SIEMENS

Water Technologies

SLUDGE EXEMPTION:

FREQUENTLY ASKED QUESTIONS

What is the sludge exemption?
Spent activated carbon generated in certain applications may qualify for what is known as the "sludge exemption". This allows the spent carbon to be handled (packaging, shipping and storage) as a non-hazardous waste and is exempt from the regulations for hazardous waste as described in 40 CFR §262.

When can the sludge exemption be applied to spent activated carbon?
The sludge exemption may apply for spent carbons generated from an air pollution control facility, a municipal, commercial, or industrial wastewater treatment plant, or a water supply treatment plant. The exemption only applies to spent carbon that is not exposed to any wastes specifically listed in 40 CFR §261, and is only used when the generator of the spent carbon intends to send the spent carbon to a facility where the material will be reactivated for reuse.

How do the regulations allow spent activated carbon to be classified as a sludge?
Spent activated carbon can be classified under the Resource Conservation and Recovery Act (RCRA) in one of two manners. In some cases, it can be classified as a "spent material." Spent materials are defined in 40 CFR §261.1(c)(1) for the purposes of §§261.2 and §§261.6 as:

> *"A spent material is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing,"*

In other cases spent activated carbon is defined as a sludge, as defined in 40 CFR §260.10:

> *"sludge means any solid, semi-solid, or liquid waste generated from a municipal commercial or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant."*

The Environmental Protection Agency (EPA) further provides that a spent carbon may be classified as a sludge when the spent carbon contains no listed hazardous waste and the spent carbon is returned to a reactivation facility, where the spent carbon is reclaimed. Since the spent carbon in these applications meets the definition of a sludge, it is not considered a solid waste and therefore not considered as a hazardous waste.

To support this conclusion, US EPA provided guidance on the question of classification of spent activated carbon in a memorandum dated April 2, 1986. The memorandum was written by Ms. Marcia Williams (Director, Office of Solid Waste) to Mr. Stephen R. Wassersug (Director of the Hazardous Waste Management Division). In the memorandum, Ms. Williams states:

> *"Is the spent carbon a solid waste?"*
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> *"In general, yes. As you correctly state in your letter, spent carbon can be defined as spent material or sludge (i.e. spent carbon would normally be considered a spent material, unless it results from pollution control in which case it is considered a sludge)…Spent materials (whether or not they are listed or contain a listed hazardous waste) and listed sludges being reclaimed are solid wastes…On the other hand, if the spent carbon contains a characteristic sludge or by-product, it is not defined as a solid waste (even if the spent carbon exhibits a hazardous waste characteristic)."*

Thus, in the applications described by the EPA, the spent activated carbon can be classified as a sludge, and not a spent material. Furthermore, Per 40 CFR §261.2 a sludge is not a solid waste when sent for reclamation if it contains no listed hazardous wastes. A material is reclaimed if it is:

…"processed to recover a usable product, or if it is regenerated"…

Can Siemens Water Technologies reactivate my spent carbon?
Reactivation of spent carbon fits the EPA definition of reclamation as described above, whether the spent carbon is returned to the generator after reactivation, or resold to another customer. Siemens Water Technologies' RCRA-approved reactivation facility in Parker, Arizona follows the federal sludge exemption regulations, and is thus an approved facility for the reactivation of carbons that fall under the sludge exemption (note that our other two reactivation facilities in Red Bluff, CA and Darlington, PA cannot accept spent carbons that fall under the sludge exemption).

Siemens Water Technologies can reactivate carbons that are classified as hazardous, on the Federal level as well as CA state hazardous level, at one of our regional reactivation plants located across the US. Each spent carbon is different and prior to accepting for transfer a profile must be completed. There are several contaminants, such as PCBs, which our plants do not handle. A local Siemens Water Technologies Sales and Technical Support specialist can assist in determining the next step for handling your spent carbon.

How can I claim the sludge exemption for my spent activated carbon?
The sludge exemption must be accepted by the governing state environmental regulations in both the generator's home state and the state in which the reactivation facility resides. To claim the exemption, contact your facility's home state environmental regulatory agency to obtain their approval.

What shipping considerations are there for sludge exempt spent carbons?
Spent carbon profiled as RCRA sludge exempt can be transported either as a DOT-regulated hazardous material or as a non DOT-regulated material. The choice between the two is determined by the quantity, in one container, of the hazardous substance on the spent carbon. If that quantity equals or exceeds the Reportable Quantity (RQ) for the hazardous substance, the spent carbon is a DOT-regulated Class 9 hazardous material. If that quantity is less than the hazardous substance's RQ, the spent carbon is not DOT-regulated.