



**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 261**

**[EPA-R06-RCRA-2017-0254; FRL-9964-71-Region 6]**

**Hazardous Waste Management System;**

**Identification and Listing of Hazardous Waste**

**AGENCY:** Environmental Protection Agency (EPA)

**ACTION:** Proposed rule.

**SUMMARY:** EPA is proposing to grant a petition submitted by Samsung Austin Semiconductor (Samsung) to exclude (or delist) the sludge generated from the electroplating process from the lists of hazardous wastes. EPA used the Delisting Risk Assessment Software (DRAS) Version 3.0.47 in the evaluation of the impact of the petitioned waste on human health and the environment.

**DATES:** We will accept comments until **[insert date 30 days after date of publication in the Federal Register]**. We will stamp comments received after the close of the comment period as late. These late comments may or may not be considered in formulating a final decision. Your requests for a hearing must reach EPA by **[insert date 15 days after date of publication in the Federal Register]**. The request must contain the information prescribed in 40 CFR 260.20(d) (hereinafter all CFR cites refer to 40 CFR unless otherwise stated).

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA-R06-RCRA-2017-0254, at <http://www.regulations.gov>. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The

EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e. on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <http://www2.epa.gov/dockets/commenting-epa-dockets>.

**FOR FURTHER INFORMATION CONTACT:** For technical information regarding the Samsung Austin Semiconductor petition, contact Michelle Peace at 214-665-7430 or by email at [peace.michelle@epa.gov](mailto:peace.michelle@epa.gov).

Your requests for a hearing must reach EPA by **[insert date 15 days after date of publication in the Federal Register]**. The request must contain the information described in §260.20(d).

**SUPPLEMENTARY INFORMATION:** Samsung submitted a petition under 40 CFR 260.20 and 260.22(a). Section 260.20 allows any person to petition the Administrator to modify or revoke any provision of parts 260 through 266, 268 and 273. Section 260.22(a) specifically provides generators the opportunity to petition the Administrator to exclude a waste on a “generator specific” basis from the hazardous waste lists.

EPA bases its proposed decision to grant the petition on an evaluation of waste-specific information provided by the petitioner. This decision, if finalized, would conditionally exclude

the petitioned waste from the requirements of hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA).

If finalized, EPA would conclude that Samsung's petitioned waste is non-hazardous with respect to the original listing criteria. EPA would also conclude that Samsung's process minimizes short-term and long-term threats from the petitioned waste to human health and the environment.

### **Table of Contents:**

The information in this section is organized as follows:

- I. Overview Information
  - A. What action is EPA proposing?
  - B. Why is EPA proposing to approve this delisting?
  - C. How will Samsung manage the waste if it is delisted?
  - D. When would the proposed delisting exclusion be finalized?
  - E. How would this action affect the states?
- II. Background
  - A. What is the history of the delisting program?
  - B. What is a delisting petition, and what does it require of a petitioner?
  - C. What factors must EPA consider in deciding whether to grant a delisting petition?
- III. EPA's Evaluation of the Waste Information and Data
  - A. What wastes did Samsung petition EPA to delist?
  - B. Who is Samsung and what process does it use to generate the petitioned waste?

- C. How did Samsung sample and analyze the data in this petition?
- D. What were the results of Samsung's sample analysis?
- E. How did EPA evaluate the risk of delisting this waste?
- F. What did EPA conclude about Samsung's analysis?
- G. What other factors did EPA consider in its evaluation?
- H. What is EPA's evaluation of this delisting petition?

IV. Next Steps

- A. With what conditions must the petitioner comply?
- B. What happens if Samsung violates the terms and conditions?

V. Public Comments

- A. How can I as an interested party submit comments?
- B. How may I review the docket or obtain copies of the proposed exclusions?

VI. Statutory and Executive Order Reviews

**I. Overview Information**

*A. What action is EPA proposing?*

EPA is proposing to approve the delisting petition submitted by Samsung to have the Copper filter cake excluded, or delisted from the definition of a hazardous waste. The Copper filter cake is listed as F006, wastewater treatment sludges from electroplating operations. The basis of the listing is cadmium, hexavalent chromium, nickel, and cyanide (complexed).

