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HAZARDOUS WASTE INVENTORY AND DISPOSAL ASSESSMENT FOR THE SPACE SHUTTLE PROJECT

VOLUME I. INVENTORY

FINAL REPORT

*SCS ENGINEERS
4014 LONG BEACH BOULEVARD
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PREFACE

This report was prepared by SCS Consulting Engineers, Inc., Long Beach, California 90807. This Hazardous Waste inventory and Disposal Assessment was initiated by the Air Force to meet the requirements of the Resource Conservation and Recovery act of 1976 as amended in 40 CFR 261 & 264 May 19, 1980, and the California Administrative Code, title 22 Division 4. The report will be used as a reference document to the 1978 Space Shuttle Supplement 1. It will also be used for hazardous waste reporting to EPA/California, for hazardous waste management planning, and for engineering design concepts for the STS.

The report is in three volumes. Volume I is an inventory of hazardous wastes likely to be generated by the West Coast STS project. Volume II is an analysis of recycle, treatment, and disposal options for managing the projected STS Wastes. Volume III is an appendix with reference material for Volume II.

This work was accomplished between September 1980 and June 1981. Mr. John R. Edwards, Headquarters Space Division was the Project Officer.

This report has been reviewed by the office of Public Affairs (PA) and is releasable to the National Technical Information Service (NTIS). At the NTIS it will be available to the general public, including foreign nations.

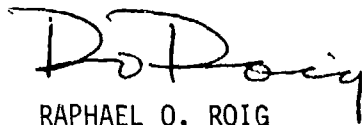
This report has been reviewed and is approved for publication.



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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The Space Shuttle Program (STS) at Vandenberg Air Force Base is expected to generate a variety of hazardous wastes during its years of operation, from 1985 through 1990. The purpose of this study was to compile a projected inventory of the types and quantities of hazardous waste likely to be generated by shuttle-related ground operations. This inventory will be used to assess waste management options, to complete EPA hazardous waste forms, and for preparing the supplement to the Environmental Impact Statement.			

20. (continued)

The inventory lists waste types; chemical constituents; baseline and contingency mass and volume per launch, for each year of the project, and per month for each year; EPA and California hazardous waste numbers and hazardous properties; and California compatibility class.

Total baseline waste generation for the STS project is anticipated to be 130 million kg. The greatest quantities of wastes are expected to be generated by Station Sets V23 and V32 (72 million kg and 54 million kg, respectively). Estimated total project waste generated under contingency conditions is 1.4 million kg. The only station sets identified as potential generators of contingency wastes are V19, V21, and V23. Station Set V23 is expected to generate approximately 84 percent by weight of all contingency wastes.

99.6 percent by weight of all hazardous waste will be in liquid form, principally originating from flame bucket quenching (55.9 percent) and SRB washing and rinsing (41.9 percent). The remaining 0.4 percent by weight of all hazardous waste is expected to be in solid state. Most solid waste will be generated by Station Sets V31 and V32.

Further breakdown of wastes into hazardous and acutely hazardous categories reveals that only 1.8 percent by weight of total hazardous waste is expected to exhibit acutely hazardous properties. Primary generators of acutely hazardous waste will be Station Sets V19, V23; V21, and V17.

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SECTION 1

EXECUTIVE SUMMARY

1. INTRODUCTION

The space shuttle program at Vandenberg Air Force Base is expected to generate a variety of hazardous wastes during its years of operation, from 1985 to 1994. The purpose of this report is to present an inventory of the expected types and quantities of waste to be generated by shuttle-related ground operations. The inventory provides estimates for:

- Types of wastes generated.
- Chemical constituents in each waste stream.
- Mass and/or volume of waste generated during scheduled ground operations (per launch cycle, per month per year, and project total).
- Mass and/or volume of waste generated under contingency conditions (per contingency event, per year, and project total).
- EPA and California hazardous waste numbers for each waste.
- EPA and California hazardous properties for each waste.
- California compatibility class for each waste.

The inventory will be used to assess waste management options (Volume II of this report), to complete EPA hazardous waste forms, and for preparing the supplement to the Environmental Impact Statement required for the Space Transportation System (STS) project.

