FORM EQP 5111 ATTACHMENT A3
WASTE ANALYSIS PLAN (WAP)

This document is an attachment to Gage Products Company's (Gage) 2024 RCRA permit renewal application Form EQP 5111. The administrative rules promulgated pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), being R 299.9504, R 299.9508, and R 299.9605, and Title 40 of the Code of Federal Regulations (CFR) §§270.14(b)(3) and 264.13(b) and (c), establish requirements for WAPs for hazardous waste management facilities. All references to 40 CFR citations specified herein are adopted by reference in R 299.11003.

This license application attachment addresses the requirements for a waste analysis plan (WAP) for Gage's Limited Storage Facility (Gage LSF). All activities associated with the WAP will be conducted at the Gage LSF located at 625 Wanda Avenue, Ferndale Michigan.

Gage has prepared a Quality Assurance/Quality Control (QA/QC) plan. A discussion of the QA/QC plan has been provided at the end of the Waste Analysis Plan contained in Appendix A3-1 of Attachment A3. The QA/QC Plan follows the written procedures outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. Environmental Protection Agency (EPA) Publication SW846, Third Edition, Chapter 1 (November 1986), and its updates. All sampling and analytical work performed by Gage, or an off-site generator is done in accordance with "Test Methods of Solid Waste, Physical/Chemical Methods", 3rd Edition (U.S. EPA Office of Water and Waste Management, SW–846, 1986), or equivalent ASTM methods.

Sections listed in the table of contents below that are not applicable to the Limited Storage Facility (LSF) permit renewal are denoted with a strikethrough and the corresponding section has been deleted from the text. This attachment is organized as follows:

A3.A COMMERCIAL FACILITY
- A3.A.1 Initial Waste Characterization Requirements for Generators
  - A3.A.1(a) Generator Waste Characterization Discrepancies
  - A3.A.1(b) Subsequent Waste Shipment Procedures
  - A3.A.1(c) Additional Waste Analysis Requirements
- ~~Figure A3.A.1 Information to be on Each Generator's Waste Profile Form~~
- A3.A.2 Waste Acceptance Procedures
  - A3.A.2(a) Review Paperwork
  - A3.A.2(b) Visual Inspection of Waste
  - A3.A.2(c) Waste Screening/Fingerprinting
- Table A3.A.1 Waste Analysis Procedures
- Table A3.A.2 Representative Sampling Procedures
- A3.A.3 Procedures to Ensure Compliance with Land Disposal Restrictions (LDR) Requirements
  - A3.A.3(a) Spent Solvent and Dioxin Wastes
  - A3.A.3(b) Listed Wastes
  - A3.A.3(c) Characteristic Wastes
  - A3.A.3(d) Radioactive Mixed Waste
  - A3.A.3(e) Leachates
  - A3.A.3(f) Laboratory Packs
  - A3.A.3(g) Contaminated Debris
  - A3.A.3(h) Waste Mixtures and Wastes with Overlapping Requirements
  - A3.A.3(i) Dilution and Aggregation of Wastes
- ~~Table A3.A.3 Contaminated Debris Categories~~

A3.B ~~CAPTIVE FACILITY~~ (This Section is Not Applicable NA)
- ~~A3.B.1 Selection of Waste Analysis Parameters NA~~

~~Table A3.B.1 Waste Analysis Procedures NA~~
~~Table A3.B.2 Sampling Procedures NA~~
~~A3.B.2 Additional Waste Analysis Requirements NA~~
~~A3.B.3 Procedures to Ensure Compliance with Land Disposal Restriction Requirements NA~~
~~A3.B.3(a) Spent Solvent and Dioxin Wastes NA~~
~~A3.B.3(b) Listed Wastes NA~~
~~A3.B.3(c) Characteristic Wastes NA~~
~~A3.B.3(d) Radioactive Mixed Waste NA~~
~~A3.B.3(e) Leachates NA~~
~~A3.B.3(f) Laboratory Packs NA~~
~~A3.B.3(g) Contaminated Debris~~
~~A3.B.3(h) Waste Mixtures and Wastes with Overlapping Requirements~~
~~A3.B.3(i) Dilution and Aggregation of Wastes NA~~
~~Table A3.B.3 Contaminated Debris Categories NA~~

A3.C NOTIFICATION, CERTIFICATION, AND RECORD KEEPING REQUIREMENTS
A3.C.1 Retention of Generator Notices and Certifications
A3.C.2 Notification and Certification Requirements for Treatment Facilities
A3.C.3 Waste Shipped to Subtitle C Facilities
A3.C.4 Waste Shipped to Subtitle D Facilities
A3.C.5 Recyclable Materials
A3.C.6 Record Keeping
A3.C.7 Required Notice
~~Appendix A3.C.1 Documentation of Variations on Test Methods Used for Waste Analysis~~ NA

LIST OF TABLES

Table A3.A.1 Waste Analysis Procedures
Table A3.A.2 Representative Sampling Procedures

LIST OF APPENDICES

Appendix A3-1 QA/QC Plan
Appendix A3-2 Waste Stream Profile
Appendix A3-3 LDR Notification Form

A3.A COMMERCIAL FACILITY

Gage LSF is a commercial facility that receives wastes generated off site. Gage LSF has developed a Waste Analysis Plan (WAP) to ensure that its facility at 625 Wanda Avenue in Ferndale will accept only wastes that it is authorized to accept. The hazardous wastes stored at Gage LSF will be properly characterized prior to waste acceptance. All generators will be required to provide a complete waste characterization, including chemical analysis when appropriate. Waste screening will be conducted on every shipment of waste to ensure that the waste conforms to the waste profile for the generator and information on incoming manifests and to ensure that the waste is properly managed within the facility.

All analysis performed pursuant to this application will be consistent with the QA/QC Plan. A copy of the QAQC Plan has been provided in Appendix A3-1. All samples for the purpose of waste characterization will be collected, transported, stored, and disposed by trained and qualified individuals in accordance with the QA/QC Plan.

In accordance with R 299.9609 and 40 CFR §264.73 and Part 264, Appendix I, Gage LSF will retain all records and results of waste determinations performed as specified in 40 CFR §§264.13, 264.17, 264.314, 264.1034, 264.1063, 264.1083, 268.4(a), and 268.7 in the facility operating record until closure of the facility.

Gage LSF screens each incoming shipment and analyzes representative samples of the wastes for “fingerprint” parameters. In the event that the screening process indicates that the waste is not consistent with the manifest or the waste profile characterization, the waste is re-evaluated to determine if it is acceptable. Generators are required review their waste profiles annually and either update the profiles as needed or recertify that the waste stream has not changed. This is verified through incoming shipment analysis and screening.

A3.A.1 Initial Waste Characterization Requirements for Generators
[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §264.13(b)(5)]

Gage LSF requires all off-site generators prepare a waste profile containing information specified in Table A3.A.1 below for all initial waste shipments.

Prior to accepting a waste stream, generators submit a completed waste profile characterization to Gage LSF’s Environmental Department. Gage LSF then reviews the information to ensure the waste stream is consistent with the types of waste used in the reclamation process, and that can be stored in accordance with Gage LSF’s license. A copy of the waste profile is included in Appendix A3-2

Gage LSF performs the same waste profile, characterization and analysis for wastes received with the intention of transshipment.

As described in Attachment A2, Chemical and Physical Analysis, the original product specification information is also used as a basis for creating waste profiles. If the waste stream is coming from a new customer switching to a Gage LSF-supplied raw material, data from the waste generated by the product of the previous supplier will be reviewed. This data includes material safety data sheet(s), laboratory analysis, and/or a sample.

Figure A3.A.1 Information to be on Each Generator Waste Profile Form.

In addition to the waste profile information submitted by the generator, Gage LSF will:

☐ Require submittal of a representative waste sample

☐ Conduct an audit of the generator facility

☐ Review industry literature to identify typical waste streams

☒ Other: A copy of the Waste Profile has been provided in Appendix A3-2

A3.A.1(a) Generator Waste Characterization Discrepancies

[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(a)(3) and (4), 264.13(b)(c), and 264.72]

Off-site waste is not scheduled for shipment to Gage LSF unless a waste profile has been reviewed and approved by Gage LSF staff. When a waste shipment arrives at Gage LSF, a sample is immediately obtained and analyzed, and compared with the profile, and the Material Specifications Reference. Upon identifying a discrepancy, a determination will be made as to whether Gage LSF can manage the waste. If the waste requires a minor profile adjustment for composition or physical property, this is the course of action. If the discrepancy causes the waste to differ significantly from the profile, a determination is made whether Gage LSF can manage the waste, in accordance with the conditions of the Gage LSF license; that is, if the discrepancy is due to the presence of unapproved waste codes or is such that the waste is incompatible with the storage equipment and processes at Gage LSF. If the waste carries waste codes Gage LSF is not authorized to store, the waste is rejected. Additionally, if there is any concern about compatibility with the unloading, transfer, storage or containment equipment at Gage LSF, the waste would be rejected.

Loads which do not conform to the waste stream profile or permit conditions will be rejected following the requirements provided in 40 CFR 264.72. If the discrepancy can be reconciled with a profile adjustment, the generator will be notified, and the profile will be adjusted or re-profiled accordingly. If the waste cannot be reconciled, it will be rejected, the generator notified, and a course of action will be determined following 40 CFR 264.72.

A3.A.1(b) Subsequent Waste Shipment Procedures

[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(a)(3) and 264.13(b)(4)]

Subsequent or recurring shipments of the same waste stream are managed under Gage LSF's waste profile system. All subsequent or reoccurring waste streams are required to conform to the corresponding waste profile. Analysis of waste is conducted on each load upon arrival at Gage LSF, so the program includes current analytical information on each waste stream. If the composition of the supplied product is changed, Gage LSF has that knowledge available to make anticipated adjustments on the profile before the arrival of the subsequent waste load. Furthermore, waste profile information is reviewed for each waste stream on an annual basis. Even if profile changes are not warranted, the generator is required to certify annually that there are no process or waste stream changes.

The initial analysis of waste from each generator will be reviewed as part of the facility's acceptance of every load. If the material doesn't match the profile, the profile will be amended before the facility accepts the material or the material will be rejected. In addition, the waste profile is reviewed as part of the annual waste profile review to ensure that the analysis is accurate and up-to-date.

