

RCRA Inspection Report

1) Inspector and Author of Report

Alan Newman
RCRA Enforcement Section
Chemical Safety and Land Enforcement Branch
Enforcement and Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, S.W. Phone: (404) 562-8589
Atlanta, Georgia 30303 Email: newman.alan@epa.gov

2) Facility Information

Daicel Safety Systems America, LLC
720 Old Liberty Church Road
Beaver Dam, Kentucky 42320
Ohio County
EPA ID No.: KYR000034207

3) Responsible Officials

Kim Dukes
EHS Manager
(270) 820-8021
k_dukes@dssa.daicel.com

4) Inspection Participants

James Greco	Daicel Safety Systems America, LLC
Kim Dukes	Daicel Safety Systems America, LLC
David Cooper	Daicel Safety Systems America, LLC
Raymond Gray	Daicel Safety Systems America, LLC
Wayne Thomas	Daicel Safety Systems America, LLC
Leslie Carr-Poly	KDEP – Central Office
Barbara Hankinson	KDEP – Bowling Green Regional Office
Alan Newman	EPA, Region 4

5) Date and Time of Inspection

March 21, 2022; 1:40 pm - 5:00 pm C.S.T. and March 22, 2022; 8:00 am - 5:00 pm C.S.T.

6) Applicable Regulations

Resource Conservation and Recovery Act (RCRA) Sections 3002 (42 U.S. Code – Annotated U.S.C.A. 6925 and 6927), and 40 Code of Federal Regulation (C.F.R.) Parts 260 - 270, 273, 278, & 279; Kentucky Revised Statutes Title XVIII, Chapter 224, Subchapter 46-Hazardous Waste *et seq.*, and Title 401 of the Kentucky Administrative Regulations (K.A.R.) Chapters 30 through

38, 43 and 44 and Hazardous Waste Permit KYR000034207.

Kentucky Revised Statutes Title XVIII, Chapter 224, Subchapter 46-Hazardous Waste *et seq.*, and Title 401 of the Kentucky Administrative Regulations (K.A.R.) Chapters 30 through 38, 43 and 44.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 260.10], a large quantity generator of hazardous waste (LQG) is a generator who generates greater than or equal to 1,000 kilograms (2,200 pounds) of non-acute hazardous waste in a calendar month.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17], an LQG may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, as required by KRS 224.46-520(1) [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the conditions listed in 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17] (hereinafter referred to as the “LQG Permit Exemption”).

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.15(a)], a generator may accumulate as much as 55 gallons of non-acute hazardous waste in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or without having interim status, as required by KRS 224.46-520(1) [Section 3005 of RCRA, 42 U.S.C. § 6925], and without complying with 401 KAR 39:080 Section 1 [40 C.F.R. § 262.16(b) or § 262.17(a)], except as required in 401 KAR 39:080 Section 1 [40 C.F.R. § 262.15(a)(7) and (8)], provided that the generator complies with the satellite accumulation area conditions listed in 401 KAR 39:080 Section 1 [40 C.F.R. § 262.15(a)] (hereinafter referred to as the “SAA Permit Exemption”).

Pursuant to 401 KAR 39:080 Section 3(1) [40 C.F.R. § 273.9], a small quantity handler of universal waste (SQHUW) is a universal waste handler who does not accumulate 5,000 kilograms or more of universal waste (batteries, pesticides, mercury-containing equipment, lamps, or aerosol cans, calculated collectively) at any time.

The KDEP issued a RCRA permit for treatment of hazardous waste through Permit KYR-000-034-207. This permit became effective on December 28, 2006, and expired on December 28, 2016. Daicel applied for a new permit and is currently negotiating with KDEP to finalize the permit.

7) Purpose of Inspection

The purpose of this inspection was to conduct an unannounced compliance evaluation inspection to determine Daicel Safety Systems America, LLC compliance with the applicable requirements of RCRA and the corresponding Kentucky regulations and permits. This was an EPA lead inspection.

8) Previous Inspection History

KDEP has conducted four RCRA CEIs at the subject facility between 2018 and 2021 and found

no violations during those inspections.

