ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 261

[EPA–R10–RCRA–2018–0661; FRL–9414–01–R10]

Hazardous Waste Management System; Proposed Exclusion for Identifying and Listing Hazardous Waste

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule and request for comment.

SUMMARY: The Environmental Protection Agency (EPA) (also, ''the Agency'' or ''we'' in this preamble) is proposing to grant a petition submitted by Emerald Kalama Chemical, LLC, in Kalama, Washington to exclude (or ''delist'') up to 3,500 cubic yards of U019 (benzene) and U220 (toluene) industrial wastewater biological solids (IWBS) per year from the list of federal hazardous wastes under the Resource Conservation and Recovery Act.

DATES: Comments must be received on or before February 22, 2022. Requests for an informal hearing must reach the EPA by February 4, 2022.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–R10–RCRA–2018–0661 by one of the following methods:

- *www.regulations.gov:* Follow the on-line instructions for submitting comments.
- *Mail:* To Dr. David Bartus, Land, Chemicals and Redevelopment Division, EPA, Region 10, 1200 6th Avenue, Suite 155, M/S 15–H04, Seattle, Washington 98101.
- *Hand Delivery:* To Dr. David Bartus, Land, Chemicals and Redevelopment Division, EPA, Region 10, 1200 6th Avenue, Suite 155, M/S 15–H04, Seattle, Washington 98101. Such deliveries are only accepted during normal hours of operation. Please contact Dr. David Bartus at (206) 553–2804.

Instructions: Direct your comments to Docket ID No. EPA–R10–RCRA–2018–0661. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *www.regulations.gov,* including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *www.regulations.gov* or email. The *www.regulations.gov* website is an ''anonymous access'' system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through *www.regulations.gov* your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any physical media you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Any person may request an informal hearing on this proposed decision by filing a request with Timothy Hamlin, Director, Land, Chemicals and Redevelopment Division, EPA, Region 10, 1200 6th Ave., Suite 155, M/S 15–H04, Seattle, Washington 98101. The request must contain the information prescribed in 40 Code of Federal Regulations (CFR) 260.20(d).

Docket: All documents in the docket are listed in the *www.regulations.gov* index.[1] Although listed in the index, some information may not be publicly available, *e.g.,* CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *www.regulations.gov* or in hard copy at the RCRA Records Center, 16th floor, U.S. EPA, Region 10, 1200 6th Avenue, Suite 155, M/S 16–C09, Seattle, Washington 98101. This facility is open from 8:30 a.m. to 4:00 p.m., Monday through Friday, excluding legal holidays. We recommend you telephone David Bartus at (206) 553–2804 before visiting the Region 10 office. The public may copy material from the regulatory docket at 15 cents per page.

[1] The input files for the Delisting Risk Assessment Software (DRAS 4.0) used in support of this proposed rulemaking are in a file format not supported by EPA's electronic docket management system. EPA has provided ''screen shot'' images of the input data in Portable Document Format (.pdf) files. Commentors interested in the actual DRAS 4.0 input files may request them through the EPA contacts listed above.

FOR FURTHER INFORMATION CONTACT: Dr. David Bartus, EPA, Region 10, 1200 6th Avenue, Suite 155, M/S 15–H04, Seattle, Washington 98101; telephone number: (206) 553–2804; fax number (206) 553–8509; email address: *bartus.dave@epa.gov.*

As discussed in Section V of this preamble, the Washington State Department of Ecology is evaluating the Petitioner's petition under state authority. Information on Ecology's action may be found at *https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Industrial-facilities-permits/Emerald-Kalama-Chemical.*

SUPPLEMENTARY INFORMATION: The information in this section is organized as follows:

I. Overview Information

The EPA is proposing to grant the petition submitted by Emerald Kalama Chemical, LLC located in Kalama, Washington to exclude (or ''delist'') an annual volume of up to 3,500 cubic yards of U019 (benzene) and U220 (toluene) industrial wastewater biological solids (IWBS) hazardous waste per year from the list of hazardous waste set forth in 40 CFR 261.33. The Petitioner claims that the petitioned waste does not meet the criteria for

which the EPA listed it, and that there are no additional constituents or factors which could cause the waste to be hazardous.

Based on our review described in Section III of this preamble, we propose to make a determination that the petitioned waste is non-hazardous with respect to the listed waste codes that originally applied. As part of our supporting analysis, we reviewed the description of the process which generates the waste and the analytical data submitted by the Petitioner. We believe that the petitioned waste does not meet the criteria for which the waste was originally listed, that they do not exhibit any hazardous waste characteristic, and that there are no other factors which might cause the waste to be hazardous. Accordingly, the EPA is proposing to find the petitioned waste may be safely managed as non-listed hazardous waste. The EPA notes that while the burden of demonstrating that a delisted waste does not also exhibit a hazardous characteristic remains with the facility, data provided by the Petitioner demonstrate that the candidate waste does not exhibit a hazardous characteristic.

II. Background

A. What is the listed waste associated with this petition?

The EPA published an amended list of discarded commercial chemical products, off-specification species, container residues and spill residues thereof on November 25, 1980 (45 FR 78532), as part of its final and interim final regulations implementing section 3001 of Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6921. The EPA has amended this list several times and published it in 40 CFR 261.33.

We list these wastes as hazardous because: (1) They typically and frequently exhibit one or more of the characteristics of hazardous wastes identified in 40 CFR part 261 subpart C (that is, ignitability, corrosivity, reactivity, and toxicity) or (2) they meet the criteria for listing contained in 261.11(a)(2) or (3).

B. What is a delisting petition?

Individual waste streams may vary depending on raw materials, industrial processes, and other factors. Thus, while a waste from a source listed in the regulations as ''hazardous'' is by definition hazardous, a specific waste from an individual generating facility and from a source meeting the listing description may produce wastes that vary significantly from the wastes the EPA considered in establishing the waste listing.

A procedure to exclude or delist a waste is provided in 40 CFR 260.20 and 260.22 which allows a person or a facility to submit a petition to the EPA or to an authorized state demonstrating that a specific waste from a particular generating facility should not be regulated as hazardous.[2]

In a delisting petition, the Petitioner must show that a waste does not meet any of the criteria for listed wastes in 40 CFR 261.11 and that the waste does not exhibit any of the hazardous waste characteristics of ignitability, reactivity, corrosivity, or toxicity. The Petitioner must present sufficient information for the EPA to decide whether any factors in addition to those for which the waste was listed warrant retaining it as a hazardous waste. (See 40 CFR 260.22 and 42 U.S.C. 6921(f).) The EPA's basis for originally listing the wastes associated with this petition may be found at 45 FR 78532.

If a delisting petition is granted, the specific waste identified in the delisting will be excluded from the associated lists of hazardous waste in 40 CFR part 261 subpart D so long as conditions in the delisting are met. A waste which is so excluded, however, may still exhibit a characteristic and thus be a hazardous waste by operation of 40 CFR part 261 subpart C. The EPA notes that while the burden of demonstrating that a delisted waste does not also exhibit a hazardous characteristic remains with the facility, the data provided by the Petitioner demonstrate that the candidate wastes do not exhibit a hazardous characteristic.