A3.A.1(c) Additional Waste Analysis Requirements

[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(b)(6) and 264.13(c)(3)]

Gage LSF will review the waste profile information to ensure that the facility is authorized to receive the waste, and can manage the waste in compliance with the following:

☒ R 299.9605 and 40 CFR §264.17	General requirements for ignitable, reactive, or incompatible wastes [Attachment A6, Appendix A6-2]
☒ R 299.9605 and 40 CFR §264.314	Special requirements for bulk and containerized liquids [Attachment A6, Appendix A6-1]

☒ R 299.9630 and 40 CFR §264.1034(d)	Test methods and procedures (Subpart AA) [Attachment A3, Section A3.A.2(c)]
☒ R 299.9631 and 40 CFR §264.1063(d)	Test methods and procedures (Subpart BB) [Attachment A3, Section A3.A.2(c)]
☒ 40 CFR §264.1083	Waste determination procedures (Subpart CC) [Attachment A3, Section A3.A.2(c)]
☒ R 299.9627 and 40 CFR §268.7	Waste analysis and record keeping LDR requirements [Attachment A3, Sections A3.A.3, A3.B.3 and A3.C]
☐ R 299.9228	Universal waste requirements

Record keeping requirements for these sections are described in Section A3.C of this Attachment.

A waste stream profile form has been provided in Appendix A3-2. Therefore, the information outlined in the EGLE Figure A2.A.1 is not required and not included within this text.

A3.A.2 Waste Acceptance Procedures
[R 299.9605(1) and R 299.9504(1)(c), and 40 CFR §§264.13(c), 264.72(a) and (b), and 264.73(b)]

Waste shipments arrive at the facility in the following containers:

☒ Drums	☐ Totes	☒ Tanker trucks
☐ Carboys	☐ Wrangler box	☐ Filter bags
☐ Roll-off boxes	☐ Vacuum trucks	☐ Other: *[describe]*

Upon receipt of wastes from an off-site generator, Gage LSF will perform all of the following tasks which are further discussed below:

- Review paperwork
- Visually inspect the waste
- Perform waste screening/fingerprint analysis of waste

Gage LSF performs the same tasks / analysis for wastes which are intended for recycle, or with the intention of transshipment.

A3.A.2(a) Review Paperwork
[R 299.9605(1) and R 299.9504(1)(c), and 40 CFR §§264.13(c), 264.72(a) and (b), and 264.73(b)]

Gage LSF will review all paperwork, including manifests and LDR notifications, before any wastes are accepted by the facility. Gage LSF will review all paperwork for completeness. In addition, the manifest and LDR notifications will be compared for consistency. The manifest will also be compared to the waste profile and analytical information provided by the generator and to the waste shipment to ensure the accuracy of information provided on shipment paperwork. The manifest will also be compared to the number of containers, the volume, and/or the weight of the waste in the shipment. All discrepancies will be resolved before processing the waste.

Completeness of manifest. Acceptance of a waste shipment is based on a correctly completed manifest by the generator of the waste. When a waste shipment arrives at Gage LSF, the manifest is reviewed to ensure it is accurate and complete. At a minimum, the following information must be on each manifest:

- The generator's name and EPA identification number
- Each transporter's name and EPA identification number
- The destination of the waste shipment, including address and EPA identification number
- A Department of Transportation UN number and shipping description
- The quantity or volume of waste in the shipment
- The number and type of containers in the shipment
- A signed, dated certification of the shipment's content
- A signed, dated transporter's acknowledgement of receipt of material.

The completeness of the land disposal restriction notification form, if applicable, is also checked upon arrival at Gage LSF (a copy of the LDR form is included in Appendix A3-3). The following information on the form is reviewed upon receipt of the waste shipment:

- Generator's name
- Generator's identification number
- Information regarding all substances and their respective treatment standards applicable to the identified waste stream
- Certification as required by 40 CFR 268.7

IF APPLICABLE

- Subcategory of the waste code
- Treatability group(s) of waste(s)
- CFR section and paragraph where treatment standard appears.

A3.A.2(b) Visual Inspection of Waste
[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §264.13(c)]

Gage LSF will visually inspect all containers upon arrival. Containers are inspected to ensure none are leaking. The square root of the number of drums from each generator is sampled, selected using the Table of Random Number in the QAQC Plan (Appendix 2 of Appendix A3-1). The container samples will be taken to the laboratory to continue with the fingerprinting process. Each tank wagon is sampled for fingerprint analysis. A material batch sheet is used to document the screening. A copy of the batch sheet is included in the QAQC plan (Appendix 1 of Appendix A3-1).

The contents of the container will be visually inspected for the following:

☒ Color ☒ pH ☒ Physical State ☒ Consistency ☒ Other: *Containers that are selected for the finger print analysis are visually inspected for consistency with the waste profile physical characteristics.*

A3.A.2(c) Waste Screening/Fingerprinting
[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(b)(14) and 264.13(c)(2)]

Table A3.A.1 lists the waste analysis procedures, including screening parameters for each hazardous waste, the rationale for the selection of these parameters, test methods that will be used to test for these parameters, the appropriate reference, whether the waste is specified in R 299.9216, the frequency of waste screening, and the rationale for the frequency. The sampling methods that will be used to obtain a representative sample of the waste to be analyzed and the sampling equipment and rationale are summarized in Table A3.A.2. The results of the waste screening/fingerprint analysis will be compared to the waste profile information and analytical results

provided by the generator during the initial waste characterization process. The outside container of inner laboratory pack containers will be 100 percent visually inspected. Containers of personal protective equipment (PPE) or debris will undergo visual inspection. All discrepancies will be resolved before processing the waste.

Both containers and tank wagons are sampled using a COLIWASA sampling device. This method allows Gage LSF to obtain a representative sample of the waste, from the top to the bottom of the vessel. This method was selected for its simplicity, ability to obtain a representative sample, and consistency with U.S EPA test methods. All samples collected at the facility are obtained in secondarily contained areas by trained facility employees. This method is authorized in Appendix I of 40 CFR 261.

Since this is the universal representative sampling method and procedure employed by Gage LSF, the above information is supplied in lieu of a Table A3.A.2, since a list of additional sampling methods and rationale is not applicable to Gage's LSF operations.

Each waste shipment is sampled and analyzed for waste verification parameters. The selection of these waste verification parameters is based on the need to identify restricted waste and waste characteristics that will affect the recycling processes, and to provide information adequate to provide for safe handling and storage. Fingerprint analysis on an incoming waste is checked against the baseline parameters located in the Gage LSF Material Specifications Reference. This reference contains the gas chromatograph from a representative sample of the solvent waste generated. The gas chromatograph of an incoming waste is compared to this baseline to ensure the waste material is, in fact, what is expected. If it is not, either the waste profile will be amended, the waste stream will be re-profiled according to its actual identity, or the waste stream will be rejected.

Waste verification parameters are a subset of the parameters required for proper waste characterization. The waste verification parameters and tests for wastes to be accepted and stored at the Gage LSF are weight percent- solids, gas chromatography of extracted solvents; weight percent – water; and pH. The Gage LSF permit applies only to the storage and handling of wastes in the Gage LSF although reference is often made to the testing required prior to recycling. Gage LSF will apply the higher testing standards related to proper recycling in order to ensure safe storage and handling as well as provide the information normally required prior to eventual recycling as appropriate for the spent solvent wastes.

Waste shipments are only accepted for treatment when the fingerprint analysis listed in in Table A3.A.1 are conducted and the criteria are met.

When a waste shipment does not conform with the approved waste stream profile or Gage LSF standards, the generator will be notified, and the load rejected. Loads that do not conform to the waste stream profile or permit conditions will be rejected following the requirements provided in 40 CFR 264.72.

Test methods and procedures (Subpart AA) R299.9630 and 40 CFR 264.1034(d)

- Gage's LSF facility does not operate any hazardous waste treatment units subject to Subpart AA. However, Gage LSF does operate a thin film solvent recycling process. Per 40 CFR 264.1034(b)(2) the vent from the thin film solvent recycling process is subject to Subpart AA even though the process itself is exempt.
- Gage LSF's solvent supply and reclamation program is based on organic solvent reclamation. Utilizing the knowledge of the organic solvent content of the solvents supplied to customers, it is assumed that the organic solvent concentration of the offsite waste causes the reclamation process to be subject to Subpart AA. Therefore, Gage LSF has a program for equipment subject to compliance with Subpart AA, which includes the process vent from the reclamation process equipment.

Test methods and procedures (Subpart BB) R299.9631 and 40 CFR 264.1063(d)

- As mentioned above, Gage LSF's solvent supply and reclamation program is based on organic solvent reclamation. The resulting wastes would be considered subject to Subpart BB, by virtue of the fact that

they contain >10 percent organics. Gage has a facility program for compliance with Subpart BB, which is described in detail in Attachment C11b.

Waste determination and procedures (Subpart CC) 40 CFR 264.1083

- As mentioned above, Gage LSF's solvent supply and reclamation program is based on organic solvent reclamation. Generators must verify on the waste profile form whether the waste contains organic solvent that meets the requirements for Subpart CC.

- Based on product and process knowledge, Gage LSF makes the assumption that the wastes stored at the Gage's LSF in tanks and containers has a volatile organic (VO) concentration exceeding 500 ppmw. Therefore, are subject to Subpart CC.

- Tanks: All tanks are less than 75 cubic meters or less than 19,812 gallons, which corresponds to a maximum allowable vapor pressure of 76.6 kPa for a level 1 tank. Gage LSF has a facility program for compliance with Subpart CC, which is described in detail in Attachment C11c.

- Containers: All drums or containers other than tanks used to store hazardous waste solvents are DOT specification and therefore meet Subpart CC container emission controls for Level 1 and Level 2. Therefore, testing is not required. In addition, the facility does not treat waste in containers, therefore, testing/evaluation to determine Level 3 control is not required.