9) **Facility Description**

Daicel Safety Systems Americas, Inc. (DSSA or Daicel) occupies 120 acres and employs 250 workers. Access to the facility is controlled by a perimeter fence using pass keys to open the gates.

Daicel is a large quantity generator and operates a RCRA permitted hazardous waste treatment unit. The most recent notification of hazardous waste activity was submitted on May 28, 2021, and listed the following waste codes D001, D002, D003, D009, D018, and D040. The NAICS codes for their operations include:

- 33639 – Other Motor Vehicle Parts Manufacturing and
- 32592 – Explosives Manufacturing

Daicel is located at 720 Old Liberty Church Road, in the Bluegrass Crossing Regional Business Center, Beaver Dam, Ohio County, Kentucky. DSSA was formed in December 2000. The facility expanded its operations in 2005, forming Daicel Safety Technology America, Inc (DSTA). DSSA assembles air bag inflators (inflators), which contain explosive material consisting of gas generant pellets (pellets). DSTA manufactures the pellet. DSSA is a supplier to multiple car manufacturers. DSSA assembles inflators for the vehicle's steering wheel (driver inflator), the floor (curtain inflator), and for the door or side panel (leg and side inflator).

Inflators consist of gas generant pellets enclosed in a metal housing. An initiator is activated by a signal from the vehicle's crash detection system and electrically triggers a chemical chain reaction that sets off gas generant pellets. These pellets release large quantities of gas (primarily nitrogen and carbon dioxide) at a rapid rate to quickly inflate the air bag. Given the critical nature of the airbag system to human safety, the quality of gas generant pellets is closely controlled during the manufacturing and assembly process. If any of the strands touch the floor or do not meet specification during the manufacturing process, this material becomes unusable, a solid waste. Also, in the production of the inflators, occasionally unusable material is produced when gas generant is fully exposed to air for an excessive period of time, causing it to absorb too much moisture to guarantee the required lifetime of the inflators.

DSSA consists of one building with 90,000 square feet of manufacturing space. DSTA is comprised of three buildings with 66,000 square feet of manufacturing space. The facility operates three shifts, 24 hours per day, five days per week. The Ohio County Water District provides the facility with potable water and the Ohio County Wastewater District provides domestic sewage service. DSSA operates a wastewater treatment plant for wastewater generated from the laboratory operation, pellet manufacturing, and cleaning equipment. Treated effluent is land applied on-site.

DSSA was issued a RCRA operating permit (Permit Number KYR-000-034-207) by KYDEP to treat waste gas generant pellets (waste pellets) within the RCRA Subpart X permitted Pellet Treatment Unit (PTU) or "Cage Unit". The PTU is located on a 27 x 27-foot concrete pad. DSSA has determined waste pellets exhibit the hazardous waste characteristic of Ignitability and

Reactivity; EPA Hazardous Waste Codes D001 and D003. The four different waste streams are: Nitro guanidine (NQ) Pellets, NQ Strands, NQ Chunks, and NQ Dust. The ingredients in the gas generant materials include the following:

<u>Ingredients</u>	<u>CAS Number</u>
Nitro guanidine	556-88-7
Strontium Nitrate	10042-76-9
Japanese Acid Clay	1302-78-9
Sodium Carboxymethyl-cellulose	9004-32-4

Waste gas generant is stored in an explosive rated magazine prior to treatment. Gas generant is initiated with electricity. Ash is recovered and managed appropriately. Ash from NQ gas generant has an underlying hazardous constituent.

DSSA is permitted to treat 270 kilograms of NQ gas generant per day. Gas generant is stored in an explosive rated magazine prior to treatment. Gas generant managed as an off specification commercial chemical product for recovery of copper, is simply designated by DSSA as GB. DSSA was inspected as a RCRA permitted treatment facility and large quantity generator of hazardous waste.

