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Appendices

C. WASTE CHARACTERISTICS

C.1 Waste Analysis Plan Introduction and Purpose

CS Clean Solutions, Inc. (CS Clean) has developed this Waste Analysis Plan (WAP) to facilitate safe and effective handling and processing of each waste managed by the facility and to minimize the potential for adverse chemical reactions resulting from mixing and/or handling potentially incompatible wastes. This plan provides procedures and controls that ensure that chemical and physical analyses are completed on a representative sample of each hazardous waste stream managed by CS Clean. This WAP describes:

- waste sampling methodologies, analytical parameters, and methods,
- hazardous waste acceptance procedures, and
- hazardous waste tracking system is utilized for safe hazardous waste management at the facility.

Additionally, the WAP identifies specific methods for:

- verification of received waste profiles,
- identification of waste profiles for wastes generated onsite and ensuring their compliance with Land Disposal Restriction (LDR) requirements, and
- identification of waste compatibility and final disposition.

C.2 Identification of Facility Processes, Activities, and Areas

As discussed in **Section A** of this application package, CS Clean receives, transfers, reclaims, and generates potentially hazardous waste using a combination of the following management options:

- The receipt of spent scrubber columns containing potentially hazardous spent granulate from end product users;
- Removal of the spent granulate from the columns, which is then transferred into approved shipping containers at the CS Clean facility, followed by either:
    - Treatment and transportation of the spent granulate off-site for disposal via a third-party environmental services vendor.

      OR

    - Transferal of the spent granulate to a permitted reclamation facility for the recovery of precious metals, where possible.
- Decontamination, fine cleaning, testing, and refilling of the spent columns with virgin granulate; and,
- Shipping of the cleaned and regenerated columns to service at the end users' facilities.

The following areas at the CS Clean facility are designated to manage the above-mentioned wastes:

- Shipping and receiving area,
- Waste storage area,
- Donning and doffing passthrough,
- Waste material transfer room, and
- Preparation area.

Detailed process area drawings are provided in **Section A** of this application package.

References are made within this plan regarding decisions that may be necessary regarding waste sampling, acceptance, and disposition. Unless specifically noted, personnel authorized to make these determinations shall be limited to the CS Clean technician managing the waste, the facility manager, or qualified third party.

C.3 Waste Identification and Classification

C.3.1 Offsite Waste Identification and Classification

Waste types generated offsite by the end user of a Cleansorb column, each of which is explicitly identified in the offsite wastes section of **Table C.1** in **Section C.4**, may be accepted at the CS Clean facility. Depending on the nature of the end user's manufacturing process, the spent granulate waste is either:

- purged and transferred into an appropriate shipping container and transported offsite for disposal, or
- purged, treated with copper sulfate solution, then transferred into an appropriate shipping container, and transported offsite for disposal.

Table C.1 also lists the potential Resource Conservation and Recovery Act (RCRA) hazardous waste codes of each anticipated granulate waste type, as well as hazardous properties associated with each waste code. Prior to managing any of these hazardous wastes from offsite sources, CS Clean completes a hazardous waste determination for each received waste stream in accordance with procedures described in **Section C.4**.

Offsite potentially hazardous wastes other than those listed in **Table C.1** below will not be accepted by CS Clean.

C.3.2 Wastes Generated Onsite

Process water generated onsite at CS Clean, which is identified in the onsite wastes section of **Table C.1** below, is a result of three separate operations:

1. Rinse water generated through decontamination of spent columns received from end users
2. Spent copper sulfate and water solution generated through the copper sulfate treatment process described in **Section C.3.1**

3. Used Personal Protective Equipment (PPE) associated with column decontamination and cleaning activities in the waste material transfer room

Table C.1 also lists the potential RCRA hazardous waste codes of each process water type, as well as hazardous properties associated with each waste code.

Prior to shipment offsite, CS Clean completes a hazardous waste determination for each potentially hazardous waste generated onsite in accordance with procedures described in **Sections C.4.1** and **C.4.2**.

C.4 Waste Monitoring, Acceptance, and Rejection Procedures

Waste acceptance and rejection procedures described in this section are followed in order to ensure that CS Clean does not accept waste from end users which is not covered in this section. Acceptance and rejection procedures are also described below for potentially hazardous process water generated onsite.

Waste Rejection

All end user columns are received by CS Clean in the shipping and receiving area. Spent columns are reviewed against shipment paperwork (i.e., manifest and work order) to ensure accuracy at the time of receipt, spent columns remain on the truck at this time. Any spent granulate waste will be rejected and declined for reception at this time if the manifest and work order do not match the spent granulate received. Examples of rejection criteria, include, but are not limited to:

- Amount or size of waste does not match the manifest and work order;
- Missing necessary manifest or work order;
- Obvious missing information from the manifest or work order (i.e., generator, transporter information, etc.);
- Leaking or damaged spent columns; or
- Waste is noted to be a waste stream that CS Clean cannot accept per this WAP.

Facility Storage Route

Upon acceptance, spent granulate waste is transferred from shipping/receiving department immediately to the waste storage area for all spent columns, where it will temporarily stage until the CS Clean technician is ready to continue the processing operation.

TABLE C.1 WASTES RECEIVED FROM OFFSITE AND PROCESS WATER GENERATED ONSITE				
Process Waste Description	**Potential Haz. Waste Codes**	**Hazard(s) Description**	**Required Analysis Parameters**	**Analysis Method[2]**
Offsite Generated Wastes – Spent Granulate from End Users of Cleansorb Columns				
Ion Implantation	D001 D004	Ignitable Arsenic	Specific Gravity pH/Corrosivity Flash Point/Ignitability Chemical composition TCLP Metals TCLP Volatiles TCLP Semi-volatiles	N/A SW-846 9040/9045 SW-846 1010 SW-846 7000 SW-846 6010/7470 SW-846 8260 SW-846 8270
Chemical Vapor Deposition	D001 D003 D004	Ignitable Reactive Arsenic		
Chemical Etching	D002	Corrosive		
Nitride	D002	Corrosive		
Silicon Epi	D002 D003 D004	Corrosive Reactive Arsenic		
Cobalt	D003	Reactive		
Onsite Generated Wastes – Process Water Generated by CS Clean				
Column Decontamination Rinse Water	None Anticipated	Waste chemical liquid Various[1]	Specific Gravity pH/Corrosivity Flash Point/Ignitability Chemical composition TCLP Metals TCLP Volatiles TCLP Semi-volatiles	N/A SW-846 9040/9045 SW-846 1010 SW-846 7000 SW-846 6010/7470 SW-846 8260 SW-846 8270
Spent Copper Sulfate and Water Solution	D001 D002 D003 D004	Ignitable Corrosive Reactive Arsenic		
Used PPE	D001 D002 D003 D004	Ignitable Corrosive Reactive Arsenic		

[1] Hazardous waste codes for rinse water generated during cleaning operations are directly related to the individual columns for which it is used to clean. As such, rinse water from each column could carry the same hazardous waste code(s) as the spent granulate from that column.