Table A3.A.1 Waste Analysis Procedures

Screening Parameter (*Check as appropriate)*	Rationale for Parameter	Test Method	Reference	Frequency	Rationale for Frequency
☐ Waste Code					
☐ Free Liquids					
☐ Ignitability					
☐ Reactivity					
☐ Compatibility					
☐ Land Disposal Restrictions					
☐ Volatile Organic Compound Content[1]	All waste solvent are assumed to be greater than 1 ppmw and 10 percent VOC	NA	NA	NA	NA
☐ Radioactivity					
☒ Other: Percent Solids	Recycling process capability	Weigh/heat/weigh	ASTM Method D2369 - Modified	Every load	Needed for recycling process compatibility
☒ Other: Organic Solvent Composition	To determine if expected solvent constituents are present and to provide a clean basis for comparison to original product specification	Gas Chromatography	ASTM Method D5830	Every load	Needed for recycling process compatibility
☒ Other: Water	Recycling process capability	Carl Fisher water analysis	ASTM Method E203	Every load	Needed for recycling process compatibility
☒ Other: pH	Determine compatibility with process	pH meter	SW 846 Method 9040	Every load	Needed for recycling process compatibility

[1] According to R 299.9630 and 40 CFR §264.1034(d), TSDFs must identify and meet specific technical requirements for all process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air/stream stripping processes that manage wastes with a 1 part per million by weight (ppmw) or greater total organics concentration on a time-weighted annual average basis. Total organic concentrations in the waste can be measured using SW-846 Method 8260B. According to R 299.9631 and 40 CFR §264.1050, TSDFs must also determine if its equipment contains or contacts organic wastes with 10 percent or greater total organic content. The total organic content can be determined using (1) American Society of Testing and Materials Methods D2267-88, E169-87, or E260-85, (2) SW-846 Method 8260B, or (3) knowledge of the nature of the wastes stream or the waste generating process.

[1] Note: Gage LSF's solvent closed loop recovery program is based on recycling organic solvents originally supplied. Therefore, Gage LSF assumes that solvent wastes received meet the definition for being subject to 40 CFR Parts 264, Subparts AA and BB. Gage LSF uses this process knowledge to acknowledge the applicability of these subparts.

Table A3.A. 2 Representative Sampling Procedures

Container Type or Material	Sampling Method[1]	Sampling Equipment	Rationale
Drums	SW846	Coliwasa	Representative sample
Bulk Tankers	SW846	Coliwasa	Representative sample

[1] The sampling method should demonstrate equivalence with the sampling methods described in 40 CFR, Part 261, Appendix I.

A3.A.3 Procedures to Ensure Compliance with Land Disposal Restrictions (LDR) Requirements [R 299.9627 and 40 CFR, Part 268]

All shipments of wastes subject to LDR received at the facility will be accompanied by appropriate generator notification and LDR notification in accordance with R 299.9627 and 40 CFR §268.7. The LDR notification accompanying generator wastes will be reviewed, and any discrepancies in the LDR notification and the associated manifest, analytical records, or Waste Profile Form will require shipment rejection unless additional, satisfactory, clarifying information is provided by the generator. All information obtained to document LDR compliance will be maintained in the facility operating record until closure of the facility.

If the facility receives a shipment of waste without LDR notification, or a notification with incorrect or incomplete information, the generator will be contacted, and will be required to provide an LDR before the waste is received for storage or for treatment.

The still bottom waste which Gage generates from its solvent recovery process is shipped offsite for combustion in cement kilns or for incineration. This still bottom waste is characterized and managed within all requirements for generators of hazardous waste. It is also accompanied by the appropriate notifications.

In accordance with the LDR regulations, all wastes shipped off-site will be analyzed, or generator knowledge will be used when appropriate, to determine whether the waste meets the applicable LDR treatment standards specified in R299.9627 and 40 CFR 268.41-43. All analytical results will be maintained in the facility operating record until closure of the facility. Wastes that are determined through analysis to meet treatment standards as specified in R299.9627 and 40 CFR 268.41-43 will be disposed of in accordance with applicable regulations.

Gage LSF will supply LDR notifications and certification, including appropriate analytical records to support the certification to the receiving facility with the first shipment of each waste stream. The notifications and certifications will contain the information required under R299.9627 and 40 CFR 268.7. Any additional data obtained from the generators (i.e. Waste Profile Forms, original LDR notifications analysis provided by generators) will be provided to the licensed TSDF where the waste will be sent.

Generator process knowledge will be used to determine whether characteristic waste meets the applicable treatment standards or to demonstrate that the waste has been treated by the appropriate specified treatment technology. Since Gage is the supplier of the original product, the facility is able to provide detailed information on the composition of the resulting waste, as it applies to LDR requirements. In accordance with R299.9627 and 40 CFR 268.41, where treatment standards are based on concentrations in the waste extract, generators shipping waste to the facility will determine if their wastes meet treatment standards. Record keeping requirements are described in Section A3.C of this attachment.

A3.A.3(a) Spent Solvent and Dioxin Wastes [R 299.9627 and 40 CFR §§264.13(a)(1), 268.7, 268.30, 268.31, 268.40, 268.41, 268.42, and 268.43]

Spent solvent wastes (F001 – F005) are accepted at the facility. Generator process knowledge will be used to determine the presence of spent solvent wastes (F001 – F005). Since Gage is often the supplier of the original solvent, the facility has detailed composition knowledge of solvents before use and can assist generators (customers) in characterizing wastes based on this information. Generator process knowledge will be documented on the waste material profile report and LDR notification. The LDR notification will provide additional information regarding the appropriate treatment standards for the waste and whether it has already been treated to the appropriate treatment standards.

.

A3.A.3(b) Listed Wastes

[R 299.9627, R 299.9213, and R 299.9214 and 40 CFR §§264.13(a)(1), 268.7, 268.33, 268.34, 268.35, 268.36, 268.39, 268.40, 268.41, 268.42, and 268.43]

Gage LSF not receive any listed wastes from specific sources for storage.

A3.A.3(c) Characteristic Wastes

[R 299.9627, R 299.9208, and R 299.9212 and 40 CFR §§261.3(d)(1), 264.13(a)(1), 268.7, 268.9, 268.37, 268.40, 268.41, 268.42, 268.43 and Part 268, Appendix I and Appendix IX]

Generator process knowledge will be used to determine whether characteristic waste meets the applicable treatment standards or to demonstrate that the waste has been treated by the appropriate specified treatment technology. In accordance with R299.9627 and 40 CFR 268.41, where treatment standards are based on concentrations in the waste extract, generators shipping waste to the facility will determine if their wastes meet treatment standards.

A3.A.3(d) Radioactive Mixed Waste

[R 299.9627 and 40 CFR §§268.7, 268.35(c), 268.35(d), 268.36, and 268.42(d)]

☐ The facility does not accept radioactive mixed waste.

OR

☒ Generator process knowledge will be used to determine whether a radioactive mixed waste meets the applicable treatment standard.

A3.A.3(e) Leachates

[R 299.9627 and 40 CFR §260.10 and 40 CFR §§268.35(a) and 268.40]

The facility does not accept any leachates.

☒ The facility does not accept single-source or multi-source F039 leachates.

OR

☐ Single-source leachate will not be combined to produce multi-source leachates.

A3.A.3(f) Laboratory Packs

[R 299.9627 and 40 CFR §§268.7and 268.42(c) and Part 268, Appendix IV and Appendix V]

☒ The facility does not accept laboratory packs.

OR

☐ The laboratory packs accepted at the facility are not land disposed.

A3.A.3(g) Contaminated Debris
[R 299.9627 and 40 CFR §§268.2(g), 268.7, 268.9, 268.36, 268.45, and 270.13(n)]

☐ The hazardous debris categories and the contaminant categories associated with the types of hazardous debris accepted at the facility are presented in Table A3.A.3.

Hazardous debris accepted at the facility that exhibits the characteristics of ignitability, corrosivity, or reactivity will be treated using one of the extraction, destruction, or immobilization technologies identified in Table 1 of 40 CFR §268.45.

OR

☒ Contaminated debris is not accepted at the facility.

A3.A.3(h) Waste Mixtures and Wastes with Overlapping Requirements
[R 299.9627 and 40 CFR §§264.13(a), 268.7, 268.41(b), 268.43(b), and 268.45(a)]

Generator process information and analytical data will be used to demonstrate that those waste mixtures and wastes with multiple codes are properly characterized. Each waste that has more than one characteristic will be identified with a number for each characteristic. Waste identified as meeting a listing and exhibiting a characteristic will be primarily identified with the listed waste code for the purpose of profiling, approval, and manifesting.

A3.A.3(i) Dilution and Aggregation of Wastes
[R 299.9627 and 40 CFR §268.3]

The facility reclaims solvents from spent solvents and does not dilute waste received from off site.

The still bottom waste from the solvent recovery process is a new waste stream generated by the facility and is disposed as a co-fuel in cement kilns, or for incineration with appropriate LDR notifications provided to the end facilities. No process residue from off-site waste received for storage or processing at Gage LSF is destined for land disposal.

It should be noted that Gage LSF understands that applicable requirements of 40 CFR 268 must be complied with for any hazardous waste that Gage may generate.

Table A3.A.3 Contaminated Debris Categories

The facility does not accept or manage contaminated debris. Therefore, this Table is not applicable.

A3.B CAPTIVE FACILITY

The Gage LSF is not a captive facility. **All of Section A3.B does not apply.**

A3.C NOTIFICATION, CERTIFICATION, AND RECORDKEEPING REQUIREMENTS
[R 299.9627 and R 299.9609 and 40 CFR §§264.73, 268.7, and 268.9(d)]

All initial shipments of wastes subject to LDR received at the facility will be accompanied by appropriate one-time (minimum) LDR notification in accordance with R299.9627 and 40 CFR 268.7. All information obtained to document LDR compliance will be maintained in the facility operating record until closure of the facility.

A3.C.1 Retention of Generator Notices and Certifications
[R 299.9627 and 40 CFR §268.7(a)(7)]

Gage LSF will retain a copy of all notices, certifications, demonstrations, data, and other documentation associated with compliance to LDRs:

- Notices of restricted wastes not meeting treatment standards or exceeding levels specified in RCRA 3004(D), including the information listed in R299.9627 and 40 CFR 268.7(a)(1).
- Notices of restricted wastes meeting applicable treatment standards and prohibition levels, including the information in $299.9727 and a40 CFR 278.7(a)(2)

A3.C.2 Notification and Certification Requirements for Treatment Facilities
[R 299.9627 and 40 CFR §268.7(b)]

Gage LSF is not considered a treatment facility for the purpose of this application.

A3.C.3 Waste Shipped to Subtitle C Facilities
[R 299.9627 and 40 CFR §§268.7(a) and 268.7(b)(6)]

In the event Gage LSF receives material destined to be shipped to a Subtitle C facility, Gage LSF will submit the appropriate notice and certification requirements applicable to generators under R 299.9627 and 40 CFR §268.7(a) and (b)(6).

☐ The facility does not ship waste to Subtitle C facilities.

