

June 1, 2000

MEMORANDUM

SUBJECT: Spent Catalysts from Petroleum Refining ADual Process@ Reactors

FROM: Elizabeth Cotsworth, Director
Office of Solid Waste (5301W)

TO: RCRA Senior Policy Advisors
Regions I - X

On November 29, 1999, I sent you a memorandum entitled ASpent Catalysts from Petroleum Refining >Dual Process= Units.@ In that memorandum, I described the Agency=s position on the regulatory status of certain spent hydroprocessing catalysts. I stated that, in response to questions raised regarding the regulatory status of spent catalysts removed from A dual purpose@ reactors¹ in petroleum refineries, EPA considers spent catalysts from such units to be listed hazardous wastes (*i.e.*, K171, K172).

After this memorandum was distributed to stakeholders, the Agency received questions from interested parties regarding its potential scope. A primary concern raised was that the wording of the memorandum may be interpreted by Regional and State officials in a way that would define virtually all spent hydroprocessing catalysts generated by the petroleum refining industry as listed hazardous waste under RCRA Subtitle C. There was concern that because some hydrotreating may occur in all hydroprocessing reactors, regulators would conclude that any hydrotreating occurring in a reactor would cause the spent catalyst removed from the reactor to be considered a

¹ Note that the words "unit" and "reactor" are used interchangeably by EPA. A petroleum refinery may consider a unit to be made up of a number of reactors. Our concern is with the proper classification of spent catalyst from or generated from a single specific vessel based on the function performed by the catalyst, regardless of the configuration or terminology used by individual refineries.

listed hazardous waste. This was not our intention.

I would like to clarify that we do not consider spent catalysts from a petroleum hydroprocessing reactor to be a listed hazardous waste (meeting the definitions of either K171 or K172) solely because some incidental and minimal amount of hydrotreatment of feeds occurs in such unit. These catalysts are, however, subject to evaluation against the existing hazardous characteristics. We recognize that some minimal amount of hydrotreating may occur in any hydroprocessing reactor, even reactors that hydrocrack feedstreams containing very low levels of sulfur, nitrogen, and metals. As a general rule, we consider the definitions provided in the Department of Energy's Petroleum Supply Annual (PSA) to be the best way to identify processes that hydrotreat and processes that hydrocrack. The definitions used in the PSA define hydroprocessing in terms of the function performed. A more complete description of these definitions is provided in the preamble to the petroleum refining listing determination (63 FR 42110, August 6, 1998, see Pp. 42155 - 42156).

Again, the November 29, 1999 memorandum was directed more at alerting Regional and State officials to the issue of the status of spent catalysts removed from reactors that both hydrotreat and hydrocrack petroleum feedstreams in a single reactor. We are alerting all interested parties that we continue to stand by the determination in the November 29 memorandum that such Adual purpose@ reactors generate spent catalysts that are listed hazardous wastes subject to regulation under RCRA Subtitle C. At the same time, we also are clarifying that spent catalysts from hydrocracking reactors that do only minimal and incidental hydrotreating are not listed hazardous wastes. However, as noted previously, spent catalysts from hydrocracking reactors are subject to evaluation against the hazardous waste characteristics.

If you should have any questions regarding this clarification, please feel free to contact either Rick Brandes at (703) 308-8871 or Patricia Overmeyer at (703) 605-0708.

cc: Mr. Ralph Colleli, American Petroleum Institute
Mr. John W. Hilbert III, The Ferroalloys Association
Mr. Thomas Kennedy, Association of State and Territorial Solid Waste
Management Officials