*B. Why is EPA proposing to approve this delisting?*

Samsung's petition requests an exclusion from the F006 waste listing pursuant to 40 CFR

260.20 and 260.22. Samsung does not believe that the petitioned waste meets the criteria for which EPA listed it. Samsung also believes no additional constituents or factors could cause the waste to be hazardous. EPA's review of this petition included consideration of the original listing criteria and the additional factors required by the Hazardous and Solid Waste Amendments of 1984 (HSWA). See section 3001(f) of RCRA, 42 U.S.C. 6921(f), and 40 CFR 260.22 (d)(1)-(4)(hereinafter all sectional references are to 40 CFR unless otherwise indicated). In making the initial delisting determination, EPA evaluated the petitioned waste against the listing criteria and factors cited in §§ 261.11(a)(2) and (a)(3). Based on this review, EPA agrees with the petitioner that the waste is non-hazardous with respect to the original listing criteria. If EPA had found, based on this review, that the waste remained hazardous based on the factors for which the waste was originally listed, EPA would have proposed to deny the petition. EPA evaluated the waste with respect to other factors or criteria to assess whether there is a reasonable basis to believe that such additional factors could cause the waste to be hazardous. EPA considered whether the waste is acutely toxic, the concentration of the constituents in the waste, their tendency to migrate and to bioaccumulate, their persistence in the environment once released from the waste, plausible and specific types of management of the petitioned waste, the quantities of waste generated, and waste variability. EPA believes that the petitioned waste does not meet the listing criteria and thus should not be a listed waste. EPA's proposed decision to delist waste from Samsung is based on the information submitted in support of this rule, including descriptions of the wastes and analytical data from the Austin, Texas facility.

*C. How will Samsung manage the waste if it is delisted?*

If the copper filter cake is delisted, contingent upon approval of the delisting petition, storage containers with copper filter cake will be transported to an authorized, solid waste landfill (e.g., RCRA Subtitle D landfill, commercial/industrial solid waste landfill, etc.) for disposal. Any plans for recycling must be addressed through the Hazardous Waste Recycling regulations.

*D. When would the proposed delisting exclusion be finalized?*

RCRA section 3001(f) specifically requires EPA to provide a notice and an opportunity for comment before granting or denying a final exclusion. Thus, EPA will not grant the exclusion until it addresses all timely public comments (including those at public hearings, if any) on this proposal.

RCRA section 3010(b)(1) at 42 USCA 6930(b)(1), allows rules to become effective in less than six months when the regulated facility does not need the six-month period to come into compliance. That is the case here, because this rule, if finalized, would reduce the existing requirements for persons generating hazardous wastes.

EPA believes that this exclusion should be effective immediately upon final publication because a six-month deadline is not necessary to achieve the purpose of section 3010(b), and a later effective date would impose unnecessary hardship and expense on this petitioner. These reasons also provide good cause for making this rule effective immediately, upon final publication, under the Administrative Procedure Act, 5 U.S.C. 553(d).

*E. How would this action affect the states?*

Because EPA is issuing this exclusion under the Federal RCRA delisting program, only states subject to Federal RCRA delisting provisions would be affected. This would exclude states

which have received authorization from EPA to make their own delisting decisions.

EPA allows states to impose their own non-RCRA regulatory requirements that are more stringent than 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. Because a dual system (that is, both Federal (RCRA) and state (non-RCRA) programs) may regulate a petitioner's waste, EPA urges petitioners to contact the state regulatory authority to establish the status of their wastes under the state law.

EPA has also authorized some states (for example, Louisiana, Oklahoma, Georgia, Illinois) to administer a RCRA 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 unless that state makes the rule part of its authorized program. If Samsung transports the petitioned waste to or manages the waste in any state with delisting authorization, Samsung must obtain delisting authorization from that state before it can manage the waste as non-hazardous in the state.

## **II. Background**

### *A. What is the history of the delisting program?*

EPA published an amended list of hazardous wastes from non-specific and specific sources on January 16, 1981, as part of its final and interim final regulations implementing section 3001 of RCRA. EPA has amended this list several times and published it in 40 CFR 261.31 and 261.32.

EPA lists these wastes as hazardous because: (1) the wastes typically and frequently

exhibit one or more of the characteristics of hazardous wastes identified in Subpart C of Part 261 (that is, ignitability, corrosivity, reactivity, and toxicity), (2) the wastes meet the criteria for listing contained in § 261.11(a)(2) or (a)(3), or (b) the wastes are mixed with or derived from the treatment, storage or disposal of such characteristic and listed wastes and which therefore become hazardous under § 261.3(a)(2)(iv) or (c)(2)(i), known as the "mixture" or "derived-from" rules, respectively.

Individual waste streams may vary, however, depending on raw materials, industrial processes, and other factors. Thus, while a waste described in these regulations or resulting from the operation of the mixture or derived-from rules generally is hazardous, a specific waste from an individual facility may not be hazardous.

For this reason, 40 CFR 260.20 and 260.22 provide an exclusion procedure, called delisting, which allows persons to prove that EPA should not regulate a specific waste from a particular generating facility as a hazardous waste.

*B. What is a delisting petition, and what does it require of a petitioner?*

A delisting petition is a request from a facility to EPA or an authorized state to exclude wastes from the list of hazardous wastes. The facility petitions EPA because it does not consider the wastes hazardous under RCRA regulations.