OR

☒ For restricted waste or waste treatment residues that will be further managed at a Subtitle C (hazardous waste management) facility, the facility will submit notifications and certifications in compliance with the notice and certification requirements applicable to generators under R 299.9627 and 40 CFR §268.7(a) and (b)(6).

A3.C.4 Waste Shipped to Subtitle D Facilities
[R 299.9627 and 40 CFR §§268.7(d) and 268.9(d)]

☒ The facility does not ship waste to Subtitle D facilities.

OR

☐ If the facility ships [Insert type of waste (e.g., hazardous debris or characteristic waste)] to a Subtitle D facility, the facility will submit a one-time notification and certification for characteristic wastes, or listed wastes that are listed only because they exhibit a characteristic, that have been treated to remove the hazardous characteristic and are no longer considered hazardous. The facility will place a certification and all treatment records in the facility's file and send a notification and certification to the Director, or delegated representative, describing the wastes and applicable treatment standards and identifying the Subtitle D (solid waste management) disposal facility receiving the waste. On an annual basis, the notification and certification will be updated and refiled if the process or operation generating the waste changes and/or if the Subtitle D facility receiving the waste changes.

A3.C.5 Recyclable Materials
[R 299.9627 and 40 CFR §268.7(b)(6)]

☒ The facility does **not accept** recyclable materials used in a manner constituting disposal.

OR

☐ For wastes that are recyclable materials used in a manner constituting disposal, in accordance with R 299.9206 and 40 CFR §266.20(b), the facility will submit a notice and certification to the Director, or delegated representative, with each shipment of waste describing the waste and applicable treatment standards and identifying the facility receiving the waste.

A3.C.6 Record Keeping
[R 299.9608(4), R 299.9609, R 299.9610(3), and R 299.9627 and 40 CFR §§264.72, 264.73, 268.7(a)(5), 268.7(a)(6), 268(a)(7), and 268.7(d)]

Gage LSF maintains a facility operating log in accordance with R299.9609 and 264.73. A complete list of records maintained for the operating log is has been provided in Attachment A1 (see Section 7).

Copies of all necessary notifications and certifications, as well as relevant inspection forms and monitoring data, are also maintained on file at the facility. Files will be maintained for a minimum of three years (for inspection records and LDR notification), or until facility closure (for inventory records).

If a significant manifest discrepancy is discovered (such as variation in one-piece count or misrepresentation of the type of waste or corrosive rather than flammable) that cannot be resolved with the generator or transporter within 15 days of receipt, facility personnel will submit to the Director and Regional Administrator a letter describing the discrepancy and all attempts to reconcile the discrepancy. The letter will include a copy of the discrepant manifest or shipping document.

Gage LSF will keep records of the name and location of each entity receiving a hazardous waste-derived product.

Recycling facilities:

Gage is a recycling facility and keeps records of the name and location of each entity receiving a hazardous waste derived product. See Attachment A1 (Section 7).

Facilities managing a restricted waste that is excluded from the definition of a hazardous or solid waste or exempt from Subtitle C regulations:

Gage has placed a one-time notice with EGLE for solvent recycling / reclamation of hazardous secondary materials.

A3.C.7 Required Notice
[R 299.9605(1) and 40 CFR §264.12(a) and (b))]

Gage LSF will notify the Office Chief in writing at least four weeks before the date the facility expects to receive hazardous waste from a foreign source. Notice of subsequent shipments of the same waste from the same foreign source is not required. When receiving such hazardous waste, the facility will comply with applicable treaties or other agreements entered into between the country in which the foreign source is located and the United States.

When Gage LSF is to receive hazardous waste from an off-site source, the facility will inform the generator in writing that the facility has the appropriate license for and will accept the waste the generator is shipping. The facility will keep a copy of this written notice in the operating record.

Appendices

Appendix A3-1

QA/QC Plan

APPENDIX A3-1

QUALITY ASSURANCE/QUALITY CONTROL

TABLE OF CONTENTS

Contents

1 Program Goals 2
2 Sampling Program 2
3 Chain-of-Custody (LSF Storage Area) 2
4 Chain-of-Custody (Laboratory) 2
5 Maintenance of Laboratory Custody 3
6 Gage In-House Laboratory Analysis 3
7 Data Evaluation 4
8 References 4

LIST OF APPENDICES

QAQC Appendix 1 Material Batch Sheet
QAQC Appendix 2 Table of Random Numbers

1 Program Goals

The goal of the Quality Assurance/Quality Control program is to provide accurate and precise data on the physical and chemical properties of waste so that the wastes are handled safely. This is accomplished by ensuring that:

- The wastes are properly identified and characterized.
- Wastes which do not meet Gage Products Company criteria are not accepted
- All personnel involved in sample collection and sample screening are trained in proper procedures.

2 Sampling Program

Gage Products Company (Gage) provides initial and recurrent training to Gage's Limited Storage Facility (Gage LSF) employees to ensure waste samples are collected, transported, analyzed, stored, and disposed properly and safely. A complete description of Gage's LSF employee training program is included in Attachment A10 of this document. Gage LSF maintains certification under the ISO 9002 and 14001 standards for quality and environmental management, and has a work instruction program under these systems addressing appropriate sampling, handling, and management procedures.

Designated sampling personnel are knowledgeable of sample collection procedures and receive on-the-job sampling-collection training for the specific sampling procedures used at Gage LSF. This training includes the procedures to sample bulk tankers as well as drummed wastes. The supervisor documents the employees' training effectiveness annually.

Sampling equipment is inspected for proper decontamination and operability before any shipment is sampled. Each inspection is documented, noting any problems and corrective actions taken.

3 Chain-of-Custody (LSF Storage Area)

The operator or assistant operator collects a screening sample(s) from a waste shipment. To document sample possession from the time of collection until the sample has been received by the sample custodian/coordinator, the individual collecting the sample will complete the chain-of-custody information on the material batch sheet. An example of the batch ticket form is provided in the Waste Analysis Plan, Attachment A3, Appendix A3-1. Proper custody of the samples will be documented, and changes in sample custody will be documented. As few people as possible will handle the samples. While collecting the sample it is the responsibility of the operator or assistant for the care and custody of the samples until they are transferred. This chain-of-custody procedure will be followed during all waste sampling activities.

Each record will contain the following information: signature of the sampler, date and time of the collection, sample type, signature of persons involved in the chain of possession, manifest number, generator name, and inclusive dates and times of possession.

A tag or the sample container itself will be labeled. The information to appear on the tag or container will include the following: the date upon which it is obtained; manifest number, generator name; and the name of the sampler.

4 Chain-of-Custody (Laboratory)

All collected samples will be under strict chain-of-custody procedures. This means that all samples must be traceable from the time the samples are received at Gage LSF or at an outside third-party laboratory door until results are reported and sample disposition has been determined.

All samples will be received at the Gage LSF or outside third-party certified analytical laboratory by the sample custodian/coordinator. At Gage LSF, this is normally the laboratory technician's responsibility. It will be the responsibility of the sample custodian/coordinator to determine:

1. Which analyses are to be performed on the arriving samples; and
2. The manner in which those samples will be split, preserved, and stored or routed. It is the objective of the sample custodian/coordinator to ensure that the receipt of all samples is consistent with the requirements and that all pertinent information relative to those samples is recorded.

It is the sample custodian/coordinator's responsibility to examine whether or not each of the sample containers is individually properly labeled and whether or not the paperwork matches the contents of the bottle (or package). In addition, the sample custodian/coordinator will note whether or not all the dates and times are consistent, and whether or not the sample description on the paperwork matches the description on the sample container.

All samples received at Gage LSF or a third-party certified analytical laboratory must be logged in before work is performed on the samples. The purpose of the log-in procedure, including sequential numbers assigned to all samples received in the facility, is to ensure that the analytical laboratory has a means by which samples can be tracked for any sequence of events during a particular analytical period. In handling projects in this manner, the analytical laboratory and/or Gage LSF laboratory can ensure a consistent and documented sequence of events under any analytical situation.

All samples received by the Gage LSF laboratory or a third-party laboratory will be kept in a designated area and will be distributed for analysis to the laboratory only when the analyst has signed for the samples on the chain-of-custody form.

5 Maintenance of Laboratory Custody

Laboratory custody must be consistent with all the chain-of-custody requirements from the beginning of sampling to the final report.

It will be the responsibility of every analyst signing for a sample or samples to ensure that:

1. These samples are kept in a minimum-access facility, and
2. They are within their possession during the particular period during which they are being analyzed.

All samples received for analysis by Gage LSF or outside third-party laboratory will be stored in the analytical laboratory chain-of-custody facilities until a final report is issued. No chain-of-custody samples may be discharged until written permission is received relative to disposal of those samples.

The Gage LSF or third-party laboratory will conduct all analyses in accordance with U.S. EPA's SW-856 "Test Methods for Evaluating Solid Waste" 3rd ed. Nov. 1986 or with equal ASTM methods. These procedures incorporate stringent quality-control requirements and describe accuracy, calibration criteria, internal standards, and method-detection limits.

6 Gage In-House Laboratory Analysis

The operator or assistant operator will take the collected sample and the accompanying chain-of-custody form to the Gage LSF laboratory.

In the laboratory, the operator or assistant operator will complete all check-in procedures cited above. The laboratory custodian/coordinator analyst will perform the necessary fingerprint analyses and compare the

results to previous loads received from the generator in question. The analytical results are retained in Gage LSF's Material Specification Reference. All test results are documented on a chain-of-custody form and are kept on file at Gage LSF.

Gage LSF laboratory personnel have been trained to perform the analytical procedures outlined under Fingerprint Analyses Attachment A3.A.2(c). The supervisor documents the employees' analytical skills and training effectiveness annually.

Analytical equipment is inspected and serviced semi-annually and routinely checked before each analysis. Equipment is checked with blanks, standards, or replicates; and records are kept of these results. Leftover or used samples are disposed of appropriately.

7 Data Evaluation

Analytical data are evaluated as part of the screening and acceptance procedures for waste shipments. The data are compared to screening tests of previous shipments of the waste stream, other samples of the same shipment, and waste characterization data. Any discrepancies that cannot be attributed to normal sampling or laboratory variation are investigated further.

The analytical results of the sample shipment are examined by the operator, assistant operator, or laboratory personnel. If the shipment is consistent with the pre-shipment analysis, the previous shipment's analysis, and other information, the material is accepted for recycling or storage. Test results are filed by the custodian/coordinator, operator, or assistant operator.

