant Rewards	§66272.1 - §66272.69
23	Standards for Universal Waste Management	§66273.1 - §66273.101
24	Mercury Thermostat Collection and Performance Requirements	§66274.1 - §66279
29	Standards For the Management of Used Oil	§66279.1 - §67100
24	Maste Minimization	867100 1 867202

ELECTRONIC WASTE

- Covered by 'Official California Code of Regulations (CCR), Title
 22, Division 4.5'
- HAZMAT regulations



ELECTRONIC WASTE

- Let's not forget the supply chain
- There's a before before the after
- There's even a before before that, which leads to a slew of moral and ethical concerns

CONFLICT MINERALS

- You may have heard the term Blood Diamonds
- Conflict minerals are the same general problem
 - How they're mined
 - How the labor is sourced
 - Where the funds are funneled
- Estimates of 5 million killed so far in the Congo, funded largely by these substances*

• http://www.calrecycle.ca.gov/Electronics/Reports/default.aspx