



Materials that Require Special Handling (MRSH) March 31, 2022



24th California Unified Program
Annual Training Conference
March 22, 23, 24, 29, 30, 31 - 2022

What is MRSH?

Where does it come from?

What are the Requirements for managing it?



What is MRSH?

- ✓ The Term “MRSH” is exclusively used in the context of scrap appliances (and scrap vehicles) and the materials within them that may cause harm.
- ✓ “Materials that Require Special Handling” can harm human health and the environment if they are not properly removed and managed before the major appliances are recycled in California
- ✓ DTSC provides certification for anyone who intends to remove MRSH and this must be obtained prior to its removal- Health & Safety Code (H&S code section 25211.1). A person who obtains this is a Certified Appliance Recycler (CAR)

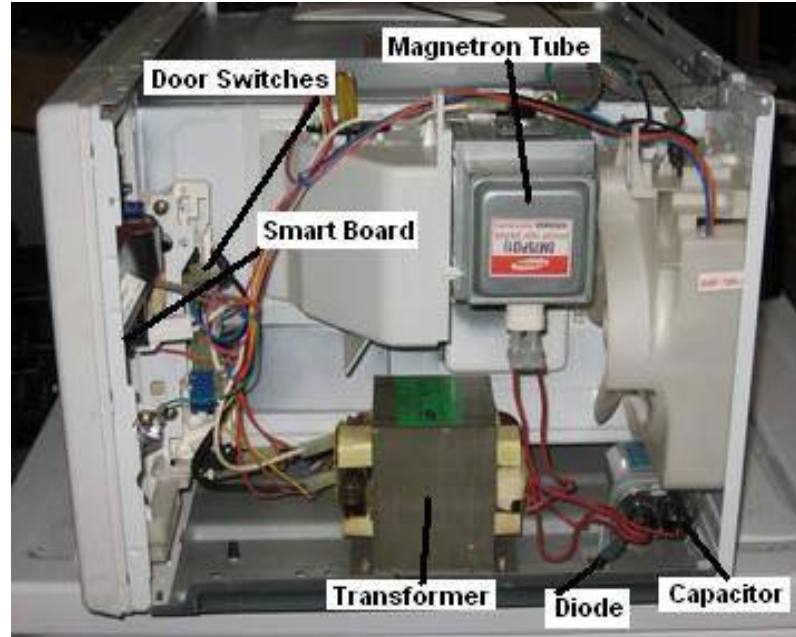


Laws Requiring MRSH Management

- Public Resources Code (PRC) sec. 42175.1 and Health and Safety Code sec. 25212 - Materials that require special handling (MRSH) must be removed prior to processing (including crushing and baling) major appliances for scrap metal.
- Health and Safety Code sec. 25211.3 – Specific documentation must accompany discarded appliances to ensure that MRSH are removed by a CAR.
- A CAR cert. is not required if only refrigerant will be removed and the person conducting that process is a certified refrigerant technician under Section 608 of the Clean Air Act. If the individual will also remove other forms of MRSH the CAR cert. is required. (Any facility or individual that handles the removal of refrigerants requires the 608).



Major appliances that contain MRSH



**This is a layout of a basic countertop microwave.
Please note that your layout may differ but the
components should look very much like the ones in
the picture.**

Capacitor

Stores large amounts of electricity even when your microwave is unplugged -

- The capacitor is the main MRSH component we look for in a scrap microwave. It contains used oil and the oil may also contain PCB's in older models. Older capacitors with PCB's were banned in 1979, look for the label indicating "No PCB's".
- Regardless of whether the capacitor contains PCB's there is still used oil remaining within the unit so it must be removed from a scrap microwave by a CAR prior to any crushing, bailing, shearing of the appliance it resides in.



Capacitor

- *Incidental crushing in a truck load or scrap metal pile is considered “crushing”* because there’s potential to damage the appliance to such a degree that the MRSH cannot be removed (it’s mangled and can’t be accessed later prior to shredding to remove it).
- MRSH can also be *accidentally released* due to the crushing. There is no strict definition of “crushing” therefore inspectors should use best judgements to determine whether the appliance handling is appropriate when appliances contain MRSH.



Refrigerators: Compressors



- Compressors should be removed before any crushing, shredding, baling of a refrigerator. The compressors contain used oil and copper wiring which are recycled.
- The compressors should be punctured and drained of all pourable quantities of used oil by a CAR. This oil is managed as HW and the draining should be conducted in manner that does not release any used oil outside of secondary containment, general used oil disposal and handling requirements apply.

Refrigerators: Compressors FYI

- Compressors that are individually accepted (separated from refrigeration units) and are still containing used oil (undrained) are not authorized at a CAR location unless they are specifically authorized as a TSD.



Refrigerator MRSH Cont.



- The copper wiring inside is also a recyclable material in the scrap industry so compressors may be observed at a scrap yard as a sealed unit already separated from the refrigerator and may have been received that way.
- *This is only authorized if they were received fully drained of oil.* Otherwise, the scrap metal yard (generator) is receiving off-site HW without authorization and would be in violation (HSC sec. 25201 (a))



Refrigeration Gasses Removal Requirement

- A CAR certification doesn't authorize removal of refrigerants.
- Refrigerant removal requires an EPA 608 certification:
<https://www.epa.gov/section608/section-608-technician-certification-0> (Inspectors need to ask for this cert. to verify)

Removal of Any types of coolant gasses such as:

- R-134A Tetrafluoroethane (most common)
 - R-438A Freon
 - R-600A Iso Butane
 - Tetrafluorethane
 - Chlorofluorocarbon



Water Heater MRSH

The primary MRSH component on a water heater is the *thermocouple* which controls temperature. It may contain mercury and must be removed and managed as HW prior to any crushing, shredding or bailing of the water heater scrap metal.



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Water Heaters in Scrap Piles



Commonly found inside a scrap metal pile and may require an inspection to check for the presence of thermocouples. Observe and cite any crushing inside the pile from machinery when MRSH hasn't been removed from them.



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Summary of MRSH Table

Appliances	Items to Remove
Air Conditioner	Freon or other types of gas recovery, compressor oil, PCB (ballast & capacitor) recovery
Freezer	Freon or other types of gas recovery, compressor oil, mercury switches
Heater/Boiler	Mercury switches, PCB (ballast & capacitor)
Microwave	Mercury switches, PCB (ballast & capacitor)
Oven/Stove	Mercury switches, PCB (ballast & capacitor)
Refrigerator	Freon or other types of gas recovery, compressor oil, mercury switch
Vending Machine	Freon or other types of gas recovery, compressor oil, PCB (ballast & capacitor) recovery
Washing Machine	Used motor oil

Basic Requirements for MRSH Management

- Any removal of MRSH must be performed by an individual who is working under a CAR authorization. That individual must have appropriate training.
- If the applicant will not generate more than 1 kilogram of acutely hazardous waste per month or more than 100 kilograms of other RCRA hazardous waste per month, the applicant may obtain a State of California Hazardous Waste Identification Number instead.
- Inspectors: Check for the CAR application certificate for training information and ask for updated training records, including the 608 certification if they are removing or plan to remove any refrigerants.



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Forms Required for MRSH Management

- ✓ Upon removal of MRSH, a CAR is required to complete a DTSC 1430 form (HSC sec. 25211.2 (a)) and submit the form upon the transfer of the appliance(s).
- ✓ The CAR may deliver the appliance directly to the scrap recycling facility by providing DTSC 1430 form and by showing the facility the CAR certificate.
- ✓ Alternatively, a transporter who is not a CAR may deliver appliances with MRSH removed to a scrap recycling facility, as long as that facility is a CAR and the appliance is accompanied by a completed DTSC 1430 form or an orphan form (form 1459)



Forms Required for MRSH Management

The scrap recycling facility/CAR must determine what forms of MRSH have already been removed or are obstructed from removal and must remove any other MRSH prior to further processing of the appliance. This includes any incidental crushing of appliances due to how they are stored or handled in the scrap yard. A CAR that accepts “orphaned” appliances must also submit the monthly report titled “Orphan Appliance Monthly Report, **DTSC 1468** form to DTSC, which contains the following information (HSC sec. 25211.2 (d)):

- ✓ The name and address of the person who transported, delivered or sold each appliance to the scrap recycling facility
- ✓ The total number of orphan appliances received within the reported month



Containment of MRSH

- MRSH must be containerized properly, labeled as either hazardous waste or universal waste as determined by the waste stream. Secondary containment is necessary for any oils, fuels or other liquids.
- Verify invoices, receipts, manifests & other transportation documentation for determining how the MRSH is disposed.



Most Common Violations

- **Public Resources Code (PRC) 42175** – Failed to remove materials that require special handling (MRSH) from major appliances and vehicles in which they are contained prior to crushing for transport or transferring to a baler or shredder for recycling. **Health and Safety Code (HSC) sec. 25212 (a)** – Failed to remove MRSH from major appliances in which they are contained prior to the appliance being crushed, baled, shredded, sawed or sheared apart, or processed in a manner that could result in the release or prevent the removal of MRSH.



Most Common Violations Cont.

- **HSC 25201** – acceptance of hazardous waste without authorization. (ex. sealed compressor units separated from the appliance)
- **Cal. Code Regs. Title 22, section 66265.31** – Facilities shall be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. Cite this for MRSH mismanagement (i.e., used oil from compressors draining in uncontained structure, removing refrigerants without proper evacuation equipment, fires & explosions from undrained vehicles still containing gasoline or reactive metal dusts such as magnesium & aluminum, etc.)



Most Common Violations Cont.

- **HSC sec. 25211.2(b)(2)(A)** – Failed to provide a complete certification that all MRSH had been removed from discarded appliances that have been crushed, baled, shredded, sawed or sheared apart, or otherwise processed in a such a manner that could result in the release, or prevent the removal, of MRSH and transported, delivered, and/or sold to a scrap recycling facility... Or, **25211.2(b)(2)(B)**
- **HSC sec. 25212(a)** – Disposal of MRSH at a solid waste facility



Common Violations Cont.- Using Orphan Forms

- **HSC sec. 25211.2 (b)(2)(B)** – For discarded appliances that have been crushed, baled, shredded, sawed or sheared apart, or otherwise processed in a such a manner that could result in the release, or prevent the removal of MRSH and transported, delivered, and/or sold to a scrap recycling facility, failed to do all of the following: (1) present a form of government issued identification; (2) under penalty of perjury, provide the scrap recycling facility his or her name, address, telephone number, and written certification he or she obtained the appliance in the condition delivered to the scrap recycling facility and did not process the appliance or arrange to have it processed; and (3) provide the name and address of the person from whom the appliance was obtained, or include in the written certification the reason that the information is unavailable.



Common Violations Cont.

- **HSC sec. 25211.2 (a)** – Failed to certify on DTSC Form 1430 and provide the certification to the receiving facility, at the time of the transaction, that all MRSH have been removed from major appliances delivered to the scrap recycling facility.
- **HSC sec. 25211.2 (a)** – Failed to provide a complete DTSC Form 1430 to the receiving facility, at the time of the transaction, to wit: **25211.2(a)** – Failed to include the CAR certificate number on DTSC Form 1430. **25211.2(a)** – Failed to include the CAR hazardous waste generator ID# on DTSC Form 1430. **25211.2(a)** – Failed to include the number and types of appliances included in the shipment on DTSC Form 1430. **25211.2(a)** – Failed to include the destination of the MRSH on DTSC Form 1430.



Additional Resources

<https://dtsc.ca.gov/certified-appliance-recycler-car-program/> Link for the DTSC CAR Program

DTSC has prepared a fact sheet that explains the requirements of the CAR program in more detail: [AB 1447-Changes to the Appliance Program](#).

Additionally, you may find some of these related links useful:

DTSC's [Universal Waste Web page](#) includes information and guidance on the management of universal wastes, including mercury switches.

DTSC's [Used Oil Fact Sheet](#) includes information and guidance on how to manage used oil removed from discarded major appliances.

DTSC's [Mercury Waste Web page](#) includes guidance on locating and removing mercury switches from discarded major appliances.

DTSC's [Scrap Metal Recycling Web page](#) includes information on scrap metal recycling [California Cash for Appliances Website](#)

- DTSC Contact for CAR Information including applicant certifications and related documents: Laura Helfrich, Associate Governmental Program Analyst – Laura.Helfrich@dtsc.ca.gov (916) 324-0381





Any Questions?

Allison Saldana, Sr. Environmental Scientist (Specialist)

Cal/EPA, Department of Toxic Substances Control

Allison.saldana@dtsc.ca.gov

(818) 624-7517