8 References

Hatayama, H.K., J.J. Chen, E. R. de Vera, R.D. Stephens, and P.L. Storm. 1980. *A method for determining the Compatibility of Hazardous Wastes.* EPA-600/2-8-076. U.S. Environmental Protection Agency. Cincinnati, Ohio.

U.S. Environmental Protection Agency. "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods". U.S. EPA Office of Water and Waste Management. SW-846.

U.S. Environmental Protection Agency. 1984. *Waste Analysis Plans.* A Guidance Manual. EPA/530-SW-84-012. Office of Solid Waste

QAQC Appendix 1 Material Batch Sheet

INCOMING MATERIAL BATCH SHEET

INBOUND MATERIAL PROCESSED INTO:	☐ TFE	☐ STORAGE TANK	☐ STILL	☐ REBOILER

Received in ProcessPro? ☐ YES ☐ NO	Initials:	BT posted in ProcessPro? ☐ YES ☐ NO	Initials:

BATCH NUMBER:		DATE RECEIVED:		TIME RECEIVED:	☐ AM ☐ PM
GENERATOR:		MATERIAL CODE:		PROCESS PRO PO #:	
RECEIVED IN?	☐ TANKER ☐ DRUMS	CARRIER:		PROCESS PRO INTERNAL LOT #:	
TRAILER / TANKER #:		MANIFEST VOLUME:	UOM:	MANIFEST # / EXTERNAL LOT #:	
IF DRUMS, # OF DRUMS RECEIVED:		STICK LEVEL:	UOM:	MANIFEST IN ORDER?	☐ YES ☐ NO ☐ N/A
LAND DISPOSAL RESTRICTION FORM?	☐ YES ☐ NO	TOTAL MEASURED VOLUME:	UOM:	WASTE DESCRIPTION: (NAME, PROC. ETC.)	
		LSF TANK LEVEL VOLUME:	UOM:	COMMENT:	

INCOMING MATERIAL ANALYSIS

SAMPLES PULLED?	☐ YES ☐ NO	SAMPLE TYPE:	☐ COLIWASA ☐ CIRCULATED	NAME OF SAMPLER: (PRINT AND SIGN)	
DATE RELINQUISHED:		TIME RELINQUISHED:	☐ AM ☐ PM	NAME OF CUSTODIAN: (PRINT AND SIGN)	
IS THIS A PRE-SHIPMENT SAMPLE?	☐ YES ☐ NO	DOES MATERIAL CONFORM WITH WASTE PROFILE / MATERIAL SPEC:	☐ YES ☐ NO	IS MATERIAL COMPATIBLE WITH GAGE WASTE?	☐ YES ☐ NO
ADDITIVE TO BE USED:	☐ AD0090-350 (SUMMER) ☐ AD0092-350 (WINTER) ☐ OC0019			IS INBOUND MATERIAL COMPATIBLE WITH SPECIFIED ADDITIVE?	☐ YES ☐ NO
COMMENTS:					
ANALYSIS PERFORMED BY: (SIGNATURE)				ANALYSIS PERFORMED BY: (PRINT)	

TRUCK UNLOADING

ADDITIVE USED:	☐ AD0090-350 (SUMMER) ☐ AD0092-350 (WINTER) ☐ OC0019 ☐ N/A			AMOUNT OF ADDITIVE USED:	UOM:
DATE ADDITIVE ADDED:		TIME ADDITIVE ADDED:	☐ AM ☐ PM	QUANTITY RECEIVED: (MATERIALS LESS ADDITIVE)	UOM:
DATE CIRCULATION STARTED:		TIME CIRCULATION STARTED:	☐ AM ☐ PM	IF TANKER, LSF TANK PUMPED INTO:	
DATE CIRCULATION ENDED:		TIME CIRCULATION ENDED:	☐ AM ☐ PM	IF DRUMS, STORED IN WHAT SECTION OF LSF:	☐ CORR ☐ NC
INBOUND AND OUTBOUND BULK TRAILER CHECKLIST COMPLETED?	☐ YES ☐ NO ☐ N/A	VOLUME REMAINING: (gallons)		TANKER INSPECTED BY: (PRINT)	
DATE TANKER INSPECTED:		TIME TANKER INSPECTED:	☐ AM ☐ PM	TANKER INSPECTED BY: (SIGNATURE)	

(ADDITIZED / MIXED / CIRCULATED) FEED ANALYSIS

UNUSUAL OBSERVATIONS:		
COMMENTS:		
FURTHER ANALYSIS:		
SIGNATURE:	PRINT NAME:	DATE:

MATERIAL DISPOSITION (HANDLING OF INBOUND WASTE)

MATERIAL DISPOSITION:	☐ REMANUFACTURED AT GAGE	☐ SHIPPED OFF-SITE FOR DISPOSAL		
DATE OF TREATMENT OR DISPOSAL:				
METHOD OF TREATMENT:	☐ NEW TFE	☐ OLD TFE	☐ REBOILER (NOTIFY EHS BEFORE PROCEEDING)	☐ STILL (NOTIFY EHS BEFORE PROCEEDING)
	☐ OTHER (DESCRIBE):			
SIGNATURE:	PRINT NAME:	DATE:		

IN PROCESS QUALITY RESULTS

RECEIVER	AMOUNT (GALLONS)	TO TANK NUMBER	SEPARATED WATER %	SEPARATED WATER AMOUNT (GALLONS)	COMMENTS
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

RMN 008; REVISION 19 REVISION DATE 24 Jan 22

INCOMING MATERIAL BATCH SHEET

TANK LEVEL INFORMATION

	MATERIAL CODE (E.G. WR0134)	TANK NUMBER	START LEVEL	END LEVEL	GALLONS POSTED	NOTES
CLEAN PRODUCTS CONSUMED (MATERIALS) OR GENERATED (RETURNS)						
WASTE MATERIALS CONSUMED (MATERIALS) OR GENERATED (RETURNS)						
RINSE MATERIALS CONSUMED (MATERIALS) OR GENERATED (RETURNS)						

PROCESSING INFORMATION

LOAD WASTE MATERIAL CODE:		FIN GOODS PRODUCT CODE:		WASTE #1 PRODUCT CODE:	
LOAD WASTE VOLUME:	UOM:	FIN GOODS VOLUME MADE:	UOM:	WASTE #1 VOLUME MADE:	UOM:
SEPARATED WATER VOLUME:		FIN GOODS MATERIAL PUMPED INTO TANK #:		WASTE #1 PUMPED INTO TANK #:	
STOCK WASTE MATERIAL CODE:		OTHER PRODUCT #1 CODE:		WASTE #2 PRODUCT CODE:	
STOCK WASTE VOLUME:	UOM:	OTHER PRODUCT #1 MADE:	UOM:	WASTE #2 VOLUME MADE:	UOM:
STOCK WASTE FROM WHAT TANK NUMBER?		OTHER PRODUCT #1 MATERIAL PUMPED INTO TANK #:		WASTE #2 PUMPED INTO TANK #:	
RINSE MATERIAL CODE:		OTHER PRODUCT #2 MADE:		WASTE #3 PRODUCT CODE:	
RINSE MATERIAL VOLUME:	UOM:	OTHER PRODUCT #2 CODE:	UOM:	WASTE #3 VOLUME MADE:	UOM:
RINSE FROM WHAT TANK #?		OTHER PRODUCT #2 MATERIAL PUMPED INTO TANK #:		WASTE #3 PUMPED INTO TANK #:	
GRAND TOTAL FEED VOLUME:	UOM:	GRAND TOTAL PRODUCT VOLUME:	UOM:	GRAND TOTAL WASTE VOLUME:	UOM:
COMMENTS / NOTES:					
OVERALL YIELD %: (GRAND TOTAL PRODUCT VOLUME / GRAND TOTAL FEED VOLUME)		FIN GOODS TO INBOUND YIELD %: (FIN GOODS VOLUME MADE / LOAD WASTE VOLUME)			
BOTTOMS PUMPED TO WASTE TANK START TIME: ☐ AM ☐ PM		BOTTOMS PUMPED TO WASTE TANK END TIME: ☐ AM ☐ PM			

PROCESS TIME INFORMATION

PROCESSING DESCRIPTION	HOURS CONSUMED (0.XX)	PROCESSPRO TEST CODE ID
WASTE DRUM PUMPING / TRANSFER		T100
METHYLENE CHLORIDE CONTAINING MATERIAL TOTAL PROCESSING HOURS		T120
NEW TFE OPERATING HOURS		T200
NEW TFE BREAKDOWN HOURS		T204
NEW TFE CROSSLINK CLEARING HOURS		T206
NEW TFE MAINTENANCE HOURS		T208
OLD TFE OPERATING HOURS		T230
OLD TFE BREAKDOWN HOURS		T234
OLD TFE CROSSLINK CLEARING HOURS		T236
OLD TFE MAINTENANCE HOURS		T238
GRAND TOTAL HOURS CONSUMED:		

RMN 008; REVISION 19 REVISION DATE 24 Jan 22

QAQC Appendix 2 Table of Random Numbers

Table of Random Numbers

03	47	43	73	86	36	96	47	05	61	46	98	63	71	62
97	74	24	67	62	42	81	14	57	20	42	53	32	37	32
16	76	62	27	66	56	50	26	71	07	32	90	79	78	53
12	56	85	99	26	96	20	68	27	31	05	03	72	93	15
55	59	56	35	64	38	54	82	46	22	31	62	43	11	90

16	22	77	94	39	49	54	43	54	82	17	37	93	23	78
84	42	17	53	31	57	24	55	06	88	77	04	74	47	67
63	01	06	78	59	16	95	55	67	19	98	10	05	71	75
33	21	12	34	29	78	64	56	07	82	52	42	13	44	38
57	60	86	32	44	09	47	27	96	54	49	17	46	09	62

18	08	17	92	46	44	27	16	58	09	79	83	86	19	62
26	62	38	97	75	84	16	07	44	99	83	11	46	32	24
23	42	40	64	74	82	97	77	77	81	06	45	32	14	08
52	36	28	19	95	50	92	26	11	97	01	56	76	31	38
37	85	94	35	12	83	39	50	08	30	42	34	07	96	88

70	29	17	12	13	40	33	20	38	26	13	89	51	03	74
56	62	18	37	35	96	83	50	87	75	97	12	25	93	47
99	49	57	22	77	88	42	95	45	72	16	64	36	16	10
16	08	15	04	72	33	27	14	34	06	45	59	34	68	49
31	16	93	32	43	50	27	89	87	19	20	15	37	14	35

How to use the table of random numbers:

1. Segregate the containers (i.e., drums) according to waste types, and generator based on available information.

2. Number the containers containing the same waste types consecutively, starting from 01.

3. Determine the number of samples required. For more than 100 containers, sample 10% of the containers. For shipments of 100 or fewer containers, the number of containers to sample equals the square root of the number of containers.