2. HAZARDOUS WASTE REGULATIONS FOR GENERATORS

The U.S. Environmental Protection Agency (EPA) has developed a nationwide program to regulate hazardous wastes from generation to final disposal, through directives in the Resource Conservation and Recovery Act (RCRA) of 1976 (PL94-580). Under RCRA rules, Vandenberg Air Force Base (VAFB) is considered a generator of hazardous waste, and depending on its final waste management

plan, may also be considered as a storage, treatment, and/or disposal facility.

Regulations for generation of hazardous wastes are discussed in Volume I of this report. The primary responsibilities of the generator include:

- Identifying all hazardous wastes generated by the base and its tenants.
- Notifying EPA of hazardous activities within 90 days from the time that waste-generating activities commence.
- Obtaining an EPA generator's identification number.
- Preparing a hazardous waste manifest (in California, the California Hazardous Waste Manifest must be used).
- Properly containerizing and labeling waste and placarding transport vehicles.
- Reporting to California Department of Health Services:
 - Monthly (copies of manifests from the previous month)
 - Annually (submittal of completed EPA Annual Report Forms 8700-13 and 8700-13a).

Other requirements for generators include obtaining special permits for each shipment of extremely or acutely hazardous waste; and obtaining a permit if waste is to be stored by the generator for more than 60 days.

It is anticipated that by April 1981, California will receive interim authorization to administer its own hazardous waste program. At that time, the generator will be subject to all rules under California Administrative Code, Title 22. Until California receives final authorization, the generator must also comply with federal regulations authorized under RCRA.

3. SOURCES OF WASTE

A summary of the hazardous wastes generated over the duration of the STS project at VAFB is given in Tables 1, 2, and 3, monthly, yearly, and total project quantities, respectively, are reported for normal operations and contingency conditions.

TABLE 1. SUMMARY OF BASELINE MONTHLY HAZARDOUS WASTE GENERATION, 1985 - 1994

Monthly for 1985		Monthly for 1986		Monthly for 1987		Monthly for 1988-1994	
Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds
346,656.8	764,251.5	519,985.3	1,146,377.5	866,642.5	1,910,629.8	1,299,963.8	2,865,944.5

TABLE 2. SUMMARY OF BASELINE YEARLY HAZARDOUS WASTE GENERATION, 1985-1994

1985		1986		1987		Yearly for 1988-1994		Project Total	
Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds
4,159,882.0	9,171,018.0	6,239,824.0	13,756,530.0	10,399,710.0	22,927,556.0	15,599,566.0	34,391,336.0	129,996,350.0	286,594,408.0

TABLE 3. SUMMARY OF CONTINGENCY HAZARDOUS WASTE GENERATION, 1985-1994

1985		1986		1987		Yearly for 1988-1994		Project Total	
Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds
121,367.7	267,571.5	124,633.5	274,771.5	131,165.2	289,171.5	139,329.8	307,171.5	1,352,475.0	2,981,715.0

As shown in Table 2, total baseline waste generation for the STS project is anticipated to be 130 million kg (287 million lbs). Annual waste generation is estimated to range from 4.2 million kg/yr (9.2 million lbs/yr) for 1985, to 15.6 million kg/yr (34.5 million lbs/yr) for each of the years 1988 through 1994. This increase reflects changes in the number of launches per year from 4 to 15. Baseline waste generation for each year of the project is graphically represented in Figure 1.

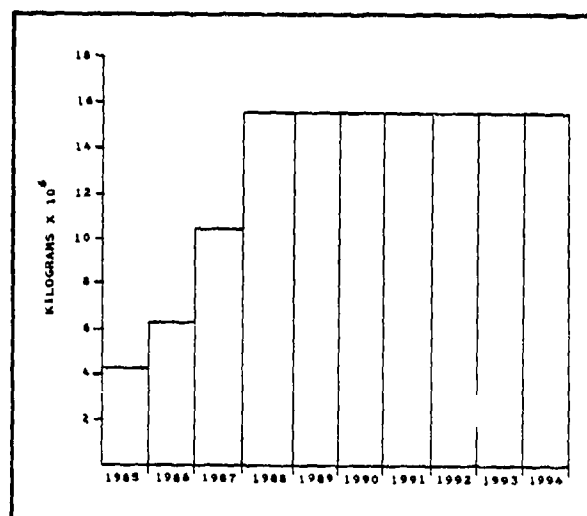


Figure 1. Baseline quantities of hazardous waste generated by STS ground operations at VAFB (reported for each year for the period 1985 through 1994).

