



# Historical and Current Perspective of Scrap Metal Recyclers



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Annual Training Conference  
March 22, 23, 24, 29, 30, 31 - 2022

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# Scrap Metal Recycling

Thank you to the CUPAs for their assistance, and the regulated community for your flexibility and cooperation

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# The Good News...

- Recycling is good –
  - Good for the economy
    - It creates jobs
    - It is cheaper to manufacture goods from recycled materials
    - Saves the cost of disposal in the landfill
  - Good for the environment
    - Diverts waste from the landfill
    - Avoids the need to use natural resources to make new products



# The Bad News...

Fires, accidents and explosions

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# DTSC's Metal Recycler Enforcement Initiative: Why Metal Recyclers?

- Reason:
  - Volatile metal prices; metal recyclers greatly increased in number statewide
  - Reports of fires, explosions and accidents at facilities
- Purpose:
  - To investigate concerns of environmental releases and soil contamination in vulnerable communities
  - To evaluate need for operating standards



# The Initiative

Began in 2012

- Have inspected approximately 75 metal recyclers
  - Collected samples at all facilities
    - 95% of all samples were hazardous for metals
    - Most facilities had violations that warranted enforcement with penalties
  - Have referred ~30 facilities to DTSC Site Mitigation Program for cleanup



# What is Scrap Metal?

Under California law, scrap metal means any one or more of the following:

- manufactured, **solid** metal objects and products;
- metal workings, including cuttings, trimmings, stampings, grindings, shavings, and sandings (**only if >100 um in size**);
- **solid** metal residues of metal production; or
- printed circuit boards, excluding those removed from universal waste electronic devices or PV modules, **that are recycled**.





# Examples of Scrap Metal

manufactured,  
solid metal objects  
and products



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# Scrap Metal

metal workings,  
including cuttings,  
trimmings, stampings,  
grindings, shavings,  
and sandings

(picture shows  
aluminum grindings)



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# Scrap Metal

solid metal  
residues of metal  
production

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CALIFORNIA  
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FORUM

# Scrap Metal

Printed circuit boards  
at a scrap metal  
recycler

These pcboards were  
sent overseas for  
recycling



# Scrap Metal

Vehicles from which all hazardous wastes have been removed

- Oil, fuels, refrigerants, transmission fluid, steering fluid, etc.



# Scrap Metal

Drained compressors



# What is NOT Scrap Metal?

Examples of metals or wastes excluded from the definition of scrap metal include:

- lead-acid storage batteries; waste elemental mercury; and water-reactive metals such as sodium, potassium, and lithium;
- magnesium borings, trimmings, grindings, shavings, sandings, and any other forms capable of producing independent combustion;
- beryllium borings, trimmings, grindings, shavings, sandings, and any other forms capable of producing adverse health effects or environmental harm;



# NOT Scrap Metal continued...

- any metal contaminated with a hazardous waste, such that the contaminated metal exhibits any characteristic of a hazardous waste under article 3 of chapter 11 of division 4.5 of title 22 of the California Code of Regulations (i.e., ignitability, corrosivity, reactivity, and toxicity);
- any metal contaminated with an oil that is a hazardous waste and that is free-flowing;
- sludges, fine powders, semi-solids, and liquid solutions that are hazardous wastes;
- printed circuit boards that have been removed from a universal waste electronic device or PV module by a universal waste handler; and
- metal shredder aggregate.





# NOT Scrap Metal

Spent Lead Acid Batteries are not scrap metal; they are hazardous waste (Requirements for Management of SLABs are in CCR, T22, Section 66266.80).



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# NOT Scrap Metal

Metal Contaminated with  
Hazardous Waste (Oil)

Oil filters have oil in the body of the filter AND some is trapped in the anti-drain valve (~1-3 ounces). Both areas need to be drained. If puncturing, the bigger the hole, the faster it drains (and the puncture holes are easily seen to confirm drainage).



# NOT Scrap Metal

Undrained  
compressors are not  
scrap metal



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# NOT Scrap Metal

## Sludges

The sludge in this sump is contaminated with fine heavy metals. It is not scrap metal, it is a hazardous waste.



# NOT Scrap Metal

Fine powders <100 um in size

This was aluminum grindings  
that contained 14-17%  
powder and was hazardous  
for copper and beryllium.  
Beryllium is very toxic.