In a delisting petition, the petitioner must show that wastes generated at a particular facility do not meet any of the criteria for which the waste was listed. The criteria for which EPA lists a waste are in part 261 and further explained in the background documents for the listed waste.

In addition, under 40 CFR 260.22, a petitioner must prove that the waste does not exhibit any of the hazardous waste characteristics (that is, ignitability, reactivity, corrosivity, and toxicity) and present sufficient information for EPA to decide whether factors other than those for which the waste was listed warrant retaining it as a hazardous waste. (See part 261 and the background documents for the listed waste.)

Generators remain obligated under RCRA to confirm whether their waste remains non-hazardous based on the hazardous waste characteristics even if EPA has “delisted” the waste.

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

Besides considering the criteria in 40 CFR 260.22(a) and § 3001(f) of RCRA, 42 U.S.C. 6921(f), and in the background documents for the listed wastes, EPA must consider any factors (including additional constituents) other than those for which EPA listed the waste, if a reasonable basis exists that these additional factors could cause the waste to be hazardous.

EPA must also consider as hazardous waste mixtures containing listed hazardous wastes and wastes derived from treating, storing, or disposing of listed hazardous waste. See § 261.3(a)(2)(iii and iv) and (c)(2)(i), called the "mixture" and "derived-from" rules, respectively. These wastes are also eligible for exclusion and remain hazardous wastes until excluded. See 66 FR 27266 (May 16, 2001).

**III. EPA’s Evaluation of the Waste Information and Data**

*A. What waste did Samsung petition EPA to delist?*

In November 2015, Samsung petitioned EPA to exclude from the lists of hazardous

wastes contained in §§ 261.31 and 261.32, filter cake (F006) generated from its facility located in Austin, Texas. The waste falls under the classification of listed waste pursuant to §§ 261.31 and 261.32. Specifically, in its petition, Samsung requested that EPA grant a conditional exclusion for 750 cubic yards of F006 filter cake.

*B. Who is Samsung and what process does it use to generate the petitioned waste?*

Samsung Austin Semiconductor (SAS) operates a semiconductor manufacturing facility located at 12100 Samsung Blvd. in Austin, Texas. SAS manufactures semiconductors used in logic chips for various applications, including cellular phones and tablet PCs. The SAS facility consists of two wafer manufacturing operations. The Main Fab, Mod 1 area was constructed in June 2007 as a 300 mm NANO Flash Fab. The Fab that was constructed in 1998 was decommissioned and subsequently upgraded to convert it from a trailing-edge DRAM Fab to a copper back end of the line (BEOL) Fab for the support of the adjacent Main Fab operations (CuFab). The integrated SAS operations are capable of manufacturing 3X NANO technology and copper interconnects. In addition, the Main Fab, Mod 2 area was constructed in May 2011 to manufacture 45X Nanotechnology for logic chips for various applications.

Since 2007, SAS's manufacturing process has used copper during wafer fabrication to enhance electron migration and reduce the width of the circuitry of the microprocessors. The copper application is performed in a copper metallization process, in which copper is applied to the wafer in an electroplating operation. Electric current is applied to copper anodes in an acidic bath to deposit a microscopic layer of copper on selected portions of

the wafer. Following the electroplating operation, wafers go through a second bath prior to entering the etching step. The etching step is performed to clean the edges of the wafer. Silica slurry is then used to flatten the surface of the wafer. Wastewater from these processes is treated in the copper wastewater (CuWW) treatment system that is part of the plant's industrial wastewater treatment (IWT) system. Sludge generated in the CuWW treatment system is collected in a tank that feeds a plate and frame filter press. The sludge that is processed in the filter press generates a filter cake which falls from the filter press into a roll-off for storage onsite in a less than 90-day waste storage unit. The filter cake is transported off-site to a hazardous waste landfill for disposal.

*C. How did Samsung sample and analyze the data in this petition?*

To support its petition, Samsung submitted: historical information on waste generation and management practices; and analytical results from eight samples for total and TCLP concentrations of compounds of concern (COC)s;

*D. What were the results of Samsung's analysis?*

EPA believes that the descriptions of the Samsung analytical characterization provide a reasonable basis to grant Samsung's petition for an exclusion of the filter cake sludge. EPA believes the data submitted in support of the petition show the filter cake is non-hazardous. Analytical data for the filter cake samples were used in the DRAS to develop delisting levels. The data summaries for COCs are presented in Table I. EPA has reviewed the sampling procedures used by Samsung and has determined that it satisfies EPA criteria for collecting representative samples of the variations in constituent concentrations in the filter cake. In addition, the data submitted in support of the petition

show that constituents in Samsung’s waste are presently below health-based levels used in the delisting decision-making. EPA believes that Samsung has successfully demonstrated that the copper filter cake is non-hazardous.