The greatest quantities of wastes are expected to be generated by V23 (72 million kg; 160 million lbs for total project), followed by Station Set V32 (54 million kg; 120 million lbs for total project). This accounts for 97.5 percent by weight of all baseline hazardous waste generation. The combined waste generated by all other Station Sets is projected to be 2.5 orders of magnitude less by weight than waste generation at V23 and V32.

Expressed as percentages by weight (Figure 2), Station Set V23 is projected to generate 55.7 percent of the total under normal operating conditions; V32 approximately 41.8 percent; and V19 and V31, less than 1 percent each. The balance of these wastes (i.e., 0.9 percent) will be generated mainly by Station Sets V17 and V21.

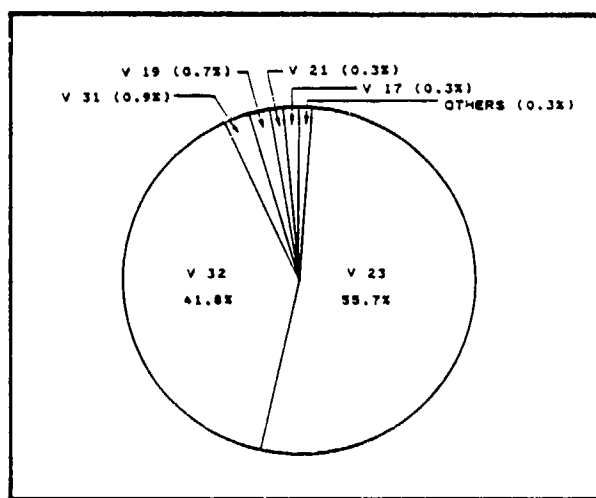


Figure 2. Baseline quantities of hazardous waste generated by STS ground operations at VAFB (reported by station set).

According to Table 3, estimated total project waste generated under contingency conditions is 1.4 million kg (3.0 million lbs). The only station sets identified to date as potential generators of contingency wastes are V19, V21, and V23 (Figure 3). Station set V23 will produce approximately 84 percent by weight of all contingency waste.

Investigations into the physical state of the hazardous wastes generated during normal operations indicate that the majority of wastes are in a liquid state (Figure 4a). Major sources of liquid hazardous wastes, as shown in Figure 4c, are expected to be produced during normal ground operations at Station Sets V23 (55.9 percent) and V32 (41.9 percent). Other station sets each produce less than 1 percent of total liquid wastes. In summary, 99.6 percent by weight (1.0 million kg; 2.3 million lbs) of all the hazardous wastes will be in a liquid form (Figure 4a). This translates to 92.7 percent on a volumetric basis.

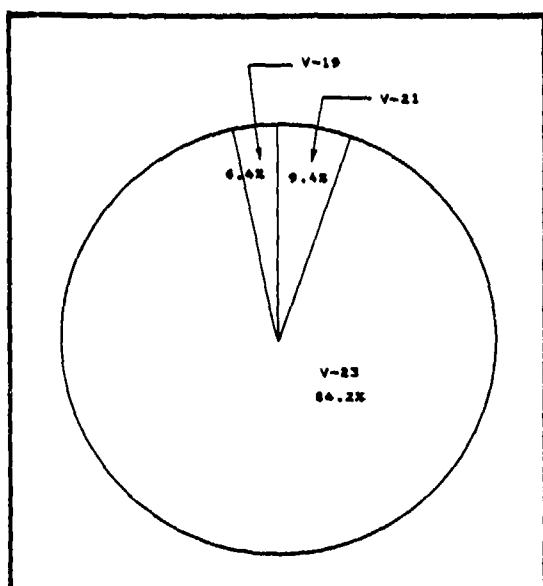


Figure 3. Contingency waste generated by STS ground operations at VAFB (Station Sets V19, V21 and V23).