C. What factors must the EPA consider in deciding whether to grant a delisting petition?

In reviewing this petition, we considered the original listing criteria and the additional factors required by the Hazardous and Solid Waste Amendments of 1984 (HSWA). See section 222 of HSWA, 42 U.S.C. 6921(f), and 40 CFR 260.22(d)(2) through (4). We evaluated the petitioned waste against the listing criteria and factors cited in 40 CFR 261.11(a)(2) and (3).

In addition to the criteria in 40 CFR 260.22(a), 261.11(a)(2) and (3), 42 U.S.C. 6921(f), and in the background documents for the listed wastes, the EPA also considered any factors (including additional constituents) other than those for which we listed the waste if these additional factors could cause the waste to be hazardous.

Our proposed decision to grant the petition to delist the waste from the Petitioner's Kalama, Washington facility is based on our evaluation of the waste for factors or criteria which could cause the waste to be hazardous. These factors included: (1) Whether the waste is considered acutely toxic; (2) the toxicity of the constituents; (3) the concentration of the constituents in the waste; (4) the tendency of the constituents to migrate and to bioaccumulate; (5) the persistence in the environment of any constituents once released from the waste; (6) plausible and specific types of management of the petitioned waste; (7) the quantity of waste produced; and (8) waste variability.

The EPA must also consider as hazardous wastes mixtures containing listed hazardous wastes and wastes derived from treating, storing, or disposing of listed hazardous waste. See 40 CFR 261.3(a)(2)(iv) and (c)(2)(i), called the ''mixture'' and ''derived-from'' rules, respectively. Mixture and derived-from wastes are also eligible for exclusion but remain hazardous until excluded.

III. EPA's Evaluation of the Waste Information and Data

A. What waste did the Petitioner petition the EPA to delist?

The Petitioner manufactures various organic chemicals used as artificial flavors and fragrances, food preservatives, plasticizers, and intermediates at their facility in Kalama, Washington. Most of the chemicals produced are derived from toluene or from the oxidation products of toluene, including benzoic acid and benzaldehyde. Additional products are produced as derivatives of benzoic acid and benzaldehyde. Products are typically purified by continuous or batch distillation. In conjunction with its manufacturing processes, the Petitioner operates an industrial wastewater treatment system, consisting of an anaerobic digestion process and an aerobic oxidation system, both of which are biological treatment systems very similar to municipal wastewater treatment systems. This treatment system produces industrial wastewater treatment plant biological solids (IWBS). As documented in the Petitioner's delisting petition, the IWBS designates as U019 (benzene) and U220 (toluene). The Petitioner has requested that up to

[2] Washington State's promulgated regulations at WAC 173–303–910(3) correspond to the Federal regulation. However, Washington State has not received final authorization to implement these regulations in lieu of the Federal program. As such, they are effective concurrent with 40 CFR 260.20 and 260.22 on a state-only basis.

3,500 cubic yards of IWBS be excluded from the list of hazardous wastes.[3]

B. How does the Petitioner generate the waste?

The Petitioner's petition documents that its industrial wastewater treatment system from which IWBS are derived manages wastewaters from multiple sources within the facility. The first source consists of contaminated groundwater from an extensive groundwater recovery system to prevent contaminated water from leaving the plant site. Water pumped from the North Impact Area (NIA), West Impact Area (WIA), and Intermediate Sand Recovery Wells (ISRW) contains commercial product toluene from historical releases and therefore the IWBS carry the listed dangerous waste code U220 (toluene). Historical data from May 2013 through April 2021 indicates that an average of 31.5 million gallons per year with a maximum of 38.6 million gallons per year of contaminated groundwater was treated in the wastewater treatment unit (WWTU) that generates IWBS. See Docket Entries starting with suffixes ''–DRAFT–0056'' through ''–DRAFT–0063.'' The second source consists of stormwater that falls on the manufacturing process areas of the facility, which may become contaminated by spills or releases of the various raw materials, intermediates, products, or byproducts of its manufacturing operations. The third source consists of process wastewater from manufacturing processes. These second and third sources may be impacted by trace amounts of pure product benzene from *de minimus* spills that are captured by the treatment system; therefore, the IWBS from the second and third source categories carry the listed dangerous waste code U019 (benzene).

The Petitioner provided the EPA with a detailed process flow diagram (Docket Entry 0–017–050–Model–BIOX Plant Process Flow Diagram–DRAFT–0029) of the overall wastewater management system that documents the source of all wastewaters from which the candidate IWBS are generated and the various management processes that are applied to the wastewaters. Generally, process wastewater expected to have higher quantities of organic constituents from process units is routed to either the anaerobic digesters (ANTS) or to the aerobic digesters (BIOX), depending upon the types and concentrations of chemicals present. The effluent from the ANTS is routed to the BIOX for final treatment. Groundwater and stormwater[4] with a low chemical oxygen demand (COD) are routed to the aerobic digesters (BIOX). This process flow arrangement, including flexibility to re-route wastewaters depending on their chemical makeup, ensures that concentrated free product from manufacturing process wastes or from spills is not introduced into the balance of the wastewater treatment system, and that the concentration of waste constituents entering the treatment system is maintained in a range that fosters microbial degradation. Wastewaters from the American Petroleum Institute (API) phase separator are then routed to the aerobic digester system. The use of the API separator for wastewaters expected to have higher levels of organic constituents helps ensure that significant excursions (variations) in waste composition do not adversely affect performance of the wastewater treatment system. The effluent of the ANTS system is then routed to the aerobic digester and sludge filtration systems. Groundwater and stormwater expected to have lower COD levels bypass the API separator and are fed directly to the aerobic digester treatment system. This arrangement of the overall wastewater management system from which IWBS is generated is expected to operate consistently and effectively, such that characterization data of the influent wastewater and the resulting IWBS provided by the Petitioner are representative of on-going operation of the system.

C. How does the Petitioner sample and analyze the waste?

The Petitioner regularly collected and analyzed samples of the IWBS for various constituents on a monthly, quarterly, or annual basis from January 1998 through April 2015, when the delisting petition was submitted.[5] These data are summarized in Table A–1 in Appendix A of the petition. See Docket Entry EPA–R10–RCRA–2018–0661–DRAFT–0034. Hazardous constituents for which routine analytical data are presented in the Petitioner's petition include benzene and toluene, and a suite of metals including copper, nickel, zinc, cobalt, lead, cadmium, arsenic, selenium, chromium, molybdenum, mercury and barium. Metals values were generally consistent over the measurement period, with copper values showing over an order of magnitude difference between the highest and lowest values.

Toluene was detected in one sample of IWBS between 1998 and 2014 at a concentration of 69 micrograms per kilogram (ppb) reported on a dry weight basis, with thirteen non-detect values reported with detection limits ranging from 44 to 3,800 parts per billion. Benzene was not detected during this period, with fifteen samples reported as non-detect with detection limits ranging from 44 to 3,800 parts per billion.

The Petitioner had two Toxicity Characteristic Leaching Procedure (TCLP) analyses performed on the IWBS in 2000 and in 2014. The results were consistent and demonstrated that the IWBS do not exhibit the toxicity characteristic. The data are presented in Table A–2 in Appendix A of the petition. See Docket Entry EPA–R10–RCRA–2018–0661–DRAFT–0034.