4. Using the set of random numbers above, choose any number as the starting point.

5. From this number, go down the column, then to the next column to the right, or go in any predetermined direction until you have selected the appropriate number of drums to sample, with no repetitions. Larger numbers are ineligible. (For example, if you wish to sample 5 drums out of a shipment of 20, and you choose 19 as the starting point on the column four, the next eligible numbers as you go down this column are 12 and 04. So far you have chosen only three eligible numbers. Proceed to the next column to the right. Going down and starting from the top of this column the next eligible numbers are 12 and 13. But 12 is already chosen. Proceeding to the sixth column, the next eligible number is 16. Your five random numbers, therefore, are 19, 12, 04, 13 and 16. The drums with corresponding numbers should be sampled.

Appendix A3-2

Waste Stream Profile

APPENDIX A3-2
Waste Stream Profile

Material Profile Number (Gage Assigns): _____

Material Profile Form

625 Wanda Avenue Ferndale, Michigan 48220
248-541-3824
EPA ID No. MID 005 338 801

IMPORTANT: This form is to be completed by a representative of the material generator. Please complete all of the following questions and return to: 1Environment@gageproducts.com or Gage Products Company, 625 Wanda Ferndale, Michigan 48220 Attention: Environmental Manager.

GENERATOR INFORMATION

Generator Name: _____ EPA ID No. _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Site Address: _____
City: _____ State: _____ Zip Code: _____
Contact: _____ Telephone No. _____
Contact e-mail address: _____
Emergency Contact: _____ Emergency Phone: _____
Is Generator a TSDF? ☐ Yes ☐ No

GENERAL MATERIAL INFORMATION

Material Description: _____
Process Generating the Material: _____
Is this a "Hazardous Waste" as defined by Federal or State Regulations? ☐ Yes ☐ No
If YES, enter the applicable Waste Code Identification Number(s) (example D001, D035 EP Toxicity/TCLP):
☐ D001 Other applicable waste codes: _____
Is this a "Hazardous Secondary Material" as defined by Federal or State Regulations? ☐ Yes ☐ No
Note: If so, then it is also a "Liquid Industrial By-Product" as defined by Michigan Regulations.
Recommended Personal Protective Equipment and special handling procedures: _____
Anticipated Volume: _____ ☐ Gallons ☐ Other
Per: ☐ Day ☐ Week ☐ Month ☐ Year ☐ One time only
To be transported in: ☐ Bulk ☐ Drums If drum, type & size: _____
☐ Other: _____
Is representative sample included? ☐ Yes ☐ No

MATERIAL PROPERTIES

Physical State: ☐ Liquid Other: _____
Odor: ☐ None ☐ Mild ☐ Strong Describe: _____
Flashpoint (Degrees Fahrenheit): ☐ < 73° ☐ 73-100 ° ☐ 101-140 ° ☐ 141-200 ° ☐ >200 ° ☐ NA
Layers: ☐ Single Phased ☐ Bi-Layered ☐ Multi-Layered
Density: _____ ☐ Lb./Gal ☐ Lb./yd. 3 ☐ g/cc ☐ Other: _____
Color: _____ Percent Solids: _____ pH: _____
Note if the material exhibits any of the following health hazards:
☐ Carcinogenic ☐ Infectious/Biological ☐ Radioactive ☐ Poison-Inhalation Hazard

REACTIVITY

Note if the material exhibits any of the following reactive properties:
☐ Water Reactive ☐ Autopolymerizable ☐ Acid Reactive ☐ Pyrophoric ☐ Strong Oxidizer ☐ Autoignitable
☐ Thermally Sensitive ☐ Alkaline Reactive ☐ Shock Sensitive ☐ Explosive ☐ None of These

Material Profile Number (Gage Assigns): _____

WASTE CLASSIFICATION

RCRA Waste Description per 40 CFR 261: _____

RCRA EPA Waste Code(s) per 40 CFR 261: _____

Waste is subject to Land Disposal Restrictions per 40 CFR 268: ☐ Yes ☐ No

Waste is Subject to Subpart CC Regulations? ☐ Yes ☐ No

COMPLETE MATERIAL COMPOSITION

Concentration ranges are suggested, but must total at least 100 %. Units must be identified and are to be in parts per million and/or percentages. Attach additional pages if necessary.

Components	Range	Components	Range

TRANSPORTATION INFORMATION

Gage will accept delivery of all materials in a time and manner that is scheduled by Gage Products.

If the material is a U.S. DOT hazardous material, complete the following:

Proper U.S. DOT Shipping Name: _____

N.O.S. Description, if applicable: _____

Hazard Class: _____ UN or NA Number: _____

Required Labels: _____ Required Placards: _____

CERCLA Reportable Quantity/Component: _____

Material is to be shipped only by an appropriately permitted carrier:

Transporter:
- ☐ Quality Carriers Inc.- EPA ID Nos. ILD 024 921 074, FLR 000 057 414, Phone 813-569-7271
- ☐ S&C Transport - EPA ID No. MIK126399684, Phone 734-422-0200
- ☐ Harold Marcus LTD - EPA ID No. MIT 270 012 321, Phone 519-695-3734
- ☐ **Haz Mat Environmental Group Inc. - EPA ID No. NYD 980 769 947, Phone 586-468-9369**

Other Transporter: _____ EPA ID No. _____

Address: _____ Contact: _____

_____ Phone: _____

Permit No. _____

Does the transporter have appropriate permits to haul the material? ☐ Yes ☐ No

SUPPLEMENTAL INFORMATION

☐ SDS ☐ Analytical Data ☐ Memo/Letter ☐ Material Composition ☐ Other ☐ None

☐ Hazardous Secondary Material Notification

Material Profile Number (Gage Assigns): _____

LAND DISPOSAL RESTRICTIONS, RESTRICTED WASTE NOTIFICATION - FOR HAZARDOUS WASTES

Indicate the EPA waste code and corresponding treatment standards in the appropriate sub-section below.

☐ Waste Carries D001 Waste Code:

Treatability Group (Check one):

- ☐ Non-wastewater (>1% TOC, >1% TSS)
- ☐ Wastewater (<1% TOC, <1% TSS)

Waste Sub-category (Check one):

- ☐ High TOC (>10% Total Organic Carbon)
- ☐ Low TOC (<10% Total Organic Carbon)

(If this stream is D001, Non-wastewater, High TOC as indicated above):

☐ The Treatment Technology specified by EPA 40 CFR 268.40, for this waste stream is RORGS; CMBST; or POLYM. This treatment standard is defined in 40 CFR 268.42.

☐ Waste Carries F001-F005 Waste Code(s):

Treatment standards are defined for individual components - 40 CFR 268.40

☐ Waste Carries Other Waste Code(s):

Code(s): _____

Indicate subcategory, treatability group, and 40 CFR citation where treatment technology is specified:

_____

☐ Material is a Hazardous Secondary Material for recycle. LDR information does not apply.

CERTIFICATION

Is this a state or federal Hazardous Secondary Material (HSM)?	☐ Yes	☐ No
Has the HSM generator submitted notification of its HSM generator status to appropriate agency?	☐ Yes	☐ No
Copy of HSM notification provided to Gage?	☐ Yes	☐ No
Is this a Part 111 of Act 451 hazardous waste (R299.9201 to R299.9229)?	☐ Yes	☐ No
Does the material represented by this Profile form contain any of the following pesticides or herbicides: Endrin, Lindane, Methoxychlor, Toxaphene, 2,4,0D, 2,4,5-TP (silvex), chlordane, Heptachlor (and its epoxide)?	☐ Yes	☐ No
Is the material from a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (40 CFR Part 300, Appendix B) or ***state*** mandated cleanup?	☐ Yes	☐ No
Does the material represented by this Material Profile Form contain concentrations of radioactive elements regulated by the Nuclear Regulatory Commission?	☐ Yes	☐ No
Does the material represented by this Material Profile Form contain concentrations of PCBs regulated under 40 CFR Part 147, "PCB Compounds", of Act 451 or 40 CFR Part 761?	☐ Yes	☐ No
Do the Material Profile Form and all attachments contain true and accurate descriptions of the material, and has all the relevant information within the possession of the generator regarding known or suspected hazards pertaining to the material been disclosed to the facility?	☐ Yes	☐ No

GENERATOR CERTIFICATION STATEMENT: I hereby certify that as an authorized representative of the generator named herein, to the best of my knowledge all information submitted in this and attached document is true and accurate and that all wastes/materials have been properly containerized and labeled. Samples analyzed to obtain the information reported on this form were representative of the waste/material and all known and suspected hazardous components have been included in the documentation.

_____ _____

SIGNATURE TITLE

_____ _____

PRINTED NAME DATE

Material Profile Number (Gage Assigns): _____

For Gage Products Internal Use Only:

_____ WR Designation (specified by Remanufacturing) OR:

_____ BP---- For Trans-ship

_____ Designating Reman Representative

_____ Date

Appendix A3-3

LDR Notification Form

APPENDIX A3-3
LDR NOTIFICATION FORM

Products Company

NOTIFICATION OF HAZARDOUS WASTE RESTRICTED FROM LAND DISPOSAL

Phone 248-541-3824 **Fax 248-541-2524**

This notification form must be completed by the generator and shall accompany the first shipment of restricted waste subject to the Land Disposal Restrictions (40 CFR 268 Subpart C). Use a separate notification form for each US DOT description (i.e. Line 11a, 11b, 11c, 11d) on the Uniform Hazardous Waste Manifest.

- Complete all information in Section I.
- Check Box 1 or 2 describing notification requirements. If Box 3 is checked, Box 2 must also be checked.
- If Box 2 is checked, identify any potential Underlying Hazardous Constituents in Section II. Sign certification.