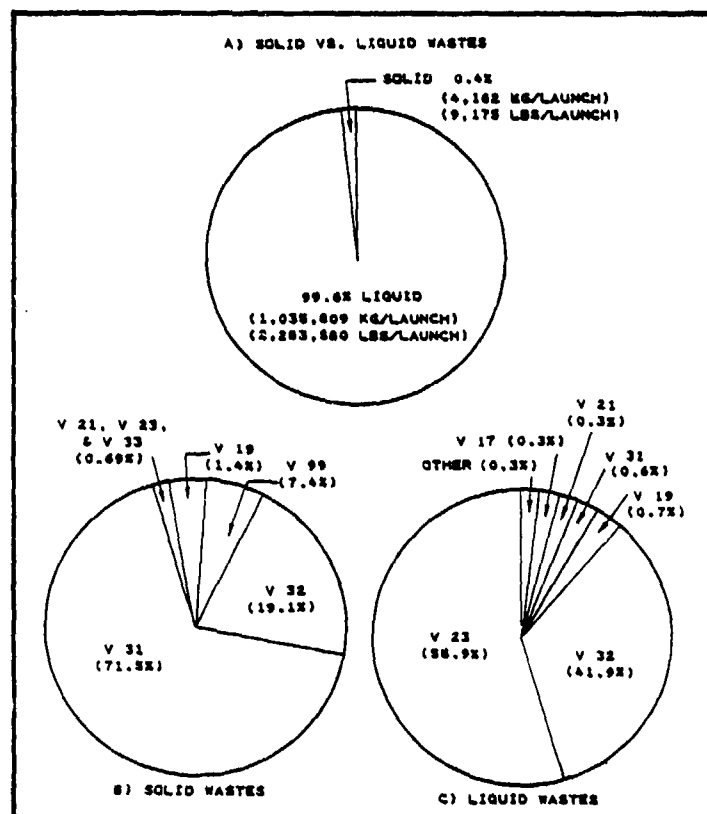


Figure 4. Physical state of hazardous waste generated by STS ground operations at VAFB under baseline conditions (reported by station set).

Only 0.4 percent by weight (7.3 percent by volume) of all hazardous wastes are expected to be in a solid state (Figure 4a). Most solid waste will be produced by Station Set V31 (71.5 percent) and Station Set V32 (19.1 percent) as shown in Figure 4b. Solid waste generation by all other station sets is less than 10 percent of total solids.

4. MAJOR TYPES OF WASTES GENERATED

Waste categories generated in the largest quantities are expected to be:

- Quench water (QW).
- SRB wash water (SB).
- Insulation wastewater (or "suprawater") (IW).
- SRB initial rinse (SI).
- Contaminated seawater (CS).
- Nonaqueous solvent wastes (SO).
- EEW&S wastewater (EW).
- Fuel spill cleanup wastes (FS).
- Hydrazine scrubber effluent (HS).

These wastes are estimated to constitute 99.4 percent by weight of total waste generation (129 million kg; 284 million lbs). The QW is projected to be the most predominant waste type,

followed by SB and IW wastes. As shown in Figure 5a, these three waste types constitute 54.6, 20.4, and 17.8 percent by weight, respectively, of the total quantity of wastes generated by the major waste categories. Other major waste categories produce 7.2 percent of the total waste. The remaining 0.6 percent of waste is associated with the following minor categories (Figure 5b):

- Adhesive wastes (AW).
- Batteries (BA).
- Contaminated air filters (CA).
- Catalytic bed wash water (CB).
- Containers (CN).
- Contaminated rags (CR).
- Hydraulic fluids (HF).
- Hydrazine (HY).
- Insulation wastes, solid (IN).
- Monomethyl hydrazine (MH).
- Ammonia or ammonia wastewater (NH).
- Nitrogen tetroxide (NO).
- Oxidizer spill cleanup (OS).
- Paint wastes (PA).
- Paint wastewaters (PW).
- Solvent reducer wastes (SR).
- Solvent wastewaters (SW).
- Worn-out parts (WP).