10) **Opening Conference**

On March 21, 2022, EPA inspector Alan Newman, accompanied by KDEP inspectors Barbara Hankins and Leslie Carr-Poly, arrived at Daicel at approximately 1:40 p.m. C.S.T. Kimberly Dukes, the EHS Manager and James Greco, the EHS Safety Engineer, immediately received the inspectors. The inspectors introduced themselves, showed their credentials to Kimberly Dukes, and explained the purpose of the visit. The inspectors described the anticipated use of equipment (digital camera) during the inspection and provided a request for records. The inspectors discussed the company's ability, pursuant to 40 C.F.R. §2.203, to assert a business confidentiality claim for information submitted to EPA. The company asserted a business confidentiality claim regarding certain information; this information was not included in this report. The inspection participants also discussed health and safety protocols and required personal protective equipment before James Greco and Kimberly Dukes led the inspectors on a tour of the Facility operations.

Kimberly Dukes provided an overview of the facility's history and current operations during the opening conference. The company does not appear to meet the Small Business Regulatory Enforcement Fairness Act's classification of a "small business," which is generally set by the Small Business Administration using the business' SIC/NAICS code and annual receipts or number of employees. Therefore, the EPA inspector did not provide a copy of the agency's information sheet for small businesses, which can be found at <https://www.epa.gov/compliance/small-business-resources-information-sheet>.

11) **Findings**

- RCRA permitted Pellet Treatment Unit and Inflator Burn Units

Daicel operates the cage unit for treatment of generate and two propane inflator treatment units (Photos 1-6). These units were not in use on the day of the inspection due to anticipated rain. In order to initiate treatment, two buttons for two operators are required to be engaged at the same time. There was a small amount of ash noted underneath one of the inflators burn units. This ash is sent off site for metals recovery. There was no waste noted in the permitted pellet treatment unit on the day of the inspection.

- Magazine 3

Daicel utilizes Magazine 3 to store segregated waste NQ and waste GB staged for treatment (Photos 7-9). NQ waste is stored in plastic bags in open top, plastic-lined, gaylord boxes. GB waste is stored similarly to NQ waste and in boxes from Daicel's Arizona facility which are shipped to Kentucky for treatment. The plastic bags were labeled with the name of the waste type, the accumulation start date, and EPA waste codes but not with an indication of the hazard (Photo 8).

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17(a)(5)(i)], which is a condition of the LQG Permit Exemption, a generator must mark or label its containers with an indication of the hazards of the contents.

- Sea Containers

Daicel utilizes a Sea Container 2 to store NQ ash and Sea Container 1 to store GB ash. There was one drum of NQ ash being stored on the day of the inspection which was dated March 1, 2022. There were no containers of GB ash on the day of the inspection.

- Gas Generate Facility

Daicel accumulates waste from the gas generate production process in the waste room (Photo 10). On the day of the inspection there were two plastic-lined gaylord boxes of NQ Dry Scrap (D001, D003) and one container of GB Dry Scrap (copper containing waste). Instructions for labeling containers were included in this area. These containers were not labeled with an indication of the hazard. Daicel was storing multiple products in a flammable cabinet in this area (Photo 11). Daicel personnel stated that aerosol cans are managed as universal waste and that they puncture the cans, recover the contents, and recycle the metal cans as scrap metal.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17(a)(5)(i)], which is a condition of the LQG Permit Exemption, a generator must mark or label its containers with an indication of the hazards of the contents.

- Facilities Shop and Warehouse

The Facilities Shop was utilized to store parts and large equipment. The warehouse is used to store a one-day supply of products. Other products are stored in bunkered magazines elsewhere

on the property. Neither the Facility Shop nor the Warehouse were used to store wastes. Scrap metal is accumulated in a roll off in this area.

- **Booster Room**

Daicel was storing used oil in a red metal 30-gallon container on a secondary containment pallet (Photo 13). This container was in good condition labeled used oil. There was one Crystal-Clean parts washer used in this area for cleaning using a citrus non-hazardous solution. This solution is swapped out every three months. Daicel also utilizes an ultrasonic cleaner in this area. A 55-gallon red metal container of used oil was stored without being labeled; wall behind the container was labeled with the words “Used Oil” (Photo 12). There was one container of used oil in a portable secondary containment cart (Photo 14-15). The secondary containment cart was partially full of used oil. Daicel is required to remediate used oil that spills into secondary containment areas.