[2] Test Methods for Evaluations of Solid Waste Physical/Chemical Methods, EPA Method SW-846, Revision 8, July 2014

C.4.1 Waste Stream Determination of Spent Granulate Received from Offsite

Waste Stream Determination

All end users returning spent columns to CS Clean are required to complete the following:

- Submit to CS Clean comprehensive laboratory analysis waste profile (unless up to date laboratory results from the end user are already on file), including all analysis parameters listed in **Table C.1** above.
- Collect and transport the spent column with the spent granulate waste in accordance with the specific conditions listed in **Appendix C.1**.
- Sign and return the written agreement between CS Clean and the end user (**Appendix C.1**).

If a spent column is submitted to CS Clean and no comprehensive waste analysis results are provided, a representative sample of each granulate layer within the column is collected by CS Clean, submitted to a certified laboratory, and analyzed for parameters detailed in **Table C.1** above.

A blank copy of CS Clean's Waste Profile Data Sheet, as well as an example completed waste profiles for each anticipated waste streams, is provided in **Appendix C.2**.

Testing and Time Horizons

Spent columns received at CS Clean, once accepted, are transferred from shipping and receiving area to the waste storage area for all spent columns, where it is temporarily staged until the CS Clean technician is ready to continue the processing operation. Received granulate wastes for which CS Clean does not have detailed laboratory analysis results are submitted to a certified laboratory within a week of onsite delivery, with a standard turnaround time requested. Following completion of the required analyses, waste manifests are completed for the waste and the profile retained in CS Cleans records.

C.4.2 Waste Stream Determination of Process Water Generated Onsite

Waste Stream Determination

Rinse water generated at the CS Clean facility from decontamination of columns that have been returned by end users. Additionally, spent copper sulfate and water solution is generated from copper sulfate treatment of certain spent granulate wastes. To determine each waste stream, CS Clean uses information from the end user's process, as well as known constituents of the copper sulfate solution, when applicable. This includes a review of the abatement gases passed through the column and waste streams and codes of the spent granulate, which is provided in the end user's waste profile. Additionally, to develop a waste profile for each end user's process water, CS Clean submits a representative sample of the process water stream for each end user to a certified laboratory for analysis of the parameters detailed in **Table C.1**. This waste profile is then used to determine waste streams for future process water generated from that operation until such time as the conditions in **Section C.5.4** of this plan are met for waste stream re-analysis.

Testing and Time Horizons

Rinse water and spent copper sulfate and water solution generated at CS Clean from column decontamination operations or copper sulfate treatment for which CS Clean does not have detailed laboratory analysis results, as described in **Table C.1**, is submitted to a certified laboratory for at least a standard turnaround time. Following completion of the required testing, the waste manifest is completed for these wastes and the profile retained in CS Cleans records.

C.5 Waste Analysis

Identified under this section of the WAP are the following:

- Rationale for the selection of analysis parameters,
- Test methods which are used to test for these parameters, and

- Frequency with which the analysis parameters and results of the waste are reviewed or repeated to ensure that the analysis is accurate and up to date.

C.5.1 Parameter Selection and Rationale

The list of analysis parameters in **Table C.1** was derived for the spent granulate waste by:

- reviewing the gases used in each manufacturing process completed by the end user, as well as waste profiles from other end users with similar manufacturing processes,
- obtaining lists of possible gases and/or chemical compounds used by the end user, and
- conducting laboratory analysis on the spent granulate waste.

Based on CS Clean's knowledge of each end user's manufacturing process, testing for additional contaminants to those listed in **Table C.1** may not always be warranted. The reasoning behind testing spent granulate for those parameters is to ensure that:

- The spent granulate waste can be disposed of without causing failure or interruption of CS Cleans decontamination operation.
- The spent granulate received from the end user was used in the process described to CS Clean by the end user, and therefore, covered by CS Clean's Hazardous Waste Treatment, Storage, and Disposal Facility (TSDF) permit.
- The waste manifest is completed inaccurately, and discrepancies can be determined upon the waste's receipt.
- Appropriate waste profiles can be completed by CS Clean for the process water generated onsite as a result of column decontamination and copper sulfate treatment operations.
- Appropriate response actions can be taken in the unlikely event of a spill or release of material.

C.5.2 Methods of Analysis

Described below are the methods of analysis that are followed by CS Clean and/or the end user via a certified laboratory for the waste monitoring procedures listed under **Section C.4**.

A. Spent Granulate Waste

The specific analytical methods followed by CS Clean and/or the end user via a certified laboratory, for end users returning spent granulate waste, are provided in **Table C.1**. In the event that CS Clean identifies a need to analyze the waste for additional parameters, the following hierarchy is used to determine the appropriate analytical method:

- Test Methods for the Evaluations of Solid Wastes Physical/Chemical Methods, PEA, SW-846, 3rd Edition, July 2014
- Arizona Department of Environmental Quality approved method

B. Wastes Generated Onsite

The specific analytical methods to be followed by CS Clean for process water generated from onsite column decontamination and copper sulfate treatment operations are also

provided in **Table C.1**. In the event that additional parameters are identified to be analyzed, CS Clean or the certified laboratory follows the following hierarchy to determine the appropriate analytical method:

- Test Methods for the Evaluations of Solid Wastes Physical/Chemical Methods, U.S. Environmental Protection Agency (EPA), SW-846, Revision 8, July 2014
- Arizona Department of Environmental Quality (ADEQ) approved method

C.5.3 Frequency of Analysis

Sample analysis results of all received spent granulate are either provided to CS Clean by the end user or spent granulate samples are submitted by CS Clean to a certified laboratory for analysis. CS Clean also submits process water generated as a result of onsite cleaning and copper sulfate treatment operations to a certified laboratory for analysis. Both spent granulate waste and process water generated onsite is re-characterized under the following conditions:

- When it is suspected that the characteristics of the spent granulate waste have changed; or
- When the process generating the spent granulate waste has changed.

C.5.4 Analysis Records

Written records of all waste analyses are retained in CS Clean's operating logs for a minimum of three years.

C.6 Sampling Procedures and Sample Preservation

All samples are collected and preserved in accordance with the procedures described below.

C.6.1 Methods

Sample collection and preservation techniques vary with the characteristics of the wastes (solids, liquid) and types of analysis to be conducted on the waste.

In selecting the appropriate sample containers, CS Clean considers the following guidelines: sample containers must not distort, rupture or leak as a result of chemical reactions with constituents of waste samples; they must have adequate wall thickness to withstand handling during sample collection and transport to the laboratory, and containers must be large enough to contain the required volume of sample for analysis.

