

landfill disposal, and solicits comments on this data as well as submission of other data relevant to this topic.

#### IV. What Is the VPRA Petition?

##### A. Who Is VPRA?

The Vanadium Producers and Reclaimers Association (VPRA, formerly known as The Ferroalloys Association or TFA) represents the following five member companies: Bear Metallurgical Company, C.S. Metals of Louisiana, Gulf Chemical & Metallurgical Corporation, Shieldalloy Metallurgical Corporation and Strategic Minerals Corporation. VPRA initially submitted the rulemaking petition on August 1, 2001, but provided supplementary information on April 3, 2002, May 28, 2003, July 10, 2003, and July 14, 2003.

##### B. What Is VPRA Petitioning EPA To Do?

VPRA is petitioning EPA to amend several alleged deficiencies in the LDR treatment standards for K172 and F037 as established in the Petroleum Refinery Rule. The petition states that the correction of these deficiencies will prevent the mismanagement of spent catalyst and will result in increased recycling to recover metal resources. The petition maintains that the combination of the lack of LDR

treatment standards for PAHs in K172 and the lack of effective guidance for identifying and treating waste that exhibits the ignitability or reactivity characteristics has caused increased landfilling of spent catalyst since the Petroleum Refinery Rule was promulgated in August 1998.

##### C. What Is the Basis for the Petitioner's Amendment of the LDR Treatment Standards for K172?

The basis for the petitioner's request for amending the LDR treatment standards for K172 is that PAHs are not included in list of constituents requiring treatment prior to disposal. In addition to several organic and inorganic constituents included in the K172 LDR treatment standards (see 63 FR 42187), a prescriptive standard of deactivation was established for reactive sulfides. The petitioner asserts that PAHs were not included in the K172 LDR treatment standards because the original samples collected by EPA were not properly characterized as spent hydrotreating catalyst (which is now listed as K172). The data presented in VPRA's petition for K172 spent catalysts are new data collected and analyzed after the K172 wastes were listed. The petitioner argues that these data demonstrate that PAHs are present in the majority of the

K172 samples above the LDR treatment standards. The samples were classified by the petitioner based on the guidance provided by EPA in the original rule and in the *Dual Purpose Reactor Notice*. (See May 8, 2002 **Federal Register**; 67 FR 30811.) The petitioner also relied on interviews with industry personnel familiar with the processes from which the samples originated and on general refining industry knowledge.

The petitioner also raised concern with the adequate treatment of the reactivity and self-heating properties of both K171 and K172 spent catalysts. This issue is discussed in more detail below.

##### D. What Are the Analytical Data Results for K172 Presented in the Petition?

The analytical data for K172 submitted by the petitioner are located in Table 1 below and in Exhibit B of the original petition, entitled *Determination of Treatment Methods used by the Hazardous Waste Industry for Spent Hydroprocessing Catalyst K171/K172*, Scherger Associates, May 2001 (hereinafter the "Scherger Report") and in the *Supplement to Petition for Rulemaking*, April 3, 2002. The original and supplemental petitions are included in the docket for today's notice.

TABLE 1.—VPRA ANALYTICAL DATA RESULTS FOR K172 (PAH RESULTS IN MG/KG)

	Sample ID													
	C <sup>1,2</sup>	D <sup>1,2</sup>	E <sup>3</sup>	M <sup>4</sup>	N <sup>5</sup>	W1 <sup>6</sup>	W2 <sup>6</sup>	W3 <sup>6</sup>	W4 <sup>6</sup>	W5 <sup>6</sup>	W6 <sup>6</sup>	W7 <sup>6</sup>	W8 <sup>6</sup>	Ex.A <sup>7</sup>
Benz(a)anthracene .....	<33	<32.8	<0.33	<50.0	<1.3	<3.27	<3.25	<3.28	<3.26	<3.30	<3.31	<3.29	<3.32	<26
Chrysene .....	<33	<32.8	<0.33	<50.0	3.0	<3.27	<3.25	<3.28	<3.26	<3.30	<3.31	<3.29	<3.32	13 J
Naphthalene .....	<33	<32.8	0.485	50 J	7.4	<3.27	<3.25	<3.28	<3.26	<3.30	<3.31	<3.29	<3.32	<26
Phenanthrene .....	<33	<32.8	<0.33	50 J	41.0	<3.27	<3.25	6.56	<3.26	5.58	5.62	<3.29	<3.32	150
Pyrene .....	<33	<32.8	<0.33	50 J	17.0	<3.27	<3.25	<3.28	<3.26	<3.30	<3.31	<3.29	<3.32	38

Bold indicates that the maximum concentration in any one sample meets or exceeds Universal Treatment Standards (UTS—see 40 CFR 268.48). Notes below reproduced from petition.

<sup>1</sup> The sample extract could not be concentrated to the normal final volume. This results in elevated practical reporting limit.

<sup>2</sup> Sample was diluted due to high concentrations of non-target compounds.

<sup>3</sup> Internal standard and surrogate failure attributed to matrix interference based on review of chromatogram.

<sup>4</sup> Sample diluted 150 to 1 due to matrix and presence of many compounds; J means detected between the MDL (Method Detection Limit) (0.33 mg/kg) and the PQL (Practical Quantitation Limit) (50.0 mg/kg).

<sup>5</sup> Sample diluted 4:1 and 20:1 due to the presence of numerous target compounds including acenaphthene, fluoranthene, fluorene in addition to LDR PAH compounds.

<sup>6</sup> These sample extracts could not be concentrated to the normal final volume. This results in elevated practical reporting limit.

<sup>7</sup> Sample from "Exhibit A" of Supplemental Petition dated April 3, 2002. (J = estimated value between the MDL and the PQL.)

#### V. Reactivity and Ignitability Concerns With K171 and K172

##### A. What Are the Petitioner's Concerns With K171 and K172 Ignitability/Reactivity?

VPRA asserts that K171 and K172 are not being adequately decharacterized with regard to the ignitability and reactivity hazardous characteristics (40 CFR 261.21(a)(2) and 261.23(a)(5), respectively), but are nonetheless being landfilled. In the Petroleum Refinery Rule, EPA identified the self-heating properties of this catalyst, and the potential formation of hydrogen sulfide gas from metal sulfides formed in the catalyst during use, as posing

ignitability concerns (D001) and reactivity concerns (D003). The petitioner asserts that the existing regulations for identifying and treating (i.e., permanently decharacterizing) characteristic hazardous wastes have proved ineffective in ensuring adequate treatment before disposal, because there is currently no EPA sanctioned test method and regulatory value for identifying ignitable solids or reactive wastes.<sup>1</sup>

<sup>1</sup> 40 CFR 261.21(a)(2) and 261.23(a)(5) define ignitable waste solids, and reactive cyanide or sulfide wastes, using narrative standards—that is, there are no established tests, with corresponding regulatory trigger values, for identifying these

Although the Petroleum Refinery Rule established prescriptive LDR treatment standards for K171 and K172 (deactivation for reactive sulfides), the petitioner argues that the lack of test methods or guidance is making waste classification determinations by spent catalyst generators difficult, and is resulting in the land placement of K171 and K172 spent catalysts without proper treatment.

EPA cited ignitability as part of the basis for listing K171 and K172 (40 CFR 261.32), but did not specifically identify the need to treat K171/172 for this

wastes. Identification of these wastes is done by applying the narrative criteria to the waste.