The EPA developed preliminary delisting levels for the IWBS using the EPA's Hazardous Waste Delisting Risk Assessment Software (DRAS) Version 3.0 and provided them to the Petitioner. The procedure for doing so is described in Enclosure 1 to Docket Entry EPA–R10–RCRA–2018–0661–DRAFT–0044, with the results provided in Docket Entry EPA–R10–RCRA–2018–0661–DRAFT–0046. These preliminary delisting levels were based on initial estimates of the project waste generation volume. These data were used by the Petitioner and the EPA as an initial indication of the required level of data quality, particularly the sensitivity required for laboratory analytical methods, for waste characterization sampling data.

Subsequent to submission of its delisting petition, the EPA requested certain additional data from the Petitioner. First, to ensure data on the petitioned waste annual generation volume could be converted from a mass to a volume basis necessary for input to

[3] The delisting petition submitted by the Petitioner requested exclusion of a waste volume different than those cited in this proposed rulemaking. The EPA notes that the requested quantity of waste in the delisting petition itself was expressed on a mass (ton) basis rather than the volume basis in this proposed rulemaking. See further discussion of this point in Section C of this preamble.

[4] The Petitioner also provide the EPA with a map of the facility indicating areas where stormwater is collected from various areas of the facility. See Docket Entry 3–002–000 Storm Water Collection Map. DRAFT–0030.

[5] The EPA notes that these data were gathered well before the Petitioner's submission of their delisting petition, and for technical and regulatory purposes other than delisting. Therefore, these data do not exactly match the information needs of the delisting process, although they do provide substantial and valuable characterization of the IWBS waste stream. As noted in the balance of this preamble, the Petitioner submitted supplemental characterization data as necessary to fully characterize the IWBS waste stream for purposes of delisting.

the DRAS model, the Petitioner provided data documenting the density of the IWBS as 0.67 tons/cubic yard, based on the average of six samples of IWBS (Docket Entries IWBS Delisting email 030302020–DRAFT–0035 and EPA–R10–RCRA–2018–0661–DRAFT–0045).

Second, based on its evaluation of its initial DRAS model runs, the EPA identified that cobalt could not be shown to satisfy the calculated delisting levels based solely on the total data documented in the petition and a bounding assumption that all constituents would leach from the waste in the absence of an analysis of a TCLP extract of the waste. See Docket Entries DRAS–3–COCs–12202018–DRAFT–0052, DRAS–3–COCs–12272018–DRAFT–0053, DRAS–3–inputs–12202018–DRAFT–0054 and DRAS–3–inputs–12272018–DRAFT–0055. The EPA requested that the Petitioner provide supplemental data for cobalt that documented paired data for both total and TCLP extract analysis. (See Docket Entries IWBS Supplemental Information–DRAFT–0037, Biosolids Analytical Data 031919–DRAFT–0036 and IWBS Supplemental Information email 04172019–DRAFT–0038). The Petitioner submitted supplemental data for both total and TCLP extract analysis for copper, nickel, zinc, cobalt, and barium, and total data for benzene via email 3/3/2020 (See Docket Entries IWBS Delisting email 030302020 DRAFT–0035, RE_IWBS Supplemental Information email 04242019DRAFT–0041, K1901520–DRAFT–0040, RE_ IWBS Supplemental Information email 04242019–DRAFT–0041 and K1903215–DRAFT–0042).

The data results showed that copper, nickel, zinc, and barium met the initial DRAS model run limits for the TCLP extract of the waste; and cobalt, copper, nickel, zinc, and barium met the initial DRAS model run for the total concentration of the waste.

D. What were the results of the EPA's analysis of the Petitioner's waste?

The first step in the EPA's analysis of the petitioned waste was to establish a list of potential constituents of concern (COCs) to guide further analysis of the waste and to establish initial delisting exclusion criteria. The EPA applied four criteria for identifying potential constituents of concern: (1) Whether the constituent is used as an input to, or created as an intermediate, byproduct or finished product from the Petitioner's production processes; (2) whether the IWBS designates as hazardous for a particular constituent; (3) the expected frequency of occurrence in the IWBS; and (4) the toxicity of the constituent of concern.

The EPA first considered organic COCs. Based on the hazardous waste codes associated with wastewater that ultimately results in generation of IWBS (D018, U019, U220, U154, and U001), the EPA determined that benzene, toluene, methanol and acetaldehyde are COCs.[6] The EPA notes that benzene is generally regarded as difficult to treat and is an excellent indicator of overall performance of the WWTU processes, and the ability of the WWTU to effectively treat other organic constituents other than benzene. Based on principle products of the Petitioner's production processes, the EPA determined that five additional organic constituents—benzaldehyde, benzoic acid, formic acid, benzyl alcohol, and phenol—should be retained as COCs in the IWBS. While at least some of these constituents are associated with products for human consumption or exposure, they exhibit a level of toxicity that warrants retention as COCs for purposes of evaluating the candidate waste stream.

Several additional organic constituents are associated with the Petitioner's production processes. However, they are associated with products for human consumption or exposure, such as food preservatives and vitamins, fragrances and perfumes, and sunscreens, and do not exhibit a degree of toxicity that warrants retention as COCs (Docket Entry EPA–R10–RCRA–2018–0661–DRAFT–0022). In addition, most, if not all, of these additional organic constituents are highly amenable to biological treatment in the WWTU and are not expected to be present in the IWBS at levels significantly below health-based levels that would be of concern in the delisting process.

The Petitioner's production process uses a range of catalysts, including several metallic catalysts that include cobalt, copper and nickel. On this basis, cobalt, copper and nickel are identified as constituents of concern. Although these three metals are not hazardous constituents, they are retained as ''other factors'' (as discussed in Section I of this preamble) that may cause the waste to be retained as hazardous. Other metallic constituents reported to have been detected in the IWBS waste stream do not have a clear source related to the Petitioner's organic manufacturing process. These constituents include barium and zinc. Barium is a hazardous constituent and is present at detectable levels in the IWBS so barium is retained as an ''other factor'' that may cause the waste to be retained as hazardous. Zinc is a common contaminant in industrial wastewater and is found in the IWBS at concentrations as high as 1,350 ppm dry weight, so zinc is retained as an ''other factor'' that may cause the waste to be retained as hazardous.

In the Petitioner's production process, cobalt is used as a catalyst in both its metallic form (sponge cobalt) and as cobalt acetate. The acetate functional group is expected to be readily degraded in the WWTU, leaving metallic cobalt in the IWBS. Further, cobalt acetate is soluble in water, so that any remaining cobalt acetate that is not degraded to metallic cobalt in the WWTU is likely to partition (separate) into the effluent wastewater managed separately from the IWBS. Thus, all forms of cobalt are considered to be metallic for purposes of the delisting evaluation of the IWBS.

The final list of constituents of concern evaluated in the delisting process are documented in Table 2 of this preamble.