Based on these guidelines, the following containers are generally to be used for collecting and storing samples collected at CS Clean:

- 600 cc Polyethylene (high density); and
- Glass bottles.

All waste sampling and analysis will be conducted in conjunction with a certified third-party laboratory per the appropriate EPA methodology.

C.6.2 Sample Collection

All first-time waste streams are analyzed at a certified laboratory and submitted to CS Clean. If CS Clean personnel collect the sample(s) of the granulate waste, used PPE, or process water for laboratory analysis, it is completed in accordance with the following procedures.

A. Sampling Process Water from Column Decontamination or Copper Sulfate Treatment Operations

Sampling of process water from either intermediate bulk container (IBC) is accomplished using a Coliwasa or glass rod and in accordance with the following procedures:

1. Use a clean Coliwasa or glass rod.
2. Slowly lower the Coliwasa or glass rod into the waste at a rate that permits the level of liquid inside and outside the sampler to remain the same. If the level of waste in the sampler tube is lower inside than outside, the sampling rate is too fast and will produce an unrepresentative sample.
3. For the Coliwasa, push sampler tube down to close and lock the stopper by turning the T-handle until it is upright and one end rests on the locking block when the bottom of the container is reached or in the case of the storage tote when the maximum sampling depth of the Coliwasa is reached. For the glass rod, place your thumb over the top end of the rod to generate a tight seal.
4. Withdraw Coliwasa or glass rod from waste container and wipe the outside with a disposable cloth or rag. Place the sample into the sample container and seal tightly.

B. Sampling PPE

Sampling of PPE from disposal containers will be completed in accordance with the following procedures:

1. Donn appropriate PPE (i.e., gloves, Tyvek suit, respirator, etc.)
2. Sample the PPE waste utilizing a handheld device to collect the solid waste.
3. Obtain a representative sample of all types of PPE in the waste stream.
4. Place the sample into the sample container and seal tightly.

C. Sampling Spent Granulate

Spent granulate in each column are separated into discrete layers with different absorption and waste properties based on the end user's specific manufacturing process. Sampling of each layer is completed by removing each layer from the column individually and placing a small amount of each granulate type into a sampling container. Proper PPE must be donned at all times during this process to prevent exposure to the granulate.

C.7 Waste Compatibility

C.7.1 Waste Container Compatibility for Storage and Shipping

To ensure that spent granulate waste and process water are stored in compatible containers at all times, only the following types of U.S. Department of Transportation (DOT)-approved containers are used for storage and shipment as described in **Section D.1.3**.

Due to the potentially hazardous nature of the spent granulate waste that is received at CS Clean, spent granulate from each end user is stored within a single, tightly sealed container. At no time are wastes from different end users combined into a single storage container. Similarly, rinse water generated onsite as a result of column treatment decontamination and spent copper sulfate and water solution generated onsite as a result of copper sulfate treatment is also stored within separate, dedicated IBCs. One 55-gallon drum is required to store spent granulate from each received column, one 275-gallon IBC is required to store rinse water generated as a result of column decontamination, and one 275-gallon IBC is required to store spent copper sulfate and water solution generated as a result of copper sulfate treatment.

If it is determined that other materials in addition to those listed above are stored in the waste storage area or preparation area (i.e., copper sulfate mixing agent, other wastes, etc.), compatibility of these materials has to be determined. Prior to the placement of any material in these storage areas (other than spent granulate waste), the EPA procedure "A Method for Determining the Compatibility of Hazardous Wastes" (EPA-600/2-80-076) is followed:

1. Determine the chemical constituents which are present within each waste/product/ chemical to be stored within the area.
2. Determine the Reactivity Group Numbers (RGN) for each chemical constituent from the Hazardous Waste Compatibility Chart provided in EPA document EPA-600/2-80-076, provided as **Appendix F.10** (**Section F**).
3. Determine the Reaction Code (RC) for waste/product/chemical to be stored in the area by comparing the waste/product/chemical RGNs with that of the granulate waste RGNs (i.e., binary combinations) and reviewing the Hazardous Waste Compatibility Chart in **Appendix F.10** (**Section F**).
4. If hazardous reactions are determined from this procedure, CS Clean will either: 1) perform onsite compatibility tests or review chemical concentrations to determine if waste/ products/chemicals can be managed in the storage room; or 2) prohibit the storage of waste/product/chemicals in the storage room.
5. The results of the compatibility analyses are recorded in the operating records (**Section F** of the application package).

C.7.2 Degree of Hazard Determination

Spent granulate waste is stored solely in the waste storage area of the CS Clean facility and process water waste is stored solely in the waste storage area. Prior to placing either of these wastes in their respective storage locations, the degree of hazard and/or hazard class rating for each granulate blend is determined and recorded in the facility's operating records. Due to the varying nature of

individual end user waste streams, the facility relies on laboratory analytical results and/or knowledge of the inherent hazards of the material to complete the degree of hazard determination.

For mixtures which contain two more chemicals that have not been assigned degrees of hazard, the degrees of hazard are determined for each chemical constituent. The mixture is assigned the most severe degrees of hazard associated with the chemical constituent within the mixture.

C.8 Waste Tracking System for Containers

Every container of spent granulate that is generated offsite from end users' spent columns is assigned a unique waste container identification number. The identification number is assigned by CS Clean as the serial number provided on each returned column.

The information listed below is recorded on the Hazardous Waste Tracking Log, of which a blank copy is provided as **Appendix C.3**.

- End user
- Material description, estimated quantity
- Waste container Identification Number
- Waste Manifest Number
- Date received
- Receiver's initials
- Date sampled
- Waste code(s)
- Copy of Waste Profile
- Date stored
- Date shipped offsite

In addition to the information above, tracking logs for containers of process water generated onsite also includes:

- Generation date
- Sample method(s) for waste analysis

Wastes will be stored with the following information available for each container:

- Labeled with the words "hazardous waste",
- Labeled with hazardous waste codes,
- An indication of the hazards will be present , and
- The date each period of accumulation begins.

Treated offsite waste will be stored for a period of less than one year and generated waste from onsite activities will be stored for a period of less than 90 days, per large quantity generator requirements.

C.9 Land Ban Disposal Restrictions

CS Clean either tests its waste, test an extract developed using the test method described in Appendix II of the Code of Federal Regulations (CFR), 40 CFR Part 261 (if applicable), or use their knowledge of the waste, as described in this WAP, to determine if the waste shipped offsite for disposal/treatment is restricted from land disposal. For the wastes determined not to meet the applicable treatment standards set forth in 40 CFR 268.40 or 268.45, CS Clean, with each initial shipment of waste sends a one-time written notice to each treatment or storage facility which receives the waste. This notice includes the information in the Generator Paperwork Requirements Table listed in 40 CFR 268.7. No additional notices are submitted unless the waste or receiving facility changes.