Pursuant to 401 KAR 39:080 Section 4(1) [40 C.F.R. § 279.22(c)(1)], containers and aboveground tanks used to store used oil at generator facilities must be labeled or marked clearly with the words “Used Oil.”

Pursuant to 401 KAR 39:080 Section 4(1) [40 C.F.R. § 279.22(d)], upon detection of a release of used oil to the environment, the facility must clean up and manage properly the released used oil and other materials.

- **Old Receiving**

There were one white 30-gallon plastic container and one black 55-gallon container accumulating intact universal waste aerosol cans dated September 21, 2021 and September 15, 2021, respectively (Photos 16-17). These containers were in good condition and closed. Daicel was storing live scrap in three 55-gallon red metal containers. One for driver live scrap, one for partial driver’s scrap, and one for LE scrap long. The lids of these containers were spring loaded and vented. These wastes were not determined to be hazardous (Photos 18-19). The inspection team recommends that these containers be more completely labeled as to their contents.

- **Compressor Room**

Daicel was storing used oil in a double-walled 200-gallon tank in the compressor room. This tank appeared to be in good condition and labeled (Photo 20). The inspection team noted a blue 55-gallon container with orange tape to restrain use (Photo 21). Daicel representatives stated that this container held isopropyl alcohol at a concentration too strong for use at this portion facility. This product was purchased and was unable to be returned during the Covid -19 pandemic. Facility personnel later stated that there were other areas of the facility that would be able to use this product as-is and had the container reassigned to another department. The inspection team noted one 55-gallon fiber container that was labeled as a hazardous waste that was accumulating broken universal waste lamps (Photos 22 and 24). This container was in good condition and labeled. A second fiber container accumulating intact universal waste lamps was next to the

container of broken lamps (Photo 22-23). This container was closed, labeled, and dated May 28, 2021.

The inspection team noted several rusted paint cans in the compressor room flammable cabinet. Daicel must make a hazardous waste determination on these wastes.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.11], a person who generates a solids waste as defined in 40 C.F.R. § 261.2, must determine if that waste is a hazardous waste.

- EHS building

Daicel collects used batteries and manages them as universal waste. On the day of the inspection the inspection team noted four 30-gallon fiber containers: one storing alkaline batteries, one storing lithium batteries, and two storing rechargeable batteries (Photo 25-26). Each container was labeled, and the three universal waste containers were each labeled with an accumulation start date of July 14, 2021. Daicel generates oily waters (non-hazardous) in their production activities from their wet saws. There were five 55-gallon containers on site on the day of the inspection.

- Assembly

In the D3 Assembly Area, Daicel accumulates NQ (White Propellant) (D003, D001) in a red 30-gallon foot operated metal container (Photos 27-28). This container was labeled, in good condition, and closed. Daicel also accumulates GB (Green Propellant) and initiator/enhancer scrap in this area (Photos 27, 29, 30). Daicel accumulates “used WD-40” (D001) in a black 55-gallon container near D7 assembly area (Photo 31-32). This container was closed, labeled, and in good condition.

Throughout the assembly area, Daicel operates multiple portable vacuum system units to clean production units (Photos 33-35). These vacuums are affixed with storage compartments that are being managed satellite accumulation containers. Although these compartments are labeled as hazardous waste they are not labeled with the indication of the hazard. At several locations in the Assembly area, Daicel was accumulating Live Scrap at production area end caps (Photo 36).

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.15(a)(5)], which is a condition of the SAA Permit Exemption, a generator is required to mark or label its containers (i) with the words “Hazardous Waste” and (ii) with an indication of the hazards of the contents.

- Record Review

The inspection team reviewed multiple records at the facility including manifests, inspections, training records, the contingency plan and quick reference guide, the RCRA permit and permit application, the waste minimization report, annual notifications of hazardous waste activity, and waste determinations.