E. How did the EPA evaluate the risk of delisting this waste?

For this delisting determination, we evaluated the risk that the waste would be disposed of as a non-hazardous waste in an unlined landfill which the EPA considers a reasonable worst-case mismanagement scenario. In evaluating this scenario, we considered transport of waste constituents through ground water, surface water and air. We evaluated the Petitioner's analysis of petitioned waste using the DRAS software to predict the concentrations of hazardous constituents that might be released from the petitioned waste and to determine if the waste would pose a threat to human health and the environment. The DRAS software and associated documentation can be found at *www.epa.gov/hw/hazardous-waste-delisting-risk-assessment-software-dras.*

To predict the potential for release to groundwater from landfilled wastes and subsequent routes of exposure to a receptor, the DRAS uses dilution attenuation factors derived from the EPA's Composite Model for leachate migration with Transformation Products. From a release to ground

[6] As noted in the delisting petition, IWBS designate only for U019 (benzene) and U220 (toluene) because, due to an exception to RCRA's derived from rule, certain codes applicable to the wastewater do not carry through to the IWBS. However, as part of its evaluation of the IWBS waste stream and identification of COCs, the EPA also considered hazardous waste codes applicable to the wastewater managed by the WWTU generating IWBS. Although the F003 waste code applies to wastewater managed by the WWTU, EPA did not retain acetone as a constituent of concern on the basis that the process information provided by Emerald does not provide any evidence that acetone is associated with this waste stream.

water, the DRAS considers three potential routes of exposure to a human receptor: Ingestion of contaminated groundwater; inhalation from groundwater while showering; and dermal contact from groundwater while bathing.

From a release to surface water by erosion of waste from an open landfill into storm water run-off, DRAS evaluates the exposure to a human receptor from fish ingestion and ingestion of drinking water. From a release of waste particles and volatile emissions to air from the surface of an open landfill, DRAS considers three potential routes of exposure to a human receptor: Inhalation of volatile constituents; inhalation of particles; and air deposition of particles on residential soil and subsequent ingestion of the contaminated soil by a child. The technical support document and the user's guide to DRAS are available at *https://www.epa.gov/hw/hazardous-waste-delisting-risk-assessment-software-dras.*

The EPA used the following inputs to its DRAS analysis of the Petitioner's waste, as summarized in Table 1 of this preamble. An image of the DRAS input screen is provided in Docket Entry DRAS–4.0–inputs–DRAFT–043.

TABLE 1—DELISTING DRAS INPUT

DRAS input parameter	Value	Assumptions
Waste Management Unit Type	Landfill	Waste planned for disposal in a municipal solid waste landfill.
Waste Volume—annual generation	Up to 3,500 cubic yards/year	Conservative estimation value based on facility-specific information.
Waste Management Unit Active Life	20 years	Selected based on the DRAS default value.
Target risk—carcinogenic risk level	1×10^{-5}	Based on risk ranges in the EPA's RCRA Delisting Technical Support Document (2008).
Target risk—health quotient	1.0	Based on risk ranges in the EPA's RCRA Delisting Technical Support Document (2008).
Detection limits	0.5	Non-detect samples will be run as half the value.

At a target cancer risk of 1×10^{-5} and a target hazard quotient of 1.0, the DRAS program determined maximum allowable concentrations for each constituent in both the waste and the leachate. The EPA used the maximum estimated annual waste volume and the maximum reported total and estimated leachate concentrations as inputs to estimate the constituent concentrations in the ground water, soil, surface water or air. Table 2, of this preamble, documents the constituent-specific maximum total and TCLP sample results used as input to the DRAS analysis, and the resulting modeling results from DRAS using an annual waste volume of 3,500 cubic yards per year.

TABLE 2—SAMPLING DATA AND DRAS MODELING RESULTS

Constituent of concern	Maximum observed concentration [1]		Modeling results			
			Total concentrations		TCLP concentration	
	Total [1] (mg/kg)	TCLP (mg/L) [4]	Limiting concentration (mg/kg) [2]	Limiting pathway [3]	Limiting concentration (mg/L) [2]	Limiting pathway [3]
Acetaldehyde	N/A	N/A	255,000,000	Air Particulate Inhalation.	8.65	Groundwater Inhalation.
Barium	980	0.77	10,400,000	Fish Ingestion	74.8	Maximum Contaminant Level.
Benzaldehyde	N/A	N/A	26,300,000	Fish Ingestion	6.08	Groundwater Ingestion.
Benzene	<3.8 U	<0.2 U	276,000	Air Volatile Inhalation	0.166	Maximum Contaminant Level.
Benzoic Acid	N/A	N/A	8,460,000,000	Fish Ingestion	5,000	Groundwater Ingestion.
Benzyl alcohol	N/A	N/A	813,000,000	Fish Ingestion	125	Groundwater Ingestion.
Cobalt	3,660	*1.26*	62,300	Air Particulate Inhalation.	0.583	Groundwater Ingestion.
Copper	7,520	0.29	463,000	Fish Ingestion	19	Maximum Contaminant Level.
Formic Acid	N/A	N/A	145,000	Air Volatile Inhalation	174	Groundwater Inhalation.
Methanol	N/A	<0.75 U	3,030,000,000	Air Volatile Inhalation	2,500	Groundwater Ingestion.
Nickel	422	0.35	402,000	Air Particulate Inhalation.	29.2	Groundwater Ingestion.
Phenol	N/A	N/A	1,300,000,000	Fish Ingestion	375	Groundwater Ingestion.
Toluene	0.069	N/A	37,600,000	Fish Ingestion	32.6	Maximum Contaminant Level.
Zinc	1,350	1.1	4,790,000	Fish Ingestion	426	Groundwater Ingestion.

1. Maximum concentration documented in the Petitioner's delisting petition, Tables A–1 and A–2, except for cobalt and zinc. The cobalt TCLP data are as reported via email 4/17/2019 with a corresponding maximum TCLP concentration of 1.2 mg/L. See docket Entries EPA–R10–RCRA–2018–0661–DRAFT–0036, –0037 and –0038. The zinc TCLP data are as reported via email 3/1/2019 with a corresponding maximum TCLP concentration of 1.1 mg/L.

2. The Limiting Concentration is the lowest risk-based concentration developed in DRAS for the potential receptor pathways and specified target risk levels. See text in Section IV.B for the EPA's consideration of limiting concentrations exceeding 1,000,000 mg/kg for total concentrations or 1,000,000 mg/L for TCLP concentrations.

3. The Limiting Pathway is the corresponding potential receptor pathway for the Limiting Concentration.

4. For detected constituents, the maximum analytical result was used. For non-detect constituents (annotated with a "U"), the practical quantitation limit (PQL) was used.
5. Note: The italicized cell (cobalt) indicate exceedance of COC Concentration Input over the Limiting Concentration in the DRAS modeling.

F. What are the EPA's proposed findings regarding the petitioned waste?

The maximum reported concentrations of the hazardous constituents found in this waste are presented in the Table 2 of this preamble. The table also presents the maximum allowable concentrations using an expected maximum annual waste volume of 3,500 cubic yards per year.

Except for cobalt, all other COCs in Table 2 of this preamble have maximum observed concentrations below the Limiting Concentration from the DRAS modeling. Since the benzene TCLP was non-detected at 0.2 mg/L, the DRAS modeling assumed a value of one-half (0.1 mg/L), which is less than the Limiting Concentration from the DRAS modeling for benzene.

As shown in Table 2 of this preamble, the maximum observed concentration for cobalt in a TCLP extract of the waste was 1.26 mg/L, which exceed the Limiting Concentration for cobalt of 0.583 mg/l from the DRAS modeling. The Petitioner sampled the IWBS for cobalt TCLP six times during January 2019 through April 2019. See Docket Entries EPA–R10–RCRA–2018–0661–DRAFT–0036, –0037 and –0038. The TCLP analytical results for cobalt in the IWBS ranged from 0.45 mg/L to 1.26 mg/L. At the cobalt result of 0.45 mg/L TCLP, the IWBS meets the Limiting Concentration from the DRAS modeling using an expected maximum annual waste volume of 3,500 cubic yards per year. Because the sampling data for cobalt indicates that the limiting value for cobalt based on a maximum annual waste volume of 3,500 cubic yards per year may be exceeded, we performed DRAS modelling to determine the TCLP limiting concentration for cobalt for a range of annual waste volumes ranging from 1,000 to 3,500 cubic yards per year.[7] The results of these model runs are presented in Table 3 of this preamble.