For wastes determined to meet the applicable treatment standards set forth in 40 CFR 268.40 and 268.45, CS Clean, with each initial shipment of waste, sends a one-time written notice to each treatment, storage or disposal facility which receives the waste. This notice includes the information in the Generator Paperwork Requirements Table in 268.7(a)(4) and the following certification signed by an authorized representative.

> *"I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specific in 40 CFR Part 268 Subpart D. I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."*

If the waste changes, CS Clean will send a new notice and certification to the receiving facility. CS Clean maintains copies of all notices, certification statements, waste analysis data and other supporting data onsite for at least three years from the date that the waste is shipped offsite for disposal/treatment.

Incoming Hazardous Waste Shipments

Future spent granulate wastes received at CS Clean from end users do not meet the treatment standards set forth in 40 CFR 268 Subpart D. Therefore, in accordance with 40 CFR 268.7(a), end users and offsite CS Clean facilities must submit a one-time written notice with their first shipment. The notice must include the information listed under column "268.7(a)(2)" of the Generator Paperwork Requirements Table in 40 CFR 268.7.

If the spent granulate waste changes, the end users and/or offsite CS Clean facilities will be required to send a new notice.

CS Clean maintains copies of all notices, waste analysis data, and other supporting data onsite for at least three years from the date that the spent granulate waste was shipped to CS Clean for ultimate disposal by a third-party environmental services vendor.

APPENDIX C.1

Waste Granulate Shipment T&Cs and End User Agreement

STANDARD TERMS AND CONDITIONS

FOR

CONTAINERIZED SPENT GRANULATE SHIPMENTS

1. Deliveries will normally be made within seven (7) working days after a waste shipment is requested. A shorter lead time can usually be met, but may result in additional charges based on actual costs.

2. Spent granulate waste shall **not** be mixed with any other materials. The spent granulate must be returned in the CS Clean canister in which the granulate was originally delivered. Under no circumstances should the customer attempt to open the canister or access its contents.

3. Spent granulate canisters must be labeled as hazardous waste and carry the markings and information required under 40 CFR 262.32. Do not use any other markings or indicators on the canisters.

4. A hazardous waste manifest must accompany the spent granulate canister being returned. Additionally, a comprehensive waste profile and characterization must be submitted along with the waste in accordance with 40 CFR 262.11.

5. A delivery appointment must be made for spent granulate canisters being returned to CS Clean Solutions, Inc. Please contact CS Clean at (203) 797-8155 to schedule a canister return.

6. Terms of payment: Net 30 days from date of invoice.

AGREEMENT

This Agreement, upon receipt by CS Clean Solutions, Inc. (CS Clean) of Phoenix, AZ, of your acceptance as evidenced by your signature, shall be the Agreement between CS Clean and _____ ("Company") with respect to the provisions set forth below:

1. WASTE – The term "waste" used herein refers to the hazardous or non-hazardous spent granulate generated by the Company and tendered or received by CS Clean for ultimate disposal at a licensed third-party hazardous waste treatment, storage, and disposal facility.

2. CS CLEAN WARRANTY – CS Clean shall obtain all permits, licenses, and other forms of documentation required in order to comply with all existing laws, ordinances, and regulations of the Unites States and of any state, county, township, or municipal sub-division thereof, or other governmental agency which are applicable to the acceptance and transfer (as a transfer facility) of Waste by CS Clean, provided, however, that CS Clean shall not be responsible for performing duties imposed by law upon Company. This includes, but is not limited to, completion of the generator's portion of the hazardous waste manifest, container labeling, packaging, testing, and completion of notices relating to any land disposal prohibition.

3. CS CLEAN INDEMNIFICATION – Except as provided in paragraphs 4 and 5 below, Company shall be relieved of responsibility for and CS Clean shall become responsible for, and shall indemnify and hold harmless Company from any and all liability, damages, costs - including attorney fees and litigation expenses - claims, demands, and expenses of whatever type or nature, including, but not limited to, costs of responding to environmental pollution, which shall be caused by or arise out of the Waste. Company provides or arranges transportation, and as such, such obligation shall commence upon delivery to CS Clean's facility.

   This paragraph (3) shall not apply to the extent that any such liability, damages, costs, claims, demands, and expenses caused by or arising out of Waste, are caused by the failure of Company to comply with the Warranty set forth in Section 4 below and fee schedule attached hereto.

4. COMPANY WARRANTY – Company hereby represents and warrants that all Waste tendered or transported to CS Clean by Company shall meet the specifications set forth in the provided fee schedule, attached hereto and made a part hereof, and that such Waste has been thoroughly characterized on a generator certification form that has been approved by CS Clean. It is understood and agreed that Company shall prepare and execute a generator certification form for each type of Waste, including any Waste resulting from process changes that could significantly alter its composition and/or chemical or physical properties. Company further represents and warrants that all such Waste shall be prepared for shipment, labeled and packaged and in containers specified by CS Clean, in accordance with applicable regulations of the United States Department of Transportation, United States Environmental Protection Agency and/or any federal, state, and/or local agency having jurisdiction.

5. COMPANY INDEMNICATION – CS Clean shall be relieved of responsibility for, and Company shall be solely responsible for, and shall indemnify and hold harmless CS Clean against any and all liability, damages, costs – including attorney fees and litigation expenses - claims, demands, and expenses of

any type or nature, including, but not limited to, costs of responding to environmental pollution, which shall be caused by or arise out of the waste prior to delivered to CS Clean's facility.

Notwithstanding the foregoing, Company further agrees to indemnify and hold harmless CS Clean from any and all loss, claims, costs (including environmental response costs), and damages, including without limitation damages to natural resources, equipment, property or person, whether that of CS Clean or its employees or any Company or its employees, caused by or resulting in any way from the failure to comply with the warranty set forth in paragraph 4 above.

6. NOTICE, RIGHT TO DEFEND – In the event any liability, damages, cost, claim, demand or other expense is asserted by a third party against CS Clean for which indemnification is sought under this Agreement, reasonable notice of such claim shall be given, and the party from whom indemnification is sought shall have the right (but not the obligation) to defend such claim.