Daicel underwent recent personnel changes and the coordinator list included in the contingency plan is not up to date with a list of names and emergency telephone numbers for all persons qualified to act as emergency coordinator. Daicel is in the process of updating the plan to reflect current staffing. Additionally, Daicel's quick reference guide (QRG) from the most recent contingency plan is outdated. Once revisions to the contingency plan are complete, a new QRG will need to be submitted; the QRG current facility map appears to not be drawn to scale and is recommended for updating. The inspection team noted that two employees did not have required RCRA training records. Daicel stated that each of these individuals were still in their first 6 months of employment. Daicel has not submitted copies of the 2021 annual report of the appropriate Kentucky county judge executive as required. Daicel stated that they were awaiting finalization of their annual report.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1 [40 C.F.R. § 262.261(d)], and is a condition of the LQG Permit Exemption, the contingency plan must include a list of names and emergency telephones number of all persons qualified to act as emergency coordinator.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1 [40 C.F.R. § 262.262(b and c)], and is a condition of the LQG Permit Exemption, a generator's quick reference guide to the contingency plan must be submitted to the local emergency responders and must be updated when necessary.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1 [40 C.F.R. § 262.263(d)], and is a condition of the LQG Permit Exemption, a generator is required to review and immediately amend its contingency plan whenever the list of emergency coordinators changes.

Pursuant to 401 KAR 39:080 Section 1(8)(b), annual reports must be sent to the appropriate kentucky county judge executives.

12) Closing Conference

The inspectors conducted the exit meeting at 3:00 pm with Kim Dukes and James Greco. During this meeting, the inspectors stated their preliminary conclusions of the inspection. Daicel agreed to provide a copy of the permit, the Letter of Credit, the cost estimate, the trust agreement, the liability insurance records, other financial assurance records, a copy of the most recent EPA inspection report from 2016. On March 22, 2022, and May 24, 2022, Kim Dukes provided all these records in emails to Alan Newman.

13) Inspection Findings

Based on the observations made during the inspection, Daicel was apparently deficient with the following RCRA requirements:

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.11], a person who generates a solids waste as defined in 40 C.F.R. § 261.2, must determine if that waste is a hazardous waste.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.15(a)(5)], which is a condition of the SAA Permit Exemption, a generator is required to mark or label its containers (ii) with an indication of the hazards of the contents.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17(a)(5)(i)], which is a condition of the LQG Permit Exemption, a generator must mark or label its containers with an indication of the hazards of the contents.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1 [40 C.F.R. § 262.261(d)], and is a condition of the LQG Permit Exemption, the contingency plan must include a list of names and emergency telephones number of all persons qualified to act as emergency coordinator.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1 [40 C.F.R. § 262.262(b and c)], and is a condition of the LQG Permit Exemption, a generator's quick reference guide to the contingency plan must be submitted to the local emergency responders and must be updated when necessary.

Pursuant to 401 KAR 39:080 Section 1 [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1 [40 C.F.R. § 262.263(d)], and is a condition of the LQG Permit Exemption, a generator is required to review and immediately amend its contingency plan whenever the list of emergency coordinators changes.

Pursuant to 401 KAR 39:080 Section 4(1) [40 C.F.R. § 279.22(c)(1)], containers and aboveground tanks used to store used oil at generator facilities must be labeled or marked clearly with the words "Used Oil."

Pursuant to 401 KAR 39:080 Section 4(1) [40 C.F.R. § 279.22(d)], upon detection of a release of used oil to the environment, the facility must clean up and manage properly the released used oil and other materials.

Pursuant to 401 KAR 39:080 Section 1(8)(b), annual reports must be sent to the appropriate Judge Executives.