TABLE 3—DRAS MODELING RESULTS FOR COBALT

Annual waste volume (cubic yards per year)	Modeling results—TCLP limiting concentration (mg/L)
1,000	1.99
1,100	1.81
1,200	1.66
1,300	1.54
1,400	1.43
1,500	1.34
1,600	1.25
1,700	1.18
1,800	1.12
1,900	1.06
2,000	1.01
2,100	0.961
2,200	0.918
2,300	0.879
2,400	0.843
2,500	0.810
2,600	0.780
2,700	0.751
2,800	0.725
2,900	0.700
3,000	0.678
3,100	0.656
3,200	0.636
3,300	0.617
3,400	0.599
3,500	≤0.583

As shown in Table 3 of this preamble, as the annual waste volume increases, the TCLP Limiting Concentration for cobalt decreases. More specifically, the product of waste volume and the TCLP limiting concentration remains constant at 2,000 yds^3-mg/L (to two significant figures). Based on these calculations, the EPA is proposing that the exclusion criteria for cobalt be based on a cobalt budget concept. Rather than specify an exclusion limit based on a fixed TCLP limiting concentration and a corresponding maximum annual waste volume, the compliance limit will be established based on a running total calculated for each batch. This running total can be expressed mathematically as:

Formula 1

$$\sum_{1}^{n} V_i C_i$$

Where:

V_i = the volume of each batch in cubic yards (yd^3);

C_i = the concentration of cobalt in a TCLP extract of each batch;

n = number of batches generated per calendar year

This running total begins at zero for each annual period, starting with the effective date of this exclusion, if finalized. As each batch is generated, the running total is updated with the batch contribution according to the formula above. The batch volume is expressed in cubic yards but may be measured in practice by the weight of each batch divided by the density of 0.67 tons/cubic yard (See Section III.C of this preamble).[8] As long as this running total remains below 2,000, IWBS that otherwise meets the numerical exclusion criteria according to the conditions of this approval and does not exhibit a hazardous characteristic may be disposed of in a Subtitle D disposal unit. Once the cobalt budget limit of 2,000 is exceeded, all subsequent batches of IWBS must be managed as hazardous for the balance of the annual period. The EPA notes that wastes with cobalt results greater than 1.99 mg/l in an extract of the waste cannot be excluded under this delisting, as documented in Table 4 of this preamble. EPA's rationale for this upper bound on concentration is that it corresponds to the maximum annual quantity of waste modeled by DRAS for all other constituents of concern.

One of the key elements of this cobalt budget mechanism is that it requires analytical data characterizing each batch of IWBS.[9] In discussing this issue with the Petitioner, EPA learned that using an outside commercial analytical laboratory for this batch-by-batch analysis would complicate the logistics of managing filled containers of IWBS pending receipt and evaluation of outside laboratory data. To address this logistics problem the Petitioner proposed developing an in-house method that would provide faster turnaround and thus faster disposal

[7] The DRAS inputs used for these runs are identical to those documented in Docket entry DRAFT–043 DRAS–4.0–inputs.pdf, except that the maximum annual waste volume was varied between 1,000 and 3,500 cubic yards/year.

[8] The EPA is applying this density based on available information provided by the Petitioner as part of the petition submittal process. As explained below, the EPA will require the Petitioner to gather additional density data during the first annual period under this exclusion, if finalized. If these additional density data support use of a revised density for the cobalt budget calculation, the EPA will provide the Petitioner approval to use the revised density according to Condition 2 of the proposed exclusion.

[9] Other waste constituents considered in this exclusion do not approach the applicable limiting concentration calculated by DRAS. Therefore, constituents other than cobalt considered in this proposed exclusion do not warrant batch-by-batch sampling.

decisions for each batch of IWBS. This method is a colorimetric procedure which is applied to an extract of IWBS generated using SW–846 Method 1311.

The Petitioner shared an early draft of the proposed method (Docket Entry Method–TCLP–Cobalt–draft–DRAFT–0047), on which the EPA reviewed and provided several comments. EPA's comments and the Petitioners responses are documented in Docket Entry EPA and Ecology comments Rev 0 08172021–DRAFT–0048, with the final method documented in Docket Entry Method–TCLP–Cobalt–Rev1.0–DRAFT–0049. After resolving these comments, the Petitioner obtained paired data on an extract of IWBS prepared in-house following SW–846 Method 1311, followed by analysis of the extract at an off-site commercial laboratory using SW–846 Method 6010C and an in-house analysis of the same extract using the in-house colorimetric method. These data are presented in Docket Entry RE_ Emerald-Kalama Delisting Check-In and Planning—meeting follow-up–DRAFT–0051. To evaluate these data, the EPA performed a two-point percent relative difference analysis on each paired data point. The percent relative difference is calculated using the formula:

Formula 2

$$\%RPD = \frac{|x_1 - x_2|}{(x_1 + x_2)/2} * 100\%$$

Where:

%RBD = percent relative difference;
X_1 and X_2 = paired data

The paired data are presented below, along with the calculated percent relative difference:

TABLE 4—PAIRED DATA COMPARISON, TCLP EXTRACT ANALYSIS FOR COBALT

Sample No.	Petitioner analysis	Independent lab analysis	%RPD
1	0.48	0.49	2.1
2	0.55	0.58	5.3
3	0.75	0.74	1.3
4	0.56	0.54	3.6
5	0.27	0.29	7.1
6	0.34	0.32	6.1
7	0.56	0.57	1.8
8	0.54	0.53	1.9
9	0.48	0.52	8.0
10	0.38	0.37	2.7

The calculated relative percent difference indicates that the results from in-house and outside laboratory are in close agreement, with the calculated relative percent difference ranging from 1.3 percent to 8.0 percent. The EPA notes that a typical analytical laboratory performance for paired data from a single sample results in a relative percent difference of ±30%. Therefore, the relative percent difference between the Petitioner's in-house method and a standard outside laboratory method compare very favorably to the variability seen for multiple laboratory analysis of a single sample. On this basis, the EPA has determined that the Petitioner's in-house method for analyzing an extract of the IWBS obtained through an SW–846 Method 1311 TCLP procedure can be used for obtaining batch-by-batch cobalt data for use with the cobalt budget mechanism described above.

Because this cobalt budget tool is a novel application of DRAS modelling output to an exclusion, the EPA has determined that it is appropriate to review implementation of this model based on real-world experience. Therefore, the EPA is proposing a reporting requirement at the end of each anniversary of operations under this proposed exclusion. Under this requirement, the Petitioner must report all verification data obtained during each year following the effective date of this exclusion, including measurement of IWBS density and additional paired data for cobalt in an extract of the waste according to Condition 1 of this proposed exclusion. These additional data will provide the EPA with an opportunity to verify that the mechanism is operating as intended, and if warranted, to initiate any changes to the delisting rule to ensure the criteria of 40 CFR 260.22 will continue to be satisfied. EPA is providing a mechanism whereby the Petitioner may request relief from this requirement following the first year of reporting. If EPA agrees that further reporting is not warranted, EPA will provide the Petitioner a written response providing future relief from this requirement. EPA will, of course, retain its statutory authority under RCRA § 3008(a) to inspect records required by this exclusion and to enforce its terms and conditions.