7. CS CLEAN REJECTION – Company agrees that CS Clean, upon notice to Company, has the absolute and unqualified right to reject any shipment of Waste not in conformity with Schedule ___ or not in the container specified by CS Clean. It is further agreed and understood that CS Clean reserves the right to reject any shipment of Waste if acceptance by CS Clean of said Waste would result in a violation of any law, statute, regulation, ordinance, permit, license or order of the United States, or any agency thereof, or of any state, county, municipality or other governmental agency, department or commission. CS Clean's acceptance of Waste under this Agreement shall not constitute a waiver of its rights or remedies for Company's failure to comply with its obligations under paragraphs 4 and 5 above. Upon rejection Company shall assume full responsibility and costs for such Waste, including responsibility and costs for such further transportation, treatment or disposal as may be required. and Company shall indemnify and hold harmless CS Clean under paragraph 5 above as if such Waste had not departed Company's plant. CS Clean may, as a courtesy to Company, arrange on Company's behalf for such further transportation, storage, treatment or disposal of rejected Waste as may be appropriate; provided, however, that such arrangements shall not constitute CS Clean's acceptance of said Waste and shall not affect Company's obligation to indemnify and hold harmless CS Clean under the preceding sentence.

8. A. PAYMENT – As applicable, CS Clean shall invoice Company for the disposal of Waste at the rates and terms set forth by the fee schedule attached hereto and made a part hereof.

   B. PAYMENT OF REJECTED WASTE – Company agrees that if any Waste is rejected by CS Clean as failing to conform to the specifications set forth in the fee schedule attached hereto, Company shall pay a minimum fee to CS Clean for such further transportation, storage, or disposal as may be arranged by CS Clean, in accordance with fee schedule In the event of actual costs of such transportation, storage, or disposal exceed said fee, Company agrees to pay such additional costs upon demand by CS Clean.

9. TERMINATION – CS Clean or Company may terminate this Agreement at any time upon thirty (30) days prior written notice.

10. EFFECT – This Agreement shall be binding upon and inure to the benefit of CS Clean, its employees, agents, successors, and assigns, and Company, its employees, agents, successors, and assigns.

11. APPLICABLE LAW – This Agreement shall be governed by and construed in accordance with the laws of the State of Arizona

12. CONSTRUCTION – Captions are included herein for convenience and for reference only and shall not be considered in construing this agreement. The Agreement is for the sole and exclusive benefit of CS Clean, Company, and their respective employees, agents, successors, and assigns. Nothing contained herein shall constitute an admission or a waiver of any defense of any of them in proceeding or action brought about by any other person or governmental agency. There are no third party beneficiaries of this Agreement and this Agreement shall not be construed to create or enlarge any rights of third parties.

13. DISCLAIMER – CS Clean makes no representation that it will, in fact, recycle any Waste. CS Clean will send the Waste to permitted facility, for treatment, storage, or disposal.

14. PREVIOUS AGREEMENTS – All previous representations, including, but not limited to, proposal(s), purchase order(s), and/or other invoice(s), wither written or oral, are hereby annulled and superseded. No modification of this Agreement shall be effective unless in writing and executed by CS Clean and Company.

15. DISCLOSURE – The terms of this Agreement may be disclosed to any governmental agency.

ACCEPTED this _____ day of _____ , 20 _____ .

Date: _____ CS Clean Solutions, Inc.

By: _____ Signature / _____ Name

Date: _____ _____ Company

By: _____ Signature / _____ Name

Rev. 2/2017

APPENDIX C.2

Blank Waste Profile Data Sheet and Completed Example Waste Profile

CS CLEAN SOLUTIONS

26 Commerce Drive
Danbury CT 06810
United States of America
Tel: +1 203 797 8155
Fax: +1 203 797 0414

SPENT CHEMISORBENT WASTE PROFILE DATA

End User:	**Air Liquide**	Application:	**Ammonia and Amine abatement**	Date:	**August 26, 2025**
Revision #:	**1**	Author:	**Nizam Ahmed**	Contact:	**nizam.ahmed@csclean-usa.com**

The purpose of this document is to provide to the end-user a characterization of the spent Chemisorbent from a CS Exhaust Purification System. This information is be required by a Hazardous Waste Management Service provider for the proper handling and disposal of the spent or expired Chemisorbent material. The waste characterization is dependent on the process gas Treated. Therefore, this waste profile is valid only for the process data submit by the end-user on the CS Process Definition Sheet.

END USER CONTACT INFORMATION

End User Address:	**1379 South Delaware Drive, Mount Bethel, PA**	End User Contact:	**Kylie Fehnel**
End User Contact Email:	**kylie.fehnel@airliquide.com**	End User Phone	

ABATEMENT SYSTEM INFORMATION

System Model Number	**Stand Alone Novasafe**	System Serial Number	
Absorber Column Model	**11-56-1-20-0-01**	Chemisorbent Volume	**10L**
Process/Process gases	**NH3, Dimethylamine**	Column/Canister Serial #	

GENERATED WASTE INFORMATION

Waste Name	**Exhaust Scrubber Granulate Waste**	Process Generating Waste	**chemical manufacturing**
Estimated Quantity	**10L**	Type/Size	**10L standalone canister**

PHYSICAL PROPERTIES

State at 70F	**Solid**	Layers	**1**
% Liquid	**0%**	% Solid	**100%**
Pumpable ?	**No**	% Halogens	**0%**
BTU Content	**< 5,000 BTU**	Flash Point (F)	**> 200 F**
PH Range	**4-6**	Color	**White, Yellow**

CHEMICAL COMPOSITION

Iron Sulfate	**30-70**	**%**		**%**
(NH4)2Fe(SO4)2	**1-30**	**%**		**%**
Iron Hydroxide	**30-70**	**%**		**%**
		%		**%**
		%		**%**

METAL CONTENT

Antimony	**0%**	Chromium (III) Cr (D007)	**0%**	Nickel	**0%**
Arsenic (D004)	**0%**	Cobalt	**0%**	Selenium (D010)	**0%**
Barium (D005)	**0%**	Copper	**0%**	Silver (D011)	**0%**
Beryllium	**0%**	Lead (D008)	**0%**	Thallium	**0%**
Cadmium	**0%**	Mercury (D009)	**0%**	Vanadium	**0%**
Chromium (III) Cr (D007)	**0%**	Molybdenum	**0%**	Zinc	**0%**

OTHER PROPERTIES (check X)

<10% VOC	**X**	OSHA Carcinogen		Flammable Solid	
Lab Pack -Assorted		Acutely Hazardous (P Code)		Dangerous when wet	
DOT Corrosive only		CA Extremely Hazardous		Spontaneously Combustible	
Oxidizer		Pesticide Containing		Air Reactive	
Organic Peroxide		Reactive Cyanide		Explosive / Shock Sensitive	
Polymeric Resin		Reactive Sulfide		Benzene NESHAP	
Ozone Depleting		Ammonia Containing		Highly Odorous	
Compressed gas		Radioactive		Dioxin Containing	
Medical (infectious)		Friable Asbestos		PCB Containing	
Dioxin Containing		Ozone Depleting		Non-Friable Asbestos	

Shipping Information (TO BE DETERMINED BY GENERATOR)