**TABLE 1**  
**ANALYTICAL RESULTS / MAXIMUM ALLOWABLE DELISTING**  
**CONCENTRATION**  
**Copper Filter Cake**  
**Samsung Austin Semiconductor, Austin, Texas**

Constituent	Maximum Total Concentration (mg/kg)	Maximum TCLP Concentration (mg/L)	Maximum TCLP Delisting Level (mg/L)
Acetone	0.0013	0.24	2070.0
Arsenic	3.6	0.098	1.66
Barium	5.30	0.13	100.0
Cadmium	0.75	0.004	0.362
Carbon disulfide	2.7	0.043	224.75
Chromium	42	0.12	5.0
Chromium(VI) (+6)	1.7	0.072	5.0
Cobalt	1.6	0.035	1.36
Copper	14600	5.4	97.1
Lead	6.3	0.11	2.45
Nickel	25.7	0.078	53.8
Selenium	1.4	0.072	1.0
Silver	0.95	0.0012	5.0
Thallium	1.7	ND	0.1458
Tin	7.6	ND	22.5
Toluene	2.5	ND	60.1
Vanadium	25.8	0.014	14.36
Zinc	43.0	0.21	797

NOTES: These levels represent the highest constituent concentration found in any one sample and does not necessarily represent the specific level found in one sample.

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

For this delisting determination, EPA used such information gathered to identify plausible

exposure routes (i.e. groundwater, surface water, air) for hazardous constituents present in the petitioned waste. EPA determined that disposal in a surface impoundment is the most reasonable, worst-case disposal scenario for Samsung's petitioned waste. EPA applied the Delisting Risk Assessment Software (DRAS) described in 65 FR 58015 (September 27, 2000) and 65 FR 75637 (December 4, 2000), to predict the maximum allowable concentrations of hazardous constituents that may be released from the petitioned waste after disposal and determined the potential impact of the disposal of Samsung's petitioned waste on human health and the environment. A copy of this software can be found on the world wide web at <http://www.epa.gov/reg5rcra/wptdiv/hazardous/delisting/dras-software.html>. In assessing potential risks to groundwater, EPA used the maximum waste volumes and the maximum reported extract concentrations as inputs to the DRAS program to estimate the constituent concentrations in the groundwater at a hypothetical receptor well down gradient from the disposal site. Using the risk level (carcinogenic risk of  $10^{-5}$  and non-cancer hazard index of 1.0), the DRAS program can back-calculate the acceptable receptor well concentrations (referred to as compliance-point concentrations) using standard risk assessment algorithms and EPA health-based numbers. Using the maximum compliance-point concentrations and EPA's Composite Model for Underflow water Migration with Transformation Products (EPACMTP) fate and transport modeling factors, the DRAS further back-calculates the maximum permissible waste constituent concentrations not expected to exceed the compliance-point concentrations in groundwater.

EPA believes that the EPACMTP fate and transport model represents a reasonable worst-case scenario for possible groundwater contamination resulting from disposal of the

petitioned waste in a surface impoundment, and that a reasonable worst-case scenario is appropriate when evaluating whether a waste should be relieved of the protective management constraints of RCRA Subtitle C. The use of some reasonable worst-case scenarios resulted in conservative values for the compliance-point concentrations and ensures that the waste, once removed from hazardous waste regulation, will not pose a significant threat to human health or the environment.

The DRAS also uses the maximum estimated waste volumes and the maximum reported total concentrations to predict possible risks associated with releases of waste constituents through surface pathways (e.g. volatilization from the impoundment). As in the above groundwater analyses, the DRAS uses the risk level, the health-based data and standard risk assessment and exposure algorithms to predict maximum compliance-point concentrations of waste constituents at a hypothetical point of exposure. Using fate and transport equations, the DRAS uses the maximum compliance-point concentrations and back-calculates the maximum allowable waste constituent concentrations (or "delisting levels").

In most cases, because a delisted waste is no longer subject to hazardous waste control, EPA is generally unable to predict, and does not presently control, how a petitioner will manage a waste after delisting. Therefore, EPA currently believes that it is inappropriate to consider extensive site-specific factors when applying the fate and transport model. EPA does control the type of unit where the waste is disposed. The waste must be disposed in the type of unit the fate and transport model evaluates.

The DRAS results which calculate the maximum allowable concentration of chemical constituents in the waste are presented in Table I. Based on the comparison of the DRAS and

TCLP Analyses results found in Table I, the petitioned waste should be delisted because no constituents of concern tested are likely to be present or formed as reaction products or by-products in Samsung waste.