SECTION I			
GENERATOR'S NAME:			
EPA ID NUMBER:		WASTE PROFILE NUMBER:	
DATE OF SHIPMENT:		MANIFEST NUMBER:	
MANIFEST LINE NUMBER:	(Check One) ☐ **9a1** ☐ **9a2** ☐ **9a3** ☐ **9a4**		
TREATABILITY GROUP:	(Check One) ☐ Wastewater ☐ NonWastewater		
HAZARDOUS DEBRIS:	☐ Yes, debris is subject to the alternative treatment standards of 40 CFR 268.45		

EPA HAZARDOUS WASTE CODE(S)							

Please check one:

☐ 1. This waste is subject to Land Disposal Restrictions. The (non-wastewater) hazardous waste stream carries only the D001 code for ignitability. It is being treated by CMBST, RORGS, OR POLYM, and as such, the generator is not required to determine and identify underlying hazardous constituents in the characteristic waste (40 CFR 268.9(a)).

If this box is checked, generator must sign below and needs only submit page 1 of this document to meet the LDR notification requirement.

☐ 2. This waste stream is subject to Land Disposal Restrictions. It carries an applicable waste code, F001-F005, or F039, or is a characteristic hazardous waste. As such, underlying hazardous constituents of concern are identified on the following pages.

If this box is checked, generator must sign below, identify any underlying hazardous constituents on the following pages and submit pages 1-5 of this document to meet the LDR notification requirement.

☐ 3. The waste meets the applicable treatment standards of 40 CFR 268.40, Treatment Standards for Hazardous Wastes.

Certification for Number 3 above: I certify under penalty of law that I have personally 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 specified in 40 CFR part 268 subpart D. I believe that the information I submitted is true, accurate, and complete. I am aware there are significant penalties for submitting a false certification, including the possibility of fines and imprisonment.

I have used the following to make the above determination:
☐ Knowledge of the waste producing process, raw materials used and reaction products, or
☐ Results of analysis for the constituents in Table UTS or the Treatment Standards for Hazardous Wastes.

Waste analysis data attached? ☐ Yes ☐ No

Authorized Signature: _____ Date: _____

Printed Name: _____

Land Disposal Restriction Notification

SECTION II

The wastes identified on the above mentioned manifest document number and bearing the EPA Hazardous Waste Number(s) identified in Section I are subject to the Land Disposal Restrictions of 40 CFR 268 Subpart C. The wastes do not meet the applicable treatment standards specified in 40 CFR 268 Table UTS or RCRA Section 3004 (d). In compliance with the requirements of 40 CFR 268.7 and 268.9, we are indicating below the applicable underlying constituents of concern. The underlying constituents of D001 wastes that can be treated by CMBST do not have to be determined. (Refer to 40 CFR 268.9 (a). Generators are required to identify the constituents in F001-F005, F039, D001 (except as stated above), D002, and D012-D043 wastes.

40 CFR 268.48 TABLE UTS – UNIVERSAL TREATMENT STANDARDS

√	Regulated constituent	CAS No.	Wastewater standard	Non-wastewater standard	√	Regulated constituent	CAS No.	Wastewater standard	Non-wastewater standard
			mg/l	mg/kg3 unless noted as in "mg/l TCLP"				mg/l	mg/kg3 unless noted as in "mg/l TCLP
	Organic Constituents:					Benzo(a)pyrene	50-32-8	0.061	3.4
						Bromodichloromethane	75-27-4	0.35	15
	Acenaphthylene	208-96-8	0.059	3.4		Bromomethane/Methyl bromide	74-83-9	0.11	15
	Acenaphthene	83-32-9	0.059	3.4		4 –Bromophenyl phenyl ether	101-55-3	0.055	15
	Acetone	67-64-1	0.28	160		n-Butyl alcohol	71-36-3	5.6	2.6
	Acetonitrile	75-05-8	5.6	38		Butylate	2008-41-5	0.042	1.4
	Acetophenone	96-86-2	0.010	9.7		Butyl benzyl phthalate	85-68-7	0.017	28
	2-Acetylaminofluorene	53-96-3	0.059	140		2-sec-Butyl-4,6-dinitrophenol/ Dinoseb	88-85-7	0.066	2.5
	Acrolein	107-02-8	0.29	NA		Carbaryl	63-25-2	0.006	0.14
	Acrylamide	79-06-1	19	23		Carbenzadim	10605-21-7	0.056	1.4
	Acrylonitrile	107-13-1	0.24	84		Carbofuran	1563-66-2	0.006	0.14
	Aldicarb sulfone	1646-88-4	0.056	0.28		Carbofuran phenol	1563-38-8	0.056	1.4
	Aldrin	309-00-2	0.021	0.066		Carbon disulfide	75-15-0	3.8	4.8 mg/l TCLP
	4-Aminobiphenyl	92-67-1	0.13	NA		Carbon tetrachloride	56-23-5	0.057	6.0
	Aniline	62-53-3	0.81	14		Carbosulfan	55285-14-8	0.028	1.4
	Anthracene	120-12-7	0.059	3.4		Chlordane (alpha and gamma isomers	57-74-9	0.0033	0.26
	Aramite	140-57-8	0.36	NA		p – Chloroaniline	106-47-8	0.46	16
	Alpha-BHC	319-84-6	0.00014	0.066		Chlorobenzene	108-90-7	0.057	6.0
	Beta-BHC	319-85-7	0.00014	0.066		Chlorobenzilate	510-15-6	0.10	NA
	Delta-BHC	319-86-8	0.023	0.066		2 - Chloro - 1, 3-butadiene	126-99-8	0.057	0.28
	gamma-BHC	58-89-9	0.0017	0.066		Chlorodibromomethane	124-48-1	0.057	15
	Barban	101-27-9	0.056	1.4		Chloroethane	75-00-3	0.27	6.0
	Bendiocarb	22781-23-3	0.056	1.4		bis(2 – Chlorethoxy)methane	111-91-1	0.036	7.2
	Benomyl	17804-35-2	0.056	1.4		bis(2 – Chloroethyl)ether	111-44-4	0.033	6.0
	Benzene	71-43-2	0.14	10		Chloroform	67-66-3	0.046	6.0
	Benz(a)anthracene	56-55-3	0.059	3.4		Bis(2-Chloroisopropyl) ether	39638-32-9	0.055	7.2
	Benzal chloride	98-87-3	0.055	6.0		p-Chloro-m-cresol	59-50-7	0.018	14
	Benzo(b)fluoranthene (difficult to distinguish from Benzo (k) fluoranthene)	205-99-2	0.11	6.8		2-Chloroethyl vinyl ether	110-75-8	0.062	NA
	Benzo(k)fluoranthene (difficult to distinguish from Benzo (b) fluoranthene)	207-08-9	0.11	6.8		Chloromethane/Methyl chloride	74-87-3	0.19	30
	Benzo(g, h, i)perylene	191-24-2	0.0055	1.8					

	Regulated constituent	CAS No.	Wastewater standard	Non-wastewater standard	.	Regulated constituent	CAS No.	Wastewater standard	Non-wastewater standard
			mg/l	mg/kg3 unless noted as in "mg/l TCLP"				mg/l	mg/kg3 unless noted as in "mg/l TCLP"
	Organic Constituents:					cis - 1, 3 - Dichloropropylene	10061-01-5	0.036	18
	2-Chloronaphthalene	91-58-7	0.055	5.6		trans - 1, 3 - Dichloropropylene	10061-02-6	0.036	18
	2 - Chlorophenol	95-57-8	0.044	5.7		Dieldrin	60-57-1	0.017	0.13
	3 - Chloropropylene	107-05-1	0.036	30		Diethyl phthalate	84-66-2	0.20	28
	Chrysene	218-01-9	0.059	3.4		p – Dimethylamino-azo-benzene	60-11-7	0.13	NA
	o- Cresol	95-48-7	0.11	5.6		2 - 4 - Dimethyl phenol	105-67-9	0.036	14
	m- Cresol difficult to distinguish from p - cresol)	108-39-4	0.77	5.6		Dimethyl phthalate	131-11-3	0.047	28
	p- Cresol difficult to distinguish from m - cresol)	106-44-5	0.77	5.6		Di-n-butyl phthalate	84-74-2	0.057	28
	M–Cumenyl methylcarbamate	64-00-6	0.056	1.4		1,4-Dinitrobenzene	100-25-4	0.32	2.3
	Cyclohexanone	108-94-1	0.36	0.75 mg/l T CLP		4, 6-Dinitro-o- cresol	534-52-1	0.28	160
	o, p' - DDD	53-19-0	0.023	0.087		2, 4 - Dinitrophenol	51-28-5	0.12	160
	p, p' - DDD	72-54-8	0.023	0.087		2, 4 - Dinitrotoluene	121-14-2	0.32	140
	o, p' - DDE	3424-82-6	0.031	0.087		2, 6- Dinitrotoluene	606-20-2	0.55	28
	p, p' - DDE	72-55-9	0.031	0.087		Di - n - octyl phthalate	117-84-0	0.017	28
	o, p' - DDT	789-02-6	0.0039	0.087		Di-n-propylnitrosamine	621-64-7	0.40	14
	p, p' – DDT	50-29-3	0.0039	0.087		1,4-Dioxane	123-91-1	12.0	170
	Dibenz(a, h)anthracene	53-70-3	0.055	8.2		Diphenylamine (difficult to distinguish from diphenylnitrosamine	122-39-4	0.92	13
	Dibenz(a, e)pyrene	192-65-4	0.061	NA		Diphenylnitrosamine (difficult to distinguish from diphenylamine	86-30-6	0.92	13
	1, 2 - Dibromo - 3 chloropropane	96-12-8	0.11	15		1,2-Diphenylhydrazine	122-66-7	0.087	NA
	1,2-Dibromoethane/ Ethylene dibromide	106-93-4	0.028	15		Disulfoton	298-04-4	0.017	6.2
	Dibromomethane	74-95-3	0.11	15		Dithiocarbamates (total)	NA	0.028	28
	m - Dichlorobenzene	541-73-1	0.036	6.0		Endosulfan I	959-98-8	0.023	0.066
	o - Dichlorobenzene	95-50-1	0.088	6.0		Endosulfan II	33213-65-9	0.029	0.13
	p - Dichlorobenzene	106-46-7	0.090	6.0		Endosulfan sulfate	1031-07-8	0.029	0.13
	Dichlorodfluromethane	75-71-8	0.23	7.2		Endrin	72-20-8	0.0028	0.13
	1, 1Dichloroethane	75-34-3	0.059	6.0		Endrin aldehyde	7421-93-4	0.025	0.13
	1, 2 - Dichloroethane	107-06-2	0.21	6.0		EPTC	759-94-4	0.042	1.4
	1, 1 - Dichloroethylene	75-35-4	0.025	6.0		Ethyl acetate	141-78-6	0.34	33
	trans - 1, 2 - dichloroethylene	156-60-5	0.054	30		Ethyl benzene	100-41-4	0.057	10
	2, 4 - Dichlorophenol	120-83-2	0.044	14		Ethyl cyanide/Propane nitrile	107-12-0	0.24	360
	2, 6 - Dichlorophenol	87-65-0	0.044	14		Ethyl ether	60-29-7	0.12	160
	2, 4 - Dichlorophenoxyacetic acid/2, 4-D	94-75-7	0.72	10		bis(2 - Ethylhexyl)phthalate	117-81-7	0.28	28
	1, 2 – Dichloropropane	78-87-5	0.85	18					