Shipping Name UN 2923 corrosive solids, toxic, n.o.s

Technical n.o.s. or NON-RCRA Name Exhaust granular waste

Hazard Class 4.3 (6.1) UN / NA _____ PG ☐I ☒II ☐III

EPA Waste Class Code(s) _____ ☐None

CA Code _____ Other State Code (s) _____ Lowest RQ Constituent _____/Pounds _____

☐ "Poison" ☐ "Poison Inhalation Hazard, Zone ☐ "Dangerous When Wet" ☐Ozone Depleting Label ☐DOT-E

Primary Label _____ Subsidiary Label _____ Emergency Response Guidebook# _____

Special Handling Instructions _____

End of Document

CS CLEAN SOLUTIONS

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SPENT CHEMISORBENT WASTE PROFILE DATA

End User:	**TSMC**	Application:	**Cobalt Deposition**	Date:	**August 27, 2025**
Revision #:	**1**	Author:	**Nizam Ahmed**	Contact:	**nizam.ahmed@csclean-usa.com**

The purpose of this document is to provide to the end-user a characterization of the spent Chemisorbent from a CS Exhaust Purification System. This information is be required by a Hazardous Waste Management Service provider for the proper handling and disposal of the spent or expired Chemisorbent material. The waste characterization is dependent on the process gas Treated. Therefore, this waste profile is valid only for the process data submit by the end-user on the CS Process Definition Sheet.

END USER CONTACT INFORMATION

End User Address:	**TSMC North Phoenix Fab**	End User Contact:	**TBD**
End User Contact Email:	**TBD**	End User Phone	**TBD**

ABATEMENT SYSTEM INFORMATION

System Model Number	**CS250C2**	System Serial Number	**Multiple Systems**
Absorber Column Model	**CC200SA**	Generated Waste Quantity	**200L**
Process/Process gases	**CCTBA, CPCo(CO)2, NH3**	Column/Canister Serial #	**Multiple Systems**

SHIPPING INFORMATION

Shipping Name	**UN 3077 Environmentally hazardous substance, solid, n.o.s. (copper(II) carbonate--copper(II) hydroxide(1:1))**		
Technical name	**Exhaust scrubber granular waste**		
EPA Waste Code(s)	**D003**		
State Code(s)			
Hazard Class	**9**	Packing Group	**II**

PHYSICAL PROPERTIES

State at 70F	**Solid**	Layers	**3**
% Liquid	**0%**	% Solid	**100%**
Pumpable ?	**No**	Halogens	**No**
BTU Content	**< 5,000 BTU**	Flash Point (F)	**>200F**
PH Range	**9-10**	Color	**White, blue, black**

CHEMICAL COMPOSITION

Copper Oxide	**20-40**	%	Silicon Dioxide	**20-40**	%
Copper Hydroxide	**20-40**	%	Aluminum Oxide	**20-40**	%
Tetraammine copper	**1-20**	%			%
Cobalt	**1-5**	%			%
Aluminum Hydroxide	**1-20**	%			%
Magnesium Hydroxide	**1-20**	%			%

METAL CONTENT

Antimony	**0%**	Chromium (III) Cr (D007)	**0%**	Nickel	**0%**
Arsenic (D004)	**0%**	Cobalt	**1-5%**	Selenium (D010)	**0%**
Barium (D005)	**0%**	Copper	**20%+**	Silver (D011)	**0%**
Beryllium	**0%**	Lead (D008)	**0%**	Thallium	**0%**
Cadmium	**0%**	Mercury (D009)	**0%**	Vanadium	**0%**
Chromium (III) Cr (D007)	**0%**	Molybdenum	**0%**	Zinc	**0%**

OTHER PROPERTIES (check X)

<10% VOC	**X**	OSHA Carcinogen		Flammable Solid	
Lab Pack -Assorted		Acutely Hazardous (P Code)		Dangerous when wet	
DOT Corrosive only		CA Extremely Hazardous		Spontaneously Combustible	
Oxidizer		Pesticide Containing		Air Reactive	**x**
Organic Peroxide		Reactive Cyanide		Explosive / Shock Sensitive	
Polymeric Resin		Reactive Sulfide		Benzene NESHAP	
Ozone Depleting		Ammonia Containing		Highly Odorous	
Compressed gas		Radioactive		Dioxin Containing	
Medical (infectious)		Friable Asbestos		PCB Containing	
Dioxin Containing		Ozone Depleting		Non-Friable Asbestos	

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SPENT CHEMISORBENT WASTE PROFILE DATA

End User:	**TSMC**	Application:	**Doped Silicon Epitaxy**	Date:	**August 27, 2025**
Revision #:	**2**	Author:	**Nizam Ahmed**	Contact:	**nizam.ahmed@csclean-usa.com**

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END USER CONTACT INFORMATION

End User Address:	**TSMC North Phoenix Fab**	End User Contact:	**TBD**
End User Contact Email:	**TBD**	End User Phone	**TBD**

ABATEMENT SYSTEM INFORMATION

System Model Number	**CS250C2**	System Serial Number	**Multiple Systems**
Absorber Column Model	**CC200SA**	Generated Waste Quantity	**200L**
Process/Process gases	**AsH3, PH3, HCL, DCS**	Column/Canister Serial #	**Multiple Systems**

SHIPPING INFORMATION

Shipping Name	**UN 1557 Waste Arsenic compounds n.o.s (Copper Arsenide, Copper Phosphide, Aluminum Chloride, Magnesium Chloride)**		
Technical name	**Exhaust scrubber granular waste**		
EPA Waste Code(s)	**D002, D003, D004**		
State Code(s)			
Hazard Class	**9**	Packing Group	**II**

PHYSICAL PROPERTIES

State at 70F	**Solid**	Layers	**2**
% Liquid	**0%**	% Solid	**100%**
Pumpable ?	**No**	Halogens	**Yes**
BTU Content	**< 5,000 BTU**	Flash Point (F)	**>200F**
PH Range	**1-6**	Color	**White, blue, black**

CHEMICAL COMPOSITION

Copper Oxide	**40-60**	%	Magnesium Chloride	**20-40**	%
Copper Arsenide	**1-20**	%	Aluminum Oxide	**1-20**	%
Copper Phosphide	**1-20**	%	Silicon Dioxdie	**1-20**	%
Aluminum Chloride	**20-40**	%			%
Aluminum Hydroxide	**1-20**	%			%
Magnesium Hydroxide	**1-20**	%			%

METAL CONTENT

Antimony	**0%**	Chromium (III) Cr (D007)	**0%**	Nickel	**0%**
Arsenic (D004)	**>1%**	Cobalt	**0%**	Selenium (D010)	**0%**
Barium (D005)	**0%**	Copper	**20%+**	Silver (D011)	**0%**
Beryllium	**0%**	Lead (D008)	**0%**	Thallium	**0%**
Cadmium	**0%**	Mercury (D009)	**0%**	Vanadium	**0%**
Chromium (III) Cr (D007)	**0%**	Molybdenum	**0%**	Zinc	**0%**