*F. What did EPA conclude about Samsung's waste analysis?*

EPA concluded, after reviewing Samsung's processes that no other hazardous constituents of concern, other than those for which tested, are likely to be present or formed as reaction products or by-products in the waste. In addition, on the basis of explanations and analytical data provided by Samsung, pursuant to § 260.22, EPA concludes that the petitioned waste does not exhibit any of the characteristics of ignitability, corrosivity, reactivity or toxicity. See §§ 261.21, 261.22 and 261.23, respectively.

*G. What other factors did EPA consider in its evaluation?*

During the evaluation of Samsung's petition, EPA also considered the potential impact of the petitioned waste via non-groundwater routes (i.e. air emission and surface runoff). With regard to airborne dispersion in particular, EPA believes that exposure to airborne contaminants from Samsung's petitioned waste is unlikely. Therefore, no appreciable air releases are likely from Samsung's waste under any likely disposal conditions. EPA evaluated the potential hazards resulting from the unlikely scenario of airborne exposure to hazardous constituents released from Samsung's waste in an open landfill. The results of this worst-case analysis indicated that there is no substantial present or potential hazard to human health and the environment from airborne exposure to constituents from Samsung's Copper Filter cake.

*H. What is EPA's evaluation of this delisting petition?*

The descriptions of Samsung's hazardous waste process and analytical characterization

provide a reasonable basis for EPA to grant the exclusion. The data submitted in support of the petition show that constituents in the waste are below the leachable concentrations (see Table I). EPA believes that Samsung's Filter cake sludge will not impose any threat to human health and the environment.

Thus, EPA believes Samsung should be granted an exclusion for the Filter cake sludge. EPA believes the data submitted in support of the petition show Samsung's Filter cake sludge is non-hazardous. The data submitted in support of the petition show that constituents in Samsung's waste is presently below the compliance point concentrations used in the delisting decision and would not pose a substantial hazard to the environment. EPA believes that Samsung has successfully demonstrated that the Filter cake sludge is non-hazardous.

EPA therefore, proposes to grant an exclusion to Samsung in Austin, Texas, for the copper filter cake described in its petition. EPA's decision to exclude this waste is based on descriptions of the treatment activities associated with the petitioned waste and characterization of the copper filter cake.

If EPA finalizes the proposed rule, EPA will no longer regulate the petitioned waste under parts 262 through 268 and the permitting standards of part 270.

#### **IV. Next Steps**

##### *A. With what conditions must the petitioner comply?*

The petitioner, Samsung, must comply with the requirements in 40 CFR part 261, Appendix IX, Table 1. The text below gives the rationale and details of those requirements.

##### **(1) Delisting Levels:**

This paragraph provides the levels of constituents for which Samsung must test the Copper

filter cake, below which these wastes would be considered non-hazardous. EPA selected the set of inorganic and organic constituents specified in paragraph (1) of 40 CFR part 261, appendix IX, table 1, (the exclusion language) based on information in the petition. EPA compiled the inorganic and organic constituents list from the composition of the waste, descriptions of Samsung's treatment process, previous test data provided for the waste, and the respective health-based levels used in delisting decision-making. These delisting levels correspond to the allowable levels measured in the TCLP concentrations.

(2) Waste Holding and Handling:

The purpose of this paragraph is to ensure that Samsung manages and disposes of any Copper Filter cake that contains hazardous levels of inorganic and organic constituents according to Subtitle C of RCRA. Managing the copper filter cake as a hazardous waste until the verification testing is performed will protect against improper handling of hazardous material. If EPA determines that the data collected under this paragraph do not support the data provided for in the petition, the exclusion will not cover the petitioned waste. The exclusion is effective upon publication in the **Federal Register** but the disposal as non-hazardous cannot begin until the verification sampling is completed.

(3) Verification Testing Requirements:

Samsung must complete a rigorous verification testing program on the filter cake to assure that the solids do not exceed the maximum levels specified in paragraph (1) of the exclusion language. This verification program will occur as wastes are removed from the roll off box and scheduled for disposal. The volume of wastes removed from the roll off boxes may not exceed 750 cubic yards of sludge material annually. Any copper filter cake waste in excess of 750 cubic

yards must be disposed as hazardous wastes. If EPA determines that the data collected under this paragraph do not support the data provided for the petition, the exclusion will not cover the generated wastes. If the data from the verification testing program demonstrate that the Filter cake meet the delisting levels, Samsung may commence disposing of the copper filter cake. EPA will notify Samsung in writing, if and when it begins and ends disposal of the copper filter cake.

(4) Data Submittals:

To provide appropriate documentation that Samsung's Copper filter cake meet the delisting levels, Samsung must compile, summarize, and keep delisting records on-site for a minimum of five years. It should keep all analytical data obtained through paragraph (3) of the exclusion language including quality control information for five years. Paragraph (4) of the exclusion language requires that Samsung furnish these data upon request for inspection by any employee or representative of EPA or the State of Texas.