# Determination of Hazardous Waste

How to characterize:

- Analytical Testing
- Generator Knowledge

22 CCR § 66262.11. Hazardous Waste Determination.

**EXCERPT:** A person who generates a waste, as defined in section 66261.2, shall determine if that waste is a hazardous waste using the following method:

- (1) testing the waste according to the methods set forth in article 3 (commencing with section 66261.20) of chapter 11 of this division, or according to an equivalent method approved by the Department under section 66260.21; or
  - (2) applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used and the characteristics set forth in article 3 of chapter 11 of this division.
- (d) If the waste is determined to be hazardous, the generator shall refer to chapters 14, 15, 18, and 23 of this division for possible exclusions or restrictions pertaining to management of the specific waste.



# Metal dust on the manifest

Prop Ship Name: Haz Waste, Solid, NOS

Haz Class: 9, Misc Haz Matl

UN3077 = Env. Haz Sub, Solid, NOS

PG III = Packing Group III, Low Danger

172: Metal dust and machining waste

181: Other inorganic solid waste

D008: RCRA Lead

State of California—Environmental Protection Agency  
Form Approved OMB No. 2050-0039 (Expires 9-30-99)  
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of page 6.

Department of Toxic Substances Control  
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 ( of )	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address		CAAD		A. State Manifest Document Number 985		B. State Generator's ID
4. Generator's Phone		CA 90660		C. State Transporter's ID		D. Transporter's Phone
5. Transporter 1 Company Name		MANAGEMENT		E. State Transporter's ID		F. Transporter's Phone
6. US EPA ID Number		CAAD		G. State Facility's ID		H. Facility's Phone
7. Transporter 2 Company Name		8. US EPA ID Number		9. Designated Facility Name and Site Address		10. US EPA ID Number
CROSBY & OVERTON		CAAD02B409019		1610 W. 17th STREET		
LONG BEACH, CA 90813						
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers		13. Total Quantity	14. Unit Wt/Vol	1. Waste Number	
	No.	Type			State	EPA/Other
a. HAZARDOUS WASTE, LIQUID, N.O.S., 9, UN3082, PG III (MIXED OIL CONTAINING LEAD)	602	DIF	00010	G	221, 724	D008
HAZARDOUS WASTE, SOLID, N.O.S., 9, UN3077, PG III (MIXED METAL BEARING SOLID)	502	DIF	00060	P	172, 181	D008
Non-RCRA Hazardous Waste, Liquid. [Mixed Oil/Waste Oil]	0011	DIF	00005	G	221	NRM
d. Non-RCRA Hazardous Waste, Solid					513	

WITHIN CALIFORNIA, CALL 1-800-852-7550

# Operations at Metal Recyclers

Metal Recyclers buy or receive discarded metal items, process them, then sell them

- Appliances, e-waste, vehicles, household items (metal chairs, desks, lawn furniture, etc.)
  - Appliances, e-waste and vehicles should be de-polluted prior to processing
    - Processing includes: shearing, cutting, baling, compacting, sorting, or anything that may intentionally or incidentally change the form of the item





# Operations at Metal Recyclers, cont'd.

Processing of the metal is conducted to reduce the metal in size for shipment offsite

- the metal is sold to customers
  - It may be shipped domestically by rail or semi-trailer
  - Or shipped overseas by cargo ships



# Wastes Generated at Metal Recyclers

- Depollution of appliances and vehicles produces Materials that Require Special Handling (hazardous waste, or MRSW).
- Processing activities cause metal pieces to grind against each other and create fine metal dusts and particles, which are hazardous, if made of metals with hazardous properties
  - Copper, lead, zinc, nickel, cadmium, and others
- The metal dusts combine with soil, oil, fuels, etc., to create contaminated soils and debris
  - Yard sweepings and scrap piles with soil may contain hazardous metal fines



# Types of Violations At Metal Recyclers

- Electronic Waste (e-waste)
- Appliance/CAR Program
- Hazardous Waste Violations:
  - Unauthorized Acceptance of Hazardous Waste
  - Unauthorized Storage/Disposal/Treatment
  - Failure to Minimize the Possibility of Release
  - Failure to Determine a Hazardous Waste
  - Training to properly manage these wastes



# Electronic Waste (E-Waste)

Photo of leased outside  
storage site in El Centro.