OTHER PROPERTIES (check X)

<10% VOC	**X**	OSHA Carcinogen		Flammable Solid	
Lab Pack -Assorted		Acutely Hazardous (P Code)		Dangerous when wet	
DOT Corrosive only		CA Extremely Hazardous		Spontaneously Combustible	
Oxidizer		Pesticide Containing		Air Reactive	**x**
Organic Peroxide		Reactive Cyanide		Explosive / Shock Sensitive	
Polymeric Resin		Reactive Sulfide		Benzene NESHAP	
Ozone Depleting		Ammonia Containing		Highly Odorous	
Compressed gas		Radioactive		Dioxin Containing	
Medical (infectious)		Friable Asbestos		PCB Containing	
Dioxin Containing		Ozone Depleting		Non-Friable Asbestos	

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SPENT CHEMISORBENT WASTE PROFILE DATA

End User:	**TSMC**	Application:	**Ion Implant**	Date:	**August 27, 2025**
Revision #:	**1**	Author:	**Nizam Ahmed**	Contact:	**nizam.ahmed@csclean-usa.com**

The purpose of this document is to provide to the end-user a characterization of the spent Chemisorbent from a CS Exhaust Purification System. This information is be required by a Hazardous Waste Management Service provider for the proper handling and disposal of the spent or expired Chemisorbent material. The waste characterization is dependent on the process gas Treated. Therefore, this waste profile is valid only for the process data submit by the end-user on the CS Process Definition Sheet.

END USER CONTACT INFORMATION

End User Address:	**TSMC North Phoenix Fab**	End User Contact:	**TBD**
End User Contact Email:	**TBD**	End User Phone	**TBD**

ABATEMENT SYSTEM INFORMATION

System Model Number	**CS250C2**	System Serial Number	**Multiple Systems**
Absorber Column Model	**CC200SA**	Generated Waste Quantity	**200L**
Process/Process gases	**AsH3, PH3, BF3**	Column/Canister Serial #	**Multiple Systems**

SHIPPING INFORMATION

Shipping Name	**UN 1557 Waste Arsenic compounds n.o.s (Copper Arsenide, Copper Phosphide, Aluminum Flouride, Magnesium Flouride)**		
Technical name	**Exhaust scrubber granular waste**		
EPA Waste Code(s)	**D004, D001**		
State Code(s)			
Hazard Class	**9**	Packing Group	**II**

PHYSICAL PROPERTIES

State at 70F	**Solid**	Layers	**2**
% Liquid	**0%**	% Solid	**100%**
Pumpable ?	**No**	Halogens	**No**
BTU Content	**< 5,000 BTU**	Flash Point (F)	**>200F**
PH Range	**6-8**	Color	**White, blue, black**

CHEMICAL COMPOSITION

Copper Oxide	**20-40**	%	Magnesium Flouride	**1-20**	%
Copper Arsenide	**1-20**	%	Aluminum Oxide	**1-20**	%
Copper Phosphide	**1-20**	%			%
Aluminum Flouride	**1-20**	%			%
Aluminum Hydroxide	**1-20**	%			%
Magnesium Hydroxide	**1-20**	%			%

METAL CONTENT

Antimony	**0%**	Chromium (III) Cr (D007)	**0%**	Nickel	**0%**
Arsenic (D004)	**>1%**	Cobalt	**0%**	Selenium (D010)	**0%**
Barium (D005)	**0%**	Copper	**20%+**	Silver (D011)	**0%**
Beryllium	**0%**	Lead (D008)	**0%**	Thallium	**0%**
Cadmium	**0%**	Mercury (D009)	**0%**	Vanadium	**0%**
Chromium (III) Cr (D007)	**0%**	Molybdenum	**0%**	Zinc	**0%**

OTHER PROPERTIES (check X)

<10% VOC	**X**	OSHA Carcinogen		Flammable Solid	
Lab Pack -Assorted		Acutely Hazardous (P Code)		Dangerous when wet	
DOT Corrosive only		CA Extremely Hazardous		Spontaneously Combustible	
Oxidizer		Pesticide Containing		Air Reactive	**x**
Organic Peroxide		Reactive Cyanide		Explosive / Shock Sensitive	
Polymeric Resin		Reactive Sulfide		Benzene NESHAP	
Ozone Depleting		Ammonia Containing		Highly Odorous	
Compressed gas		Radioactive		Dioxin Containing	
Medical (infectious)		Friable Asbestos		PCB Containing	
Dioxin Containing		Ozone Depleting		Non-Friable Asbestos	

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Profile#: WP-202403-HPE-CA-070L-CVD

SPENT CHEMISORBENT WASTE PROFILE DATA

End User:	**Hewlett Packard Enterprise**	Application:	**PECVD**	Date:	**August 27, 2025**
Revision #:	**1**	Author:	**Nizam Ahmed**	Contact:	**nizam.ahmed@csclean-usa.com**

The purpose of this document is to provide to the end-user a characterization of the spent Chemisorbent from a CS Exhaust Purification System. This information is be required by a Hazardous Waste Management Service provider for the proper handling and disposal of the spent or expired Chemisorbent material. The waste characterization is dependent on the process gas Treated. Therefore, this waste profile is valid only for the process data submit by the end-user on the CS Process Definition Sheet.

END USER CONTACT INFORMATION

End User Address:	**940 N. McCarthy Blvd, Milpitas, CA 95035**	End User Contact:	**Carl Chow**
End User Contact Email:	**carl.chow@hpe.com**	EPA ID Number	**CA0000455762**

ABATEMENT SYSTEM INFORMATION

System Model Number	**CS070LS**	System Serial Number	**CS19A186**
Absorber Column Model	**CS070SA**	Generated Waste Quantity	**70L**
Process/Process gases	**SiH4, NH3, CF4, SF6, N20, C4F8, N2, Ar, O2, H2**	Column/Canister Serial #	**CC3904**

SHIPPING INFORMATION

Shipping Name	**UN 3077 Environmentally Hazerdous Substance, solid, n.o.s (Copper (II) Carbonate--Copper Hydroxide (1:1)**		
Technical name	**Exhaust Scrubber Granular Waste**		
EPA Waste Code(s)	**D003**		
State Code(s)			
Hazard Class	**9**	Packing Group	**II**

PHYSICAL PROPERTIES

State at 70F	**Solid**	Layers	**3**
% Liquid	**0%**	% Solid	**100%**
Pumpable ?	**No**	Halogens	**Yes**
BTU Content	**< 5,000 BTU**	Flash Point (F)	**>200F**
PH Range	**5-7**	Color	**White, Blue, Black**