Because it is likely that the Petitioner will monitor IWBS production on a weight basis (it is much easier and more accurate to weigh each IWBS roll-off box than to measure the volume of waste in the roll-off box), the EPA is requiring the Petitioner to document the density of each batch of IWBS during the first year of operations to verify that the reported density of 0.67 tons/cubic yard supporting the petition is representative of the waste over an entire annual period. Should additional data provide a basis to revise the 0.67 tons/cubic yard density, the EPA may provide the Petitioner with written approval to use an updated value pursuant to Condition 6.

The Petitioner sampled the IWBS for benzene TCLP twice; once in 2000 with a result of non-detected at 0.15 mg/L and once in 2014 with a result of non-detected at 0.2 mg/L. The Limiting Concentration from the DRAS modeling for TCLP benzene is 0.166 mg/L. The PQL for the 2014 TCLP benzene sample was greater than the Limiting Concentration of 0.166 mg/L TCLP, although the model used one-half the detection limit. Based on the benzene total concentrations of the IWBS, we conclude that the Limiting Concentration from DRAS for TCLP benzene will not be exceeded. Verification sampling is required to confirm this, with appropriate data quality to allow direct comparison between the laboratory results and the delisting exclusion limit of 0.166 mg/l in an extract of the waste.

We therefore conclude that the Petitioner's wastewater treatment sludge (IWBS) is not a substantial or potential hazard to human health and the environment when disposed of in a Subtitle D landfill according to the conditions of this proposed exclusion. Further, the data presented by the Petitioner in their petition supports the EPA's conclusion that the petitioned waste does not exhibit any hazardous

characteristic, and that there are no other factors that would warrant retaining the waste as hazardous. On this basis, we propose to grant the Petitioner's petition to delist this waste. If this exclusion is finalized, and subject to the conditions of the final delisting, the Petitioner must dispose of the allowed amount of waste (based on the verification approach documented in the rule) in a Subtitle D landfill permitted or licensed by a state and will remain obligated to verify that the waste continues to meet the allowable concentrations set forth here. The Petitioner must also continue to demonstrate that the waste does not exhibit any hazardous characteristics pursuant to 40 CFR part 261 subpart C.

IV. Conditions for Exclusion

A. How will the Petitioner manage the waste if it is delisted?

If the petitioned waste is delisted, the Petitioner must dispose of it in a Subtitle D landfill which is permitted, licensed, or registered by a state to manage industrial waste.

B. What are the maximum allowable concentrations of hazardous constituents in the waste?

Concentrations measured in the waste of the following constituents must not exceed the concentrations in Table 5 below.

TABLE 5—VERIFICATION CONSTITUENTS AND COMPLIANCE CONCENTRATIONS

Constituent	Total concentration DRAS model (mg/kg)	TCLP concentration DRAS model (mg/l)
Acetaldehyde	N/A	8.65.
Barium	N/A	74.8.
Cobalt	62,300	cobalt budget mechanism.
Copper	463,000	19.0.
Nickel	402,000	29.2.
Zinc	N/A	426.
Benzaldehyde	N/A	6.08.
Benzene	276,000	0.166.
Benzoic Acid	N/A	5,000.
Formic Acid	145,000	174.
Benzyl alcohol	N/A	125.
Methanol	N/A	2,500.
Phenol	N/A	375.
Toluene	N/A	32.6.

The EPA notes that in multiple instances the maximum allowable total constituent concentrations provided by the DRAS model exceed 100% of the waste—these DRAS results are an artifact of the risk calculations and do not have physical meaning (since it is not possible to have a concentration greater than 100%). In instances where DRAS predicts a maximum constituent greater than 100 percent of the waste (that is, greater than 1,000,000 mg/kg or mg/L, respectively, for total and TCLP concentrations), the EPA is not requiring the Petitioner to perform sampling and analysis for that constituent and sampling type (total or TCLP). In these instances, the corresponding entry in Table 5 of this preamble is ''N/A.''

C. How frequently must the Petitioner test the waste?

To fully verify that the Petitioner's waste complies with the verification limits of this proposed exclusion are satisfied on an on-going basis, and because the Petitioner operates multiple generation processes that could alter the concentration of waste constituents from which IWBS is derived, the Petitioner must analyze a representative sample of the wastewater treatment sludges on a periodic basis to demonstrate that the constituents of concern in the petitioned waste do not exceed the concentrations of concern in Section IV.B of this preamble. The EPA is proposing that the Petitioner sample its delisted waste (for the constituents in Table 5 of this preamble, except cobalt) every ten roll-off boxes, estimated to be generated at a rate of three/week.[10] This would result in approximately 16 samples per year. The Petitioner must analyze a representative sample of each batch (roll-off box) of the wastewater treatment sludges for cobalt TCLP concentration. The Petitioner will use the batch cobalt TCLP concentration, volume of IWBS in the batch, and Formula 1 to determine the running cobalt budget as discussed in Section III.F of this preamble.

The EPA believes that this sampling rate will provide an appropriate level of certainty that all delisted waste does indeed meet the delisting criteria presented in Table 5 of this preamble. As the Petitioner gathers a more extensive data set of sampling data, the EPA recognizes that changes to these sampling rates may be warranted. Therefore, the EPA is including a proposed provision that the Petitioner may request the EPA's approval for changes to the verification sampling and analysis frequency. The Petitioner must use methods with appropriate analytical sensitivity quality control procedures, as documented in a written quality assurance project plan. SW–846 Method 1311 must be used for generation of the leachate extract used in the testing of the subject waste. SW–846 Method 1311 is incorporated by reference in 40 CFR 260.11.

The Petitioner has provided information to EPA that the Washington State Department of Ecology does not currently accredit any laboratory in the state of Washington for analysis of acetaldehyde, benzaldehyde, or formic acid in samples of solid material. See Docket Entry LAI Verification Sampling Plan 2020 04 08 final–DRAFT–0074, Section 3.0 and COCs–Lab–Search–DRAFT–0075. Therefore, the EPA will accept laboratory analyses result for acetaldehyde, benzaldehyde and formic acid from a laboratory that otherwise

[10] The Petitioner noted logistics issues if a ''10th batch'' must be sampled on a weekend or Federal holiday. See Docket Entry RE_Emerald-Kalama Delisting Follow-up–DRAFT–0073. To address this, EPA has added a provision that in such circumstances, the Petitioner may substitute sampling for the 9th or 11th batch for purposes of verification sampling.

holds accreditation for all other analytes.

A total analysis of the waste (accounting for any filterable liquids and the dilution factor inherent in the TCLP method) may be used to estimate the TCLP concentration as provided for in section 1.2 of Method 1311, except for weekly cobalt sampling.[11]

D. What data must the Petitioner submit?

The Petitioner must submit the data obtained through verification testing to U.S. EPA Region 10, Office of Air and Waste, 1200 6th Avenue, Suite 155, M/S 15–H04, Seattle, Washington 98101 upon each anniversary of the effective date of this exclusion.