If the proposed exclusion is made final, it will apply only to 750 cubic yards of Copper Filter cake generated at the Samsung Austin Refinery after successful verification testing. EPA would require Samsung to file a new delisting petition for waste generated in excess of the 750 cubic yards and treat the solids as hazardous waste:

Samsung must manage waste volumes greater than as generated wet 750 cubic yards of the Copper Filter cake as hazardous until EPA grants a new exclusion.

When this exclusion becomes final, Samsung's management of the wastes covered by this petition would be relieved from Subtitle C jurisdiction, the Copper Filter cake from Samsung will be disposed of in an authorized, solid waste landfill (e.g. RCRA Subtitle D landfill,

commercial/industrial solid waste landfill, etc.).

(5) Reopener

The purpose of paragraph (6) of the exclusion language is to require Samsung to disclose new or different information related to a condition at the facility or disposal of the waste, if it is pertinent to the delisting. Samsung must also use this procedure, if the waste sample in the annual testing fails to meet the levels found in paragraph (1). This provision will allow EPA to reevaluate the exclusion, if a source provides new or additional information to EPA. EPA will evaluate the information on which EPA based the decision to see if it is still correct, or if circumstances have changed so that the information is no longer correct or would cause EPA to deny the petition, if presented. This provision expressly requires Samsung to report differing site conditions or assumptions used in the petition, in addition to failure to meet the annual testing conditions within 10 days of discovery. If EPA discovers such information itself or from a third party, it can act on it as appropriate. The language being proposed is similar to those provisions found in RCRA regulations governing no-migration petitions at § 268.6.

EPA believes that it has the authority under RCRA and the Administrative Procedures Act (APA), 5 U.S.C. 551 (1978) et seq., to reopen a delisting decision. EPA may reopen a delisting decision when it receives new information that calls into question the assumptions underlying the delisting.

EPA believes a clear statement of its authority in delistings is merited, in light of EPA's experience. See Reynolds Metals Company at 62 FR 37694 and 62 FR 63458 where the delisted waste leached at greater concentrations in the environment than the concentrations predicted when conducting the TCLP, thus leading EPA to repeal the delisting. If an immediate threat to

human health and the environment presents itself, EPA will continue to address these situations on a case-by-case basis. Where necessary, EPA will make a good cause finding to justify emergency rulemaking. See APA § 553 (b).

(6) Notification Requirements

In order to adequately track wastes that have been delisted, EPA is requiring that Samsung provide a one-time notification to any state regulatory agency through which or to which the delisted waste is being carried. Samsung must provide this notification sixty (60) days before commencing this activity.

*B. What happens if Samsung violates the terms and conditions?*

If Samsung violates the terms and conditions established in the exclusion, EPA will start procedures to withdraw the exclusion. Where there is an immediate threat to human health and the environment, EPA will evaluate the need for enforcement activities on a case-by-case basis. EPA expects Samsung to conduct the appropriate waste analysis and comply with the criteria explained above in paragraph (1) of the exclusion.

**V. Public Comments**

*A. How can I as an interested party submit comments?*

EPA is requesting public comments on this proposed decision. Please send three copies of your comments. Send two copies to Kishor Fruitwala, Section Chief (6MM-RP), Multimedia Division, Environmental Protection Agency (EPA), 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202. Identify your comments at the top with this regulatory docket number: "EPA-R6-RCRA-2017-0254, Samsung Austin Semiconductor Copper Filter Cake delisting." You may

submit your comments electronically to Michelle Peace at [peace.michelle@epa.gov](mailto:peace.michelle@epa.gov).

You should submit requests for a hearing to Kishor Fruitwala, Section Chief (6MM-RP), Multimedia Division, Environmental Protection Agency (EPA), 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202.

*B. How may I review the docket or obtain copies of the proposed exclusions?*

You may review the RCRA regulatory docket for this proposed rule at the Environmental Protection Agency Region 6, 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202. It is available for viewing in EPA Freedom of Information Act Review Room from 9:00 a.m. to 4:00 p.m., Monday through Friday, excluding Federal holidays. Call (214) 665-6444 for appointments. The public may copy material from any regulatory docket at no cost for the first 100 pages, and at fifteen cents per page for additional copies. Docket materials may be available either electronically in <http://www.regulations.gov> and you may also request the electronic files of the docket which do not appear on [regulations.gov](http://www.regulations.gov).