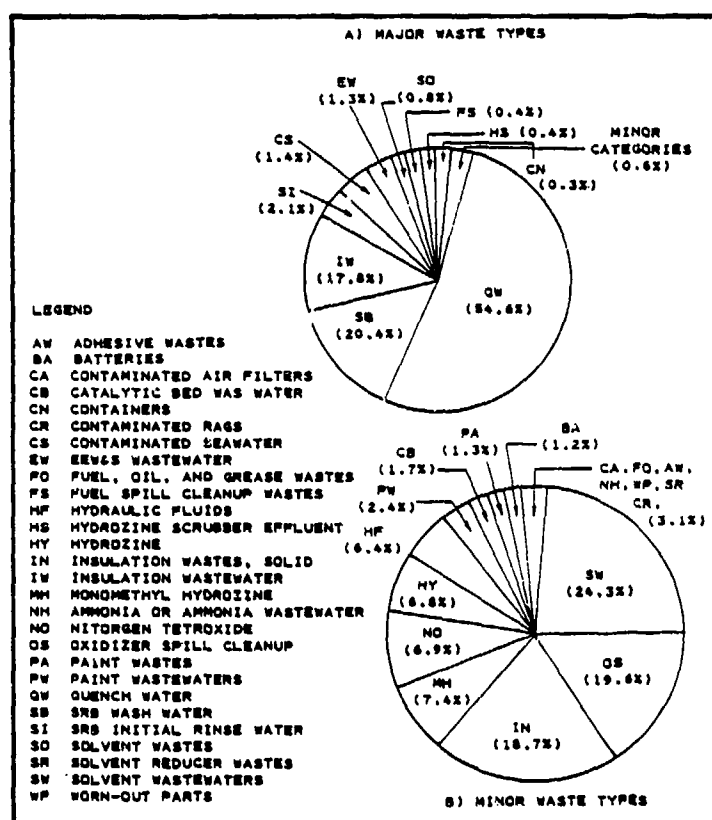


Figure 5. Hazardous waste generated under baseline conditions, by waste type.

The first three minor categories are expected to jointly contribute over 60 percent by weight to the 0.6 percent of minor wastes.

5. HAZARDOUS AND ACUTELY HAZARDOUS WASTES

Further breakdown of wastes into hazardous and acutely hazardous categories reveals that only 1.8 percent by weight of total hazardous wastes are expected to exhibit acutely hazardous properties (Figure 6a). Primary generators of acutely hazardous waste will be Station Sets V19 (37.0 percent), V23 (25.8 percent), V21 (18.2 percent), and V17 (14.9 percent) (Figure 6b). The remaining 4.1 percent is expected to be generated by Station Sets V31 and V32 (3.3 and 0.8 percent, respectively) (Figure 15b). As shown in Figure 7, most of the hazardous wastes generated by Station Sets V17, V19 and V21 are expected to exhibit acutely hazardous properties.

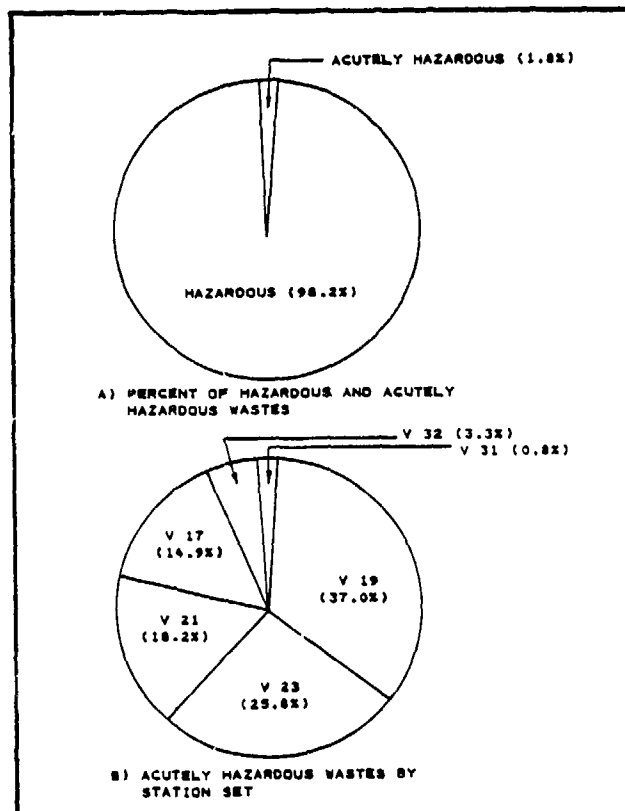


Figure 6. Hazardous and acutely hazardous waste generation under baseline conditions.