The Petitioner must compile, summarize, and maintain on-site for a minimum of five years, records of analytical data required by this rule, and operating conditions relevant to those data analytical data. The Petitioner must make those records available for inspection. All data must be accompanied by a signed copy of the certification statement in 40 CFR 260.22(i)(12).

E. What happens if the Petitioner fails to meet the conditions of the exclusion?

If the Petitioner violates the terms and conditions established in the exclusion, the Agency may start procedures to withdraw the exclusion.

If the verification testing of the waste does not demonstrate compliance with the delisting concentrations described in section IV.B above, or other data (including but not limited to leachate data or groundwater monitoring data from the final land disposal facility) relevant to the delisted waste indicates that any constituent is at a concentration in waste above specified delisting verification concentrations in Table 5 of this preamble, the Petitioner must notify the Agency within 10 days of first possessing or being made aware of the data. The exclusion will be suspended, and the waste managed as hazardous until the Petitioner has received written approval from the EPA to continue the exclusion. The Petitioner may provide sampling results which support the continuation of the delisting exclusion.

The EPA has the authority under RCRA and the Administrative Procedure Act, 5 U.S.C. 551 (1978) *et seq.* to reopen a delisting decision if we receive new information indicating that the conditions of this exclusion have been violated or are otherwise not being met.

[11] For additional details on this approach, see *https://archive.epa.gov/epawaste/hazard/web/html/faq_tclp.html.*

F. What must the Petitioner do if the process changes?

If the Petitioner significantly changes the manufacturing or treatment process or the chemicals used in the manufacturing or treatment process, the Petitioner may not handle the wastewater treatment sludge generated from the new process under this exclusion until it has demonstrated to the EPA that the waste meets the concentrations set forth in section IV.B and that no new hazardous constituents listed in Appendix VIII of 40 CFR part 261 have been introduced. The Petitioner must manage wastes generated after the process change as hazardous waste until the Petitioner has received written notice from the EPA that the demonstration has been accepted.

V. When would the EPA finalize the proposed delisting exclusion?

40 CFR 260.20(c) requires the EPA to provide notice and an opportunity for comment before granting or denying a final exclusion. Thus, the EPA will not make a final decision or grant an exclusion until it has addressed all timely public comments on today's proposal, including any at public hearings.

Since this proposed rulemaking would reduce the existing requirements for persons generating hazardous wastes, the regulated community does not need a six-month period to come into compliance in accordance with section 3010 of RCRA, 42 U.S.C. 6930, as amended by HSWA.

VI. How would this action affect states?

Because the EPA is proposing to issue this exclusion under the federal RCRA delisting regulations, only states subject to federal RCRA delisting provisions will be affected. This exclusion may not be effective in states which have received authorization from the EPA to make their own delisting decisions.

The EPA allows states to impose their own non-RCRA regulatory requirements that are more stringent than the EPA's, under section 3009 of RCRA, 42 U.S.C. 6929. These more stringent requirements may include a provision that prohibits a federally issued exclusion from taking effect in the state. We urge petitioners to contact the state regulatory authority to establish the status of their wastes under the state law.

The EPA has also authorized some states to administer a delisting program in place of the Federal program, that is, to make state delisting decisions. Therefore, this exclusion does not apply in those authorized states. If the Petitioner manages the waste in any state with delisting authorization, the Petitioner must obtain delisting authorization or other determination from the receiving state before it can manage the waste as nonhazardous in that state.

While Washington State has received final authorization to implement most of its dangerous waste program regulations in lieu of the Federal program, including the listing and identification of listed waste codes associated with the petitioned wastes, it has not been authorized to implement its delisting regulations program in lieu of the Federal program. The EPA notes that Washington State has provisions in the Washington Administrative Code (WAC) 173–303–910(3) similar to the Federal provisions upon which this delisting is based. These provisions are in effect as a matter of state law. Thus, the Petitioner must seek approval from Washington State at the state level in addition to this proposed delisting.

VII. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *https://www2.epa.gov/laws-regulations/laws-and-executive-orders.*

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This proposed action is exempt from review by the Office of Management and Budget because it is a rule of particular applicability, not general applicability. The proposed action approves a delisting petition under RCRA for the petitioned waste at a particular facility.

B. Executive Order 13771: Reducing Regulations and Controlling Regulatory Costs

This proposed action is not an Executive Order 13771 regulatory action because actions such as approval of delisting petitions under RCRA are exempted under Executive Order 12866.

C. Paperwork Reduction Act

This proposed action does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) because it only applies to a particular facility.

D. Regulatory Flexibility Act

Because this rule is of particular applicability relating to a particular facility, it is not subject to the regulatory

flexibility provision of the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*).

E. Unfunded Mandates Reform Act

This proposed action does not contain any unfunded mandate as described in the Unfunded Mandates Reform Act (2 U.S.C. 1531–1538) and does not significantly or uniquely affect small governments. The proposed action imposes no new enforceable duty on any state, local, or tribal governments or the private sector.

F. Executive Order 13132: Federalism

This proposed action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

G. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This proposed action does not have tribal implications as specified in Executive Order 13175. This proposed action applies only to a particular facility on non-tribal land. Thus, Executive Order 13175 does not apply to this action.

H. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This proposed action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children.

I. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This proposed action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

J. National Technology Transfer and Advancement Act

This proposed action does not involve technical standards as described by the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note).

K. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes that this proposed action does not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, and/or indigenous peoples. The EPA has determined that this proposed action will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment.

L. Congressional Review Act

This proposed action is exempt from the Congressional Review Act (5 U.S.C. 801 *et seq.*) because it is a rule of particular applicability.

List of Subjects in 40 CFR Part 261

Environmental protection, Hazardous waste, Recycling, and Reporting and recordkeeping requirements.

Dated: January 6, 2022.

Davis Zhen,

Acting Director, Land, Chemicals and Redevelopment Division.

For the reasons set out in the preamble, the EPA proposes to amend 40 CFR part 261 as follows:

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

■ 1. The authority citation for part 261 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, 6922, 6924(y) and 6938.

■ 2. In Table 1 of Appendix IX to Part 261 add an entry ''Emerald Kalama Chemical, LLC'' in alphabetical order to read as follows:

Appendix IX to Part 261—Wastes Excluded Under §§ 260.20 and 260.22

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Table 1—Wastes Excluded From Non-Specific Sources