## **VI. Statutory and Executive Order Reviews**

Under Executive Order 12866, “Regulatory Planning and Review” (58 FR 51735, October 4, 1993), this rule is not of general applicability and therefore, is not a regulatory action subject to review by the Office of Management and Budget (OMB). This rule 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 applies to a particular facility only. Because this rule is of particular applicability relating to a particular facility, it is not subject to the regulatory flexibility provisions of the Regulatory Flexibility Act (5 U.S.C. 601 et seq.), or to sections 202, 204, and

205 of the Unfunded Mandates Reform Act of 1995 (UMRA) (Pub. L. 104-4). Because this rule will affect only a particular facility, it will not significantly or uniquely affect small governments, as specified in section 203 of UMRA. Because this rule will affect only a particular facility, this proposed rule 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, as specified in Executive Order 13132, “Federalism”, (64 FR 43255, August 10, 1999). Thus, Executive Order 13132 does not apply to this rule.

Similarly, because this rule will affect only a particular facility, this proposed rule does not have tribal implications, as specified in Executive Order 13175, “Consultation and Coordination with Indian Tribal Governments” (65 FR 67249, November 9, 2000). Thus, Executive Order 13175 does not apply to this rule. This rule also is not subject to Executive Order 13045, “Protection of Children from Environmental Health Risks and Safety Risks” (62 FR 19885, April 23, 1997), because it is not economically significant as defined in Executive Order 12866, and because the Agency does not have reason to believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. The basis for this belief is that the Agency used DRAS, which considers health and safety risks to children, to calculate the maximum allowable concentrations for this rule. This rule is not subject to Executive Order 13211, “Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use” (66 FR 28355 (May 22, 2001)), because it is not a significant regulatory action under Executive Order 12866. This rule does not involve technical standards; thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272

note) do not apply. As required by section 3 of Executive Order 12988, “Civil Justice Reform”, (61 FR 4729, February 7, 1996), in issuing this rule, EPA has taken the necessary steps to eliminate drafting errors and ambiguity, minimize potential litigation, and provide a clear legal standard for affected conduct.

The Congressional Review Act, 5 U.S.C. 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report which includes a copy of the rule to each House of the Congress and to the Comptroller General of the United States. Section 804 exempts from section 801 the following types of rules: (1) Rules of particular applicability; (2) rules relating to agency management or personnel; and (3) rules of agency organization, procedure, or practice that do not substantially affect the rights or obligations of non-agency parties (5 U.S.C. 804(3)). EPA is not required to submit a rule report regarding today's action under section 801 because this is a rule of particular applicability. Executive Order (EO) 12898 (59 FR 7629 (Feb. 16, 1994)) establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this proposed rule 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. The Agency's risk assessment did not identify risks from management of this material in an

authorized, solid waste landfill (e.g. RCRA Subtitle D landfill, commercial/industrial solid waste landfill, etc.). Therefore, EPA believes that any populations in proximity of the landfills used by this facility should not be adversely affected by common waste management practices for this delisted waste.

**Lists of Subjects in 40 CFR Part 261**

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

Authority: Sec. 3001(f) RCRA, 42 U.S.C. 6921(f).

Dated: June 15, 2017.

Wren Stenger, Director,  
Multimedia Division,  
Region 6.

For the reasons set out in the preamble, 40 CFR part 261 is proposed to be amended 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 the entry “Samsung” in alphabetical order to read as follows:

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

**Table 1--Wastes Excluded from Non-Specific Sources**

Facility	Address	Waste description
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Samsung	Austin, TX	<p>Copper Filter Cake (EPA Hazardous Waste Numbers F006) generated at a maximum rate of as 750 cubic yards annually.</p> <p>For the exclusion to be valid, Samsung must implement a verification testing program for each of the waste streams that meets the following Paragraphs:</p> <p>(1) Delisting Levels: All concentrations for those constituents must not exceed the maximum allowable concentrations in mg/l specified in this paragraph.</p> <p><b>Copper Filter Cake.</b> Leachable Concentrations (mg/l): Acetone – 2070.0; Arsenic – 1.66; Barium-100.0; Cadmium-0.362; Carbon Disulfide- 224.75; Chromium- 5.0; Chromium (VI)- 5.0; Cobalt- 1.36; Copper – 97.1; Lead- 2.45; Nickel-53.8; Selenium - 1.0; Silver-5.0; Thallium – 0.01458; Tin – 22.5; Toluene- 60.1; Vanadium-14.36; Zinc-797</p> <p>(2) Waste Holding and Handling:</p> <p>(A) Waste classification as non-hazardous cannot</p>