14) List of Appendices

Appendix 1 – Photo Log:
36 Photos taken on: March 21-22, 2022
Photos taken by: Alan Newman, EPA
Photos taken with: Panasonic Lumix
EPA Property Tag: S75870

15) **Signed**

ALAN NEWMAN

Digitally signed by ALAN NEWMAN
Date: 2022.06.02 13:00:10 -04'00'

Alan Newman
Environmental Engineer

Date

Concurrence

ARACELI CHAVEZ

Digitally signed by ARACELI CHAVEZ
Date: 2022.06.03 07:40:43 -04'00'

Araceli B. Chavez
Chief
RCRA Enforcement Section

Date

Photographs

Photos taken on March 21-22, 2022

Photos taken by Alan Newman

Camera: Panasonic Lumix

Serial Number: S75870



Photo 1: Inflator Burn Unit



Photo 2: Inflator Burn Unit



Photo 3: RCRA Permitted Pellet Treatment Unit



Photo 4: RCRA Permitted Pellet Treatment Unit



Photo 5: Inflator Burn Unit



Photo 6: Inflator Burn Unit



Photo 7: Magazine 3.

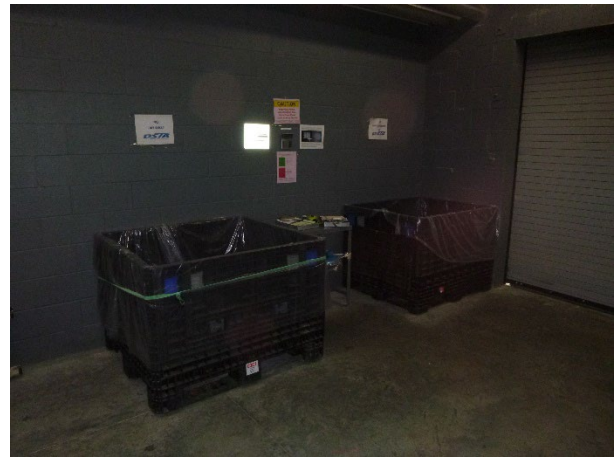


Photo 10: GG Waste Room.



Photo 8: Magazine 3.



Photo 11: Compressor Room.



Photo 9: Magazine 3.



Photo 12: Container of Used oil.



Photo 14: Used Oil containers.



Photo 13: Used Oil container.



Photo 15: CAA containers.



Photo 16: Universal Waste Aerosol Can accumulation container.



Photo 18: CAA containers.



Photo 17: Universal Waste Aerosol Can accumulation container.



Photo 19: CAA containers.



Photo 20: Used Oil Tank.



Photo 22: Hazardous Waste and Universal Waste lamp containers.



Photo 21: Isopropyl Alcohol Container.



Photo 23: Universal Waste lamp container.

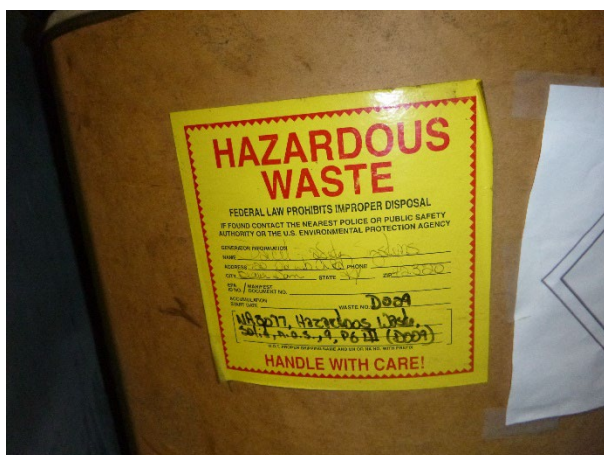


Photo 24: Hazardous Waste container for broken lamps.



Photo 27: Assembly SAA.



Photo 25: Universal waste batteries.



Photo 26: Universal waste batteries.



Photo 28: Assembly SAA.



Photo 29: Initiator/enhancer scrap.



Photo 30: Initiator/enhancer containers in Flammable cabinet.



Photo 31: SAA for WD-40.



Photo 32: SAA for WD-40.



Photo 33: Portable vacuum system.



Photo 35: Portable vacuum system.



Photo 36: Live Scrap initial Accumulation.



Photo 34: Portable vacuum system.