CHEMICAL COMPOSITION

Magnesium Flouride	**10-40**	**%**	Iron Oxide	**1-20**	**%**
Magnesium Oxide	**1-20**	**%**	Iron Sulfate	**1-20**	**%**
Aluminum Flouride	**10-40**	**%**	Copper Oxide	**20-40**	**%**
Aluminum Oxide	**1-20**	**%**			**%**
Silicon Oxide	**20-40**	**%**			**%**
(NH4)2Fe(SO4)2	**1-20**	**%**			**%**

METAL CONTENT

Antimony	**0%**	Chromium (III) Cr (D007)	**0%**	Nickel	**0%**
Arsenic (D004)	**0%**	Cobalt	**0%**	Selenium (D010)	**0%**
Barium (D005)	**0%**	Copper	**0%**	Silver (D011)	**0%**
Beryllium	**0%**	Lead (D008)	**0%**	Thallium	**0%**
Cadmium	**0%**	Mercury (D009)	**0%**	Vanadium	**0%**
Chromium (III) Cr (D007)	**0%**	Molybdenum	**0%**	Zinc	**0%**

OTHER PROPERTIES (check X)

<10% VOC	**X**	OSHA Carcinogen		Flammable Solid	
Lab Pack -Assorted		Acutely Hazardous (P Code)		Dangerous when wet	
DOT Corrosive only		CA Extremely Hazardous		Spontaneously Combustible	
Oxidizer		Pesticide Containing		Air Reactive	**x**
Organic Peroxide		Reactive Cyanide		Explosive / Shock Sensitive	
Polymeric Resin		Reactive Sulfide		Benzene NESHAP	
Ozone Depleting		Ammonia Containing		Highly Odorous	
Compressed gas		Radioactive		Dioxin Containing	
Medical (infectious)		Friable Asbestos		PCB Containing	
Dioxin Containing		Ozone Depleting		Non-Friable Asbestos	

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Profile#: WP-202502-Seagate-MN-200L-CVD

SPENT CHEMISORBENT WASTE PROFILE DATA

End User:	**Seagate**	Application:	**PECVD TEOS**	Date:	**August 27, 2025**
Revision #:	**2**	Author:	**Nizam Ahmed**	Contact:	**nizam.ahmed@csclean-usa.com**

The purpose of this document is to provide to the end-user a characterization of the spent Chemisorbent from a CS Exhaust Purification System. This information is be required by a Hazardous Waste Management Service provider for the proper handling and disposal of the spent or expired Chemisorbent material. The waste characterization is dependent on the process gas Treated. Therefore, this waste profile is valid only for the process data submit by the end-user on the CS Process Definition Sheet.

END USER CONTACT INFORMATION

End User Address:	**7801 Computer Ave, Bloomington, MN 55435**	End User Contact:	**Junjie Li**
End User Contact Email:	**Junjie.Li@seagate.com**	EPA ID Number	**MND000293076**

ABATEMENT SYSTEM INFORMATION

System Model Number	**CS200FS**	System Serial Number	**Multiple**
Absorber Column Model	**CC200SA**	Generated Waste Quantity	**200L**
Process/Process gases	**NF3, SiH4, TEOS, NH3**	Column/Canister Serial #	**Multiple**

SHIPPING INFORMATION

Shipping Name	**UN3077 Environmentally toxic substance, solid, n.o.s (Aluminum Flouride, Magnesium Flouride, Manganese Oxide)**		
Technical name	**Exhaust Scrubber Granular Waste**		
EPA Waste Code(s)	**D003**		
State Code(s)			
Hazard Class	**9**	Packing Group	**III**

PHYSICAL PROPERTIES

State at 70F	**Solid**	Layers	**4**
% Liquid	**0%**	% Solid	**100%**
Pumpable ?	**No**	Halogens	**Yes**
BTU Content	**< 5,000 BTU**	Flash Point (F)	**>200F**
PH Range	**6-8**	Color	**Magenta, White, blue, black**

CHEMICAL COMPOSITION

Magnesium Flouride	**1-20**	**%**	Copper Oxide	**1-10**	**%**
Magnesium Oxide	**20-40**	**%**	Iron Oxide	**1-10**	**%**
Aluminum Flouride	**1-20**	**%**	Iron Hydroxide	**1-10**	**%**
Aluminum Oxide	**20-40**	**%**	(NH4)2Fe(SO4)2	**1-10**	**%**
Manganese Oxide	**1-10**	**%**	Sodium Ion	**1-10**	**%**
Silicon Dioxide	**1-20**	**%**			**%**

METAL CONTENT

Antimony	**0%**	Chromium (III) Cr (D007)	**0%**	Nickel	**0%**
Arsenic (D004)	**0%**	Cobalt	**0%**	Selenium (D010)	**0%**
Barium (D005)	**0%**	Copper	**0%**	Silver (D011)	**0%**
Beryllium	**0%**	Lead (D008)	**0%**	Thallium	**0%**
Cadmium	**0%**	Mercury (D009)	**0%**	Vanadium	**0%**
Chromium (III) Cr (D007)	**0%**	Molybdenum	**0%**	Zinc	**0%**

OTHER PROPERTIES (check X)

<10% VOC	**X**	OSHA Carcinogen		Flammable Solid	
Lab Pack -Assorted		Acutely Hazardous (P Code)		Dangerous when wet	
DOT Corrosive only		CA Extremely Hazardous		Spontaneously Combustible	
Oxidizer		Pesticide Containing		Air Reactive	**x**
Organic Peroxide		Reactive Cyanide		Explosive / Shock Sensitive	
Polymeric Resin		Reactive Sulfide		Benzene NESHAP	
Ozone Depleting		Ammonia Containing		Highly Odorous	
Compressed gas		Radioactive		Dioxin Containing	
Medical (infectious)		Friable Asbestos		PCB Containing	
Dioxin Containing		Ozone Depleting		Non-Friable Asbestos	

APPENDIX C.3

Blank Hazardous Waste Tracking Log

CS CLEAN SOLUTIONS	Title:	**Appendix D.4**
		Hazardous Waste Tracking Log
	Reviewed by:	

Customer Name: _____

Waste Container Identification Number: _____

Date Received/Stored: _____ Date Shipped Off-site: _____

Receiver's Initials: _____

For Spent Granulate Waste and Wastewater Generated On-Site	
Waste Name	
Material Description	
Estimated Quantity (kg, liters)	
Waste Manifest Number	
Date Sampled (if applicable)	
Hazardous Waste Code(s)	
Other Properties	
Complete Additional Line Items for Wastewater Generated On-Site	
Generation Date	
Sample Method(s) for Waste Analysis	

Please retain a copy of the completed waste profile along with the tracking log.