Some junk is in the space,  
but a lot of the waste here  
is electronic waste (broken  
CRT televisions and  
monitors) (close-up on  
next slide)



# E-Waste

Broken, abandoned CRT monitors stored outside on bare soil.

Facility operator was an e-waste collector; he was cited HSC 25154 for unlawful management of electronic waste, specifically Cathode Ray Tubes.



# E-Waste

## Violations:

- Failure to contain
- Failure to label
- Failure to clean up spills to prevent a release
- Record-keeping violations
  - Annual Reporting



# Certified Appliance Recycler (CAR) Program

Allison Saldana will  
discuss MRSH and give  
an overview of the  
CAR Program



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# Health and Safety Code (HSC) 25201(a) / CCR T22 66262.11

## Car Crusher

Soil underneath the crusher was  
hazardous for soluble lead

### Violations:

- Illegal storage of contaminated soil (HSC 25201(a))
- Failure to make determination of hazardous waste soil (CCR T22 66262.11)





# CCR T22

## 66265.31

### Baler

- Used to compact scrap metal for shipping
  - Often associated with contaminated soil and debris
- Violation: Failure to minimize the possibility of a fire, explosion or any unplanned sudden, or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil, or surface water which could threaten human health and the environment



# HSC 25201(a)/ 25189.2(d)

## Shaker Table

- Used for mechanical separation of pieces of metal and debris from contaminated soil

## Violations:

- Unauthorized treatment (HSC 25201(a))
- Unauthorized storage (25189.2(d))



# CCR T22 66265.31

## Shear (Small scale)

- A means of cutting scrap metal into smaller pieces for shipment
  - Also often associated with contaminated soils and debris

## Violation:

- Failure to minimize the possibility of release...



HSC 25203/25189.2,  
CCR T22 66262.11

### Yard Sweepings

- dirt and debris contaminated with fine metal powders

### Violations:

- Unauthorized disposal of a hazardous waste (HSC 25203/25189.2)
- Failure to determine if a waste is a hazardous waste (CCR T22 66262.11)



# CCR T22 66262.11/ HSC 25189.2(d)

## Contaminated soil

- small “sweeper” piles swept from around the unpaved site, hazardous for soluble lead

## Violations:

- Failure to determine a hazardous waste
- Unauthorized storage



# HSC 25189.2(d), Unauthorized Storage

## Contaminated Soil

- Small Piles Often Grow to Big Piles...
  - Soil received in scrap metal loads
  - Soil already on-site
  - Sweeper piles
    - All combine over time to become a large pile of hazardous waste
    - Very costly to ship offsite as hazardous waste



CCR T22 66265.31

HSC 25189.2(d)

HSC 25203/25189.2(d)

Very fine soil crushed to powder  
due to heavy equipment and  
vehicles

- If the soil is contaminated with  
heavy metals

Possible violations:

- Failure to minimize the  
possibility of a release
- Illegal storage/disposal of  
hazardous waste soil



# CCR T22 66265.31

## Air Dispersal of Soil Contaminants

- This fine, powdery soil is being aerosolized by a water truck spraying water on it

### Violation:

- Failure to minimize the possibility of a release





## HSC 25201(a)

### Acceptance and Storage of a Hazardous Waste without Authorization

- For accepting fine powders from offsite
  - This drum contained metal powders hazardous for zinc and chromium



# A Cleanup Site

**Before**



**After**



The Good News...  
This presentation is  
over 😊



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# Resources

- DTSC **Main** webpage:
  - DTSC.ca.gov
- DTSC **Hazardous Waste** webpage:
  - <https://dtsc.ca.gov/managing-hazardous-waste/>
- DTSC **Scrap Metal** webpage:
  - <https://dtsc.ca.gov/scrap-metal-home/>



# Resources

- DTSC **CAR Program** webpage:
  - <https://dtsc.ca.gov/certified-appliance-recycler-car-program/>
- DTSC **Electronic Waste** webpage:
  - <https://dtsc.ca.gov/electronic-hazardous-waste/>



# Contacts

DTSC's Regulatory Assistance Office

Toll-Free in CA: 800-728-6942

or 800 72-TOXIC

Outside CA: 916-324-2439

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# Any Questions?

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