	Regulated constituent	CAS No.	Wastewater standard	Non-wastewater standard	.	Regulated constituent	CAS No.	Wastewater standard	Non-wastewater standard
			mg/l	mg/kg3 unless noted as in "mg/l TCLP"				mg/l	mg/kg3 unless noted as in "mg/l TCLP"
	Organic Constituents:								
	Ethyl methacrylate	97-63-2	0.14	160		Molinate	2212-67-1	0.042	1.4
	Ethylene oxide	75-21-8	0.12	NA		Naphthalene	91-20-3	0.059	5.6
	Famphur	52-85-7	0.017	15		2 - Naphthylamine	91-59-8	0.52	NA
	Fluoranthene	206-44-0	0.068	3.4		o - Nitroaniline	88-74-4	0.27	14
	Fluorene	86-73-7	0.059	3.4		p - Nitroaniline	100-01-6	0.028	28
	Formetanate hydrochloride	23422-53-9	0.056	1.4		Nitrobenzene	98-95-3	0.068	14
	Heptachlor	76-44-8	0.0012	0.066		5 – Nitro - o - toluidine	99-55-8	0.32	28
	Heptachlor epoxide	1024-57-3	0.016	0.066		o - Nitrophenol	88-75-5	0.028	13
	Hexachlorobenzene	118-74-1	0.055	10		p - Nitrophenol	100-02-7	0.12	29
	Hexachlorobutadiene	87-68-3	0.055	5.6		N – Nitrosodiethyl-amine	55-18-5	0.40	28
	Hexachlorocyclo-pentadiene	77-47-4	0.057	2.4		N – Nitrosodimethyl-amine	62-75-9	0.40	2.3
	HxCDDs (All Hexa-chlorodibenzo - p - dioxins	NA	0.000063	0.001		N – Nitroso-di-n-butylamine	924-16-3	0.40	17
	HxCDFs (All Hexa-chlorodibenzofurans)	NA	0.000063	0.001		N – Nitroso-methylethylamine	10595-95-6	0.40	2.3
	Hexachloroethane	67-72-1	0.055	30		N - Nitrosomorpholine	59-89-2	0.40	2.3
	Hexachloropropylene	1888-71-7	0.035	30		N - Nitrosopiperidine	100-75-4	0.013	35
	Indeno (1, 2, 3 - c, d pyrene	193-39-5	0.0055	3.4		N - Nitrosopyrrolidine	930-55-2	0.013	35
	Iodomethane	74-88-4	0.19	65		Oxamyl	23135-22-0	0.056	0.28
	Isobutyl alcohol	78-83-1	5.6	170		Parathion	56-38-2	0.014	4.6
	Isodrin	465-73-6	0.021	0.066		Total PCBs (sum of all PCB isomers, or all Aroclors)	1336-36-3	0.10	10
	Isosafrole	120-58-1	0.081	2.6		Pebulate	1114-71-2	0.042	14
	Kepone	143-50-0	0.0011	0.13		Pentachlorobenzene	608-93-5	0.055	10
	Methacrylonitrile	126-98-7	0.24	84		PeCDDs (All Penta-chlorodibenzo-p-dioxins	NA	0.000063	0.001
	Methanol	67-56-1	5.6	0.75 mg/l TCLP		PeCDFs (All Penta-chlorodibenzo-furans	NA	0.000063	0.001
	Methapyrilene	91-80-5	0.081	1.5		Pentachloroethane	76-01-7	0.055	6.0
	Methiocarb	2032-65-7	0.056	1.4		Pentachloronitro-benzene	82-68-8	0.055	4.8
	Methomyl	16752-77-5	0.028	0.14		Pentachlorophenol	87-86-5	0.089	7.4
	Methoxychlor	72-43-5	0.25	0.18		Phenacetin	62-44-2	0.081	16
	3 - Methylcholanthrene	56-49-5	0.0055	15		Phenanthrene	85-01-8	0.059	5.6
	4, 4 - Methylene bis (2-chloroaniline)	101-14-4	0.50	30					
	Methylene chloride	75-09-2	0.089	30		Phenol	108-95-2	0.039	6.2
	Methyl ethyl ketone	78-93-3	0.28	36		Phorate	298-02-2	0.021	4.6
	Methyl isobutyl ketone	108-10-1	0.14	33		Phthalic acid	100-21-0	0.055	28
	Methyl methacrylate	80-62-6	0.14	160		Phthalic anhydride	85-44-9	0.055	28
	Methyl methansulfonate	66-27-3	0.018	NA		Physostigmine	57-47-6	0.056	1.4
	Methyl parathion	298-00-0	0.014	4.6		Physostigmine salicylate	57-64-7	0.056	1.4
	Metolcarb	1129-41-5	0.056	1.4					
	Mexacarbate	315-18-4	0.056	1.4					

	Regulated constituent	CAS No.	Wastewater standard	Non-wastewater standard	.	Regulated constituent	CAS No.	Wastewater standard	Non-wastewater standard
			mg/l	mg/kg3 unless noted as in "mg/l TCLP"				mg/l	mg/kg3 unless noted as in "mg/l TCLP"
	Organic Constituents:					Organic Constituents			
	Promecarb	2631-37-0	0.056	1.4		Tris-(2,3 Dibromo-propyl) phosphate	126-72-7	0.11	0.10
	Pronamide	23950-58-5	0.093	1.5		Vernolate	1929-77-7	0.042	1.4
	Propham	122-42-9	0.056	1.4					
	Propoxur	114-26-1	0.056	1.4		Vinyl chloride	75-01-4	0.27	6.0
	Prosulfocarb	52888-80-9	0.042	1.4		Xylenes – mixed isomers (sum of o-m-, and p- xylene concentrations).	1330-20-7	0.32	30
	Pyrene	129-00-0	0.067	8.2		Inorganic Constituents			
	Pyridine	110-86-1	0.014	16		Antimony	7440-36-0	1.9	1.15 mg/l TCLP
	Safrole	94-59-7	0.081	22		Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
	Silvex/2, 4, 5 - TP	93-72-1	0.72	7.9		Barium	7440-39-3	1.2	21 mg/l TCLP
	1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14		Beryllium	7440-41-7	0.82	1.22 mg/l TCLP
	TCDDs (All Tetra-chlorodibenzo-p-dioxins	NA	0.000063	0.001		Cadmium	7440-43-9	0.69	0.11 mg/l TCLP
	TCDFs (All Tetra-chlorodibenzofurans	NA	0.000063	0.001		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
	1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0		Cyanides (Total)	57-12-5	1.2	590
	1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0		Cyanides (Amenable)	57-12-5	0.86	30
	Tetrachloroethylene	127-18-4	0.056	6.0		Fluoride	16984-48-8	35	NA
	2,3,4,6-Tetrachlorophenol	58-90-2	0.030	7.4		Lead	7439-92-1	0.69	0.75 mg/l TCLP
	Thiodicarb	59669-26-0	0.019	1.4		Mercury – Nonwaste water from Retort	7439-97-6	NA	0.20 mg/l TCLP
	Thiophanate-methyl	23564-05-8	0.056	1.4		Mercury – All Others	7439-97-6	0.15	0.025 mg/l TCLP
	Toluene	108-88-3	0.080	10		Nickel	7440-02-0	3.98	11 mg/l TCLP
	Toxaphene	8001-35-2	0.0095	2.6		Selenium	7782-49-2	0.82	5.7 mg/l TCLP
	Triallate	2303-17-5	0.042	1.4		Silver	7440-22-4	0.43	0.14 mg/l TCLP
	Tribromomethane/ Bromoform	75-25-2	0.63	15		Sulfide	18496-25-8	14	NA
	1,2,4 -Trichlorobenzene	120-82-1	0.055	19		Thallium	7440-28-0	1.4	0.20 mg/l TCLP
	1,1,1-Trichloroethane	71-55-6	0.054	6.0		Vanadium	7440-62-2	4.3	1.6 mg/l TCLP
	1,1,2-Trichloroethane	79-00-5	0.054	6.0		Zinc	7440-66-6	2.61	4.3 mg/l TCLP
	Trichloroethlene	79-01-6	0.054	6.0					
	Trichloromonofluoro-methane	75-69-4	0.020	30					
	2,4,5– Trichlorophenol	95-94-4	0.18	7.4					
	2,4,6– Trichlorophenol	88-06-2	0.035	7.4					
	2,4,5– Trichlorophen-oxyacetic acid/2,4,5-T	93-76-5	0.72	7.9					
	1,2,3-Trichloropropane	96-18-4	0.85	30					
	1,1,2 – Trichloro-1,2,2,-trifluoroethane	76-13-1	0.057	30					
	Triethylamine	101-44-8	0.081	1.5					

Notes:

CAS means Chemical Abstract Services. When the waste code and/or regulated constituents are described as a combination of a chemical with its salts and/or esters, the CAS number is given for the parent compound only.

Concentration standards for wastewaters are expressed in mg/l and are based on analysis of composite samples.

Except for Metals (EP or TCLP) and Cyanides (Total and Amenable) the nonwastewater treatment standards expressed as a concentration were established, in part, based upon incineration in units operated in accordance with the technical requirements of 40 CFR Part 264, Subpart O or CFR Part 265, Subpart O, or based upon combustion in fuel substitution units operating in accordance with applicable technical requirements. A facility may comply with these treatment standards according to provisions in 40 CFR 268.40(d). All concentration standards for nonwastewaters are based on analysis of grab samples.

Both Cyanides (Total) and Cyanides (Amenable) for nonwastewaters are to be analyzed using Method 9010 or 9012, found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, as incorporated by reference in 40 CFR 260.11, with a sample size of 10 grams and a distillation time of one hour and 15 minutes.

Zinc is not an "underlying hazardous constituent" in characteristic waste, according to the definition at 268.2(i).

Note: NA means not applicable.