		<p>begin until compliance with the limits set in paragraph (1) for the Copper Filter cake is verified.</p> <p>(B) If constituent levels in any sample and retest sample taken by Samsung exceed any of the delisting levels set in paragraph (1) for the Copper Filter cake, Samsung must do the following:</p> <p>(i) notify EPA in accordance with paragraph (5) and</p> <p>(ii) manage and dispose the Copper Filter cake as hazardous waste generated under Subtitle C of RCRA.</p> <p>(3) Testing Requirements:</p> <p>Samsung must perform analytical testing by sampling and analyzing the Copper Filter cake as follows:</p> <p>(i) Collect a representative sample of the Copper Filter cake for analysis of all constituents listed in paragraph (1) prior to disposal.</p> <p>(ii) The samples for the annual testing shall be a representative sample according to appropriate methods. As applicable to the method-defined parameters of concern, analyses requiring the use of SW-846 methods incorporated by reference in 40 CFR 260.11 must be used without substitution. As applicable, the SW-846 methods might include Methods 0010, 0011, 0020, 0023A, 0030, 0031, 0040, 0050, 0051, 0060, 0061, 1010A, 1020B, 1110A, 1310B, 1311, 1312, 1320, 1330A, 9010C, 9012B, 9040C, 9045D, 9060A, 9070A (uses EPA Method 1664, Rev. A), 9071B, and 9095B. Methods must meet Performance Based Measurement System Criteria in which the Data Quality Objectives are to demonstrate that samples of the Samsung Copper filter cake is representative for all constituents listed in paragraph (1).</p> <p>(4) Data Submittals:</p>
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		<p>Samsung must submit the information described below. If Samsung fails to submit the required data within the specified time or maintain the required records on-site for the specified time, EPA, at its discretion, will consider this sufficient basis to reopen the exclusion as described in paragraph (6). Samsung must:</p> <p>(A) Submit the data obtained through paragraph 3 to the Section Chief, 6MM-RP, Multimedia Division, U. S. Environmental Protection Agency Region 6, 1445 Ross Ave., Suite 1200, Dallas, Texas 75202, within the time specified. All supporting data can be submitted on CD-ROM or comparable electronic media.</p> <p>(B) Compile records of analytical data from paragraph (3), summarized, and maintained on-site for a minimum of five years.</p> <p>(C) Furnish these records and data when either EPA or the State of Texas requests them for inspection.</p> <p>(D) Send along with all data a signed copy of the following certification statement, to attest to the truth and accuracy of the data submitted:</p> <p>“Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to, 18 U.S.C. 1001 and 42 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete.</p> <p>As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the</p>
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	<p>persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete.</p> <p>If any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of waste will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.”</p> <p>(5) Reopener</p> <p>(A) If, anytime after disposal of the delisted waste Samsung possesses or is otherwise made aware of any environmental data (including but not limited to underflow water data or ground water monitoring data) or any other data relevant to the delisted waste indicating that any constituent identified for the delisting verification testing is at level higher than the delisting level allowed by the Division Director in granting the petition, then the facility must report the data, in writing, to the Division Director within 10 days of first possessing or being made aware of that data.</p> <p>(B) If either the verification testing (and retest, if applicable) of the waste does not meet the delisting requirements in paragraph 1, Samsung must report the data, in writing, to the Division Director within 10 days of first possessing or being made aware of that data.</p> <p>(C) If Samsung fails to submit the information described in paragraphs (5),(6)(A) or (6)(B) or if any other information is received from any source, the Division Director will make a preliminary determination as to whether the reported</p>
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	<p>information requires EPA action to protect human health and/or the environment. Further action may include suspending, or revoking the exclusion, or other appropriate response necessary to protect human health and the environment.</p> <p>(D) If the Division Director determines that the reported information requires action by EPA, the Division Director will notify the facility in writing of the actions the Division Director 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 facility with an opportunity to present information as to why the proposed EPA action is not necessary. The facility shall have 10 days from receipt of the Division Director's notice to present such information.</p> <p>(E) Following the receipt of information from the facility described in paragraph (6)(D) or (if no information is presented under paragraph (6)(D)) the initial receipt of information described in paragraphs (5), (6)(A) or (6)(B), the Division Director will issue a final written determination describing EPA actions that are necessary to protect human health and/or the environment. Any required action described in the Division Director's determination shall become effective immediately, unless the Division Director provides otherwise.</p> <p>(6) Notification Requirements:</p> <p>Samsung must do the following before transporting the delisted waste. Failure to provide this notification will result in a violation of the delisting petition and a possible revocation of the decision.</p> <p>(A) Provide a one-time written notification to any state Regulatory Agency to which or through which it will transport the delisted waste described above for disposal, 60 days before beginning such</p>
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		<p>activities.</p> <p>(B) For onsite disposal, a notice should be submitted to the State to notify the State that disposal of the delisted materials has begun.</p> <p>(C) Update one-time written notification, if it ships the delisted waste into a different disposal facility.</p> <p>(D) Failure to provide this notification will result in a violation of the delisting exclusion and a possible revocation of the decision.</p>
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