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# Air Resources Board

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TO: All INTERESTED PARTIES

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SUBJECT: HAZARDOUS WASTE MANAGEMENT OF DIESEL EMISSION CONTROL STRATEGIES

This purpose of this guidance document is to address proper management of ash generated by diesel emission control strategies (DECS), such as diesel particulate filters (DPFs), flow-through filter (FTF), and/or diesel oxidation catalysts (DOCs) and the proper disposal of spent DECS.

## ASH GENERATION BY A DECS

### 1. How is ash generated?

Some DECS, such as DPFs and FTFs, physically trap and collect diesel soot from engine exhaust. While the trapped soot is burned off through filter regeneration, metal oxide "ash" particles are not burned. Over time, the unburned ash will plug the filter unless the DECS is periodically cleaned.

### 2. Why is ARB concerned about ash management?

Analytical tests have shown that DECS ash is considered hazardous waste in California. Fleet owners are responsible to comply with all Federal, State, and local laws regarding hazardous waste. California laws, enforced by the Department of Toxic Substances Control (DTSC), require that you properly manage a hazardous waste. Because California laws are more stringent than laws in other states and foreign countries, some cleaning methods allowed in other states are not legal in California. You should contact your DECS supplier or the manufacturer for instructions on how to properly clean the DECS to comply with California hazardous waste laws.

### 3. How do I clean a DECS to remove ash?

DECS manufacturers recommend a variety of DECS cleaning techniques to remove the ash from devices. You are required to use techniques identified by the manufacturer that are developed under the assumption that the ash is a hazardous waste. You should contact your DECS supplier or the manufacturer for instructions on how to properly clean the DECS to comply with California hazardous waste laws.

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.*

California Environmental Protection Agency

Not all cleaning methods are appropriate for all DECS. Failure to follow the manufacturer approved cleaning methods for California may result in noncompliance with Federal, State and local hazardous waste laws, as well as DECS damage that could result in potential denial of the DECS warranty clause and along with non-compliance of ARB fleet rules.

Some manufacturers recommend the following cleaning techniques and these may be legal in California if all appropriate steps, as outlined by the manufacturer:

Compressed Air: This entails blowing compressed air through the filter in the direction opposite of the typical flow into a chamber with a HEPA filter that collects all of the particulates, for eventual disposal as a hazardous waste. You should contact a reputable hazardous waste management company regarding disposal of the ash. This method must be conducted in a chamber otherwise you may potentially expose workers to unsafe levels of zinc and other metal oxides. Also you may have an illegal disposal of a hazardous waste into the air.

High Pressure Water and Detergent: This method results in wastewater containing metal oxides, potentially a hazardous waste, and therefore requires collecting the waste water and disposing of it through a reputable hazardous waste management company. Discharging to a sanitary sewer, storm drains or pouring the residue on the ground is illegal in California.

Note: Some DPF manufacturers recommend reversing the filter periodically to more evenly distribute the collected particulate on the filter substrate. This is not a method for cleaning and the filter must be cleaned using an approved method for California prior to replacing the reversed filter.

**4. How much ash will be generated by a DECS?**

Ash generated and collected from a DECS ranges from a couple of teaspoons to about a cup.

**5. How can I find out if the ash is a hazardous waste?**

As a potential generator, you have two options. You can assume the ash is hazardous waste, based on your knowledge that other tests have confirmed it is hazardous, or you can have your waste tested by a state-authorized testing facility. You can get a list of these facilities from DTSC by contacting the DTCS Regulatory Assistance Office at 1-800-728-6942 or [RAO@dtsc.ca.gov](mailto:RAO@dtsc.ca.gov) .

**6. What do I do if the ash is a hazardous waste?**

You must contact a reputable hazardous waste management company to manage your hazardous waste. For more information, you should contact the DTCS Regulatory Assistance Office at Call 1-800-728-6942 or [RAO@dtsc.ca.gov](mailto:RAO@dtsc.ca.gov) .

**7. Disposing of a Spent DECS.**

Proper management of spent DECS is required, since the ash or catalyst material in the device may be classified as hazardous waste. A spent DECS may be recyclable because of the value of the precious metals that coat the filter substrate. Once the ash and precious metals are removed or recovered, the DECS may be managed as scrap metal.

The DTSC regulates used automotive catalytic converters as scrap metal as long as the catalyst material is left in the converter shell during collection and transportation of the converters for recycling. You should contact a reputable hazardous waste management company for more information or the DTCS Regulatory Assistance Office at 1-800-728-6942 or [RAO@dtsc.ca.gov](mailto:RAO@dtsc.ca.gov) .

### **FINDING OUT MORE ABOUT HAZARDOUS WASTE**

In California, the DTSC has authority over the regulation of hazardous waste. The State's hazardous waste laws are found in the Health and Safety Code, Division 20, and in the California Code of Regulations, Title 22, Division 4.5 . In California, all hazardous waste must be disposed of at a facility that is permitted by the DTSC. You can get more information from DTSC by contacting the DTCS Regulatory Assistance Office at 1-800-728-6942 or [RAO@dtsc.ca.gov](mailto:RAO@dtsc.ca.gov)