Facility	Address	Waste description
* * *	* *	* *
Emerald Kalama Chemical, LLC	Kalama, Washington	Wastewater treatment sludges, U019 (benzene) and U220 (toluene), generated at Emerald Kalama Chemical, LLC in Kalama, Washington at a maximum annual rate of 3,500 cubic yards per year. The sludge must be disposed of in a Subtitle D landfill which is licensed, permitted, or otherwise authorized by a state to accept the delisted wastewater treatment sludge. The exclusion becomes effective as of January 20, 2022. 1. *Delisting Levels:* The constituent concentrations in a representative sample of the waste must not exceed the following levels. Total concentrations (mg/kg): Cobalt–62,300; Copper–463,000; Nickel–402,000; Benzene–276,000; Formic Acid–145,000. TCLP Concentrations (mg/l in the waste extract): Acetaldehyde–8.65; Barium–74.8; Copper–19.0; Nickel–29.2; Zinc–426; Benzaldehyde–6.08; Benzene–0.166; Benzoic Acid–5,000; Formic Acid–174; Benzyl Alcohol–125; Methanol–2,500; Phenol–375; Toluene–32.6. For the cobalt concentration in an extract of the waste, the exclusion is based on a demonstration of being within a cobalt budget defined as 2000 yds^3-mg/L. The Petitioner must calculate a running total starting with the effective date of this exclusion, and for each annual period, using the following: $$\sum_{1}^{n} V_i C_i$$ Where V_i = the volume of each batch in cubic yards (yd^3) C_i = the concentration of cobalt in a TCLP extract of each batch as per Condition of this exclusion (mg/L) n = number of batches generated per year The Petitioner may conduct analysis for cobalt in an extract of the IWBS biosolids using the in-house method documented in (reference) as placed in the rulemaking docket. The Petitioner may monitor the quantity of waste in each batch on a weight basis, converting to volume using a documented density of 0.67 tons/cubic yard. Provided that the cumulative cobalt budget remains less than the limit of 2000 yds^3-mg/L each batch will be considered in compliance with the exclusion limit for cobalt in an extract of the waste. However, any batch with a cobalt concentration greater than 1.99 mg/l in a TCLP extract of the waste cannot be managed under this exclusion and must remain subject to RCRA Subtitle C regulation. For the first year following the effective date of this exclusion, the Petitioner shall also document the density of IWBS for each batch of IWBS using ASTM Method ASTM E1109 - 19 or other equivalent method for purposes of verifying the 0.67 tons/cubic yard density. In addition, the

		Petitioner shall, on an on-going monthly basis, obtain analysis of one spit aliquot of the TCLP extract of IWBS biosolids for cobalt from an independent laboratory accredited by the Washington State Department of Ecology subject to the provision of Condition 2 below. 2. Reporting. Within 60 days of each anniversary of the effective date of this exclusion, or such other time as the EPA may approve in writing, the Petitioner shall provide a written report to the EPA documenting all data gathered regarding extraction and analysis of the extract for cobalt pursuant to the requirements of this exclusion, including the results of IWBS density measurement (first year report only) and the independent laboratory data for cobalt required by Condition 1. This report must be accompanied by the signed certification language appearing at 40 CFR 270.1(d)(1). After review of the density data presented in this report, the EPA may provide the Petitioner written approval to use some other numerical density than 0.67 tons/cubic yard for purposes of subsequent implementation of cobalt budget calculations pursuant to Condition 1. Following submission of the first annual report, the Petitioner may request relief from the spilt aliquot analysis requirement in Condition 1. Upon receipt of written approval of the request from EPA, the Petitioner will be relieved of the spilt aliquot analysis requirement in Condition 1. 3. *Verification Testing:* To verify that the waste does not exceed the delisting concentrations specified in Condition 1 (except for cobalt), the Petitioner must collect and analyze one representative waste sample of every tenth roll-off box of wastewater treatment sludge. If this sampling is expected to occur on a weekend or a federal holiday, the Petitioner may substitute sampling of the 9^{th} or 11^{th} batch, with sampling of subsequent batches resuming on the original every 10^{th} roll-off box schedule. EPA notes that the Washington State Department of Ecology does not currently accredit any laboratory in the state of Washington for analysis of acetaldehyde, benzaldehyde, or formic acid in samples of solid material. the EPA will accept laboratory analyses result for acetaldehyde, benzaldehyde and formic acid from a laboratory that otherwise holds accreditation for all other analytes. For cobalt, sampling must occur once per batch (as defined by a single roll-off box). All sampling and analysis must be conducted using methods with appropriate detection concentrations and elements of quality control. Sampling data must be provided to the EPA no later 60 days following each anniversary of the effective date of this delisting, or such later date as the EPA may agree to in writing. No earlier than the first anniversary of the effective date of this delisting, the Petitioner may request that the EPA approve changes to the sampling frequency under this condition. Such a request must include data and analysis that demonstrated that the revised sampling frequency will ensure that all wastes subject to this exclusion will consistently satisfy the delisting exclusion criteria under Condition 1. The Petitioner must conduct all verification sampling according to a written sampling plan and associated quality assurance project plan which is approved in advance by the EPA that ensures analytical data are suitable for their intended use. The Petitioner's annual submission must also include a certification that

		all wastes satisfying the delisting concentrations in Condition 1 have been disposed of in a Subtitle D landfill which is licensed, permitted, or otherwise authorized by a state to accept the delisted wastewater treatment sludge. 4. *Changes in Operating Conditions:* The Petitioner must notify the EPA in writing if it significantly changes the manufacturing process, the chemicals used in the manufacturing process, the treatment process, or the chemicals used in the treatment process. The Petitioner must handle wastes generated after the process change as hazardous until it has demonstrated that the wastes continue to meet the delisting concentrations in Condition 1, demonstrated that no new hazardous constituents listed in 40 CFR Part 261 Appendix VIII have been introduced into the manufacturing process or waste treatment process, and it has received written approval from the EPA that it may continue to manage the waste as non-hazardous. 5. *Data Submittals:* The Petitioner must submit the data obtained through verification testing or as required by other conditions of this rule to the Director, Land, Chemical, & Redevelopment Division, U.S. EPA Region 10, 1200 6th Avenue Suite 155, M/S 15-H04, Seattle, Washington, 98101 or his or her equivalent. The annual verification data and certification of proper disposal must be submitted within 60 days after each anniversary of the effective date of this delisting exclusion, or such later date as the EPA may agree to in writing. The Petitioner must compile, summarize, and maintain on-site for a minimum of five years, records of analytical data required by this rule, and operating conditions relevant to those data. The Petitioner must make these records available for inspection. All data must be accompanied by a signed copy of the certification statement in 40 CFR 260.22(i)(12). If the Petitioner fails to submit the required data within the specified time or maintain the required records on-site for the specified time, the EPA may, at its discretion, consider such failure a sufficient basis to reopen the exclusion as described in paragraph 5. 6. *Reopener Language*: (A) If, any time after disposal of the delisted waste, the Petitioner possesses or is otherwise made aware of any data relevant to the delisted waste indicating that any constituent is at a higher than the specified delisting concentration, then the Petitioner must report such data, in writing, to the Director, Land, Chemical, & Redevelopment Division, EPA Region 10 at the address above, or his or her equivalent, within 10 days of first possessing or being made aware of those data. (B) Based on the information described in Condition 4 or 6(A) and any other information received from any source, the EPA will make a preliminary determination as to whether the reported information requires Agency action to protect human health or the environment. Further action may include suspending, or revoking the exclusion, or other appropriate response necessary to protect human health and the environment. (C) If the EPA determines that the reported information does require Agency action, the EPA will notify the Petitioner in writing of the actions it believes are necessary to protect human health and the

		environment. The notice shall include a statement of the proposed action and a statement providing the Petitioner with an opportunity to present information as to why the proposed Agency action is not necessary or to suggest an alternative action. The Petitioner shall have 30 days from the date of the EPA's notice to present the information. (D) If after 30 days the Petitioner presents no further information or after a review of any submitted information, the EPA will issue a final written determination describing the Agency actions that are necessary to protect human health or the environment. Any required action described in the EPA's determination shall become effective immediately unless the EPA provides otherwise.
* * *	* *	* *

[FR Doc. 2022–00728 Filed 1–19–22; 8:45 am]
BILLING CODE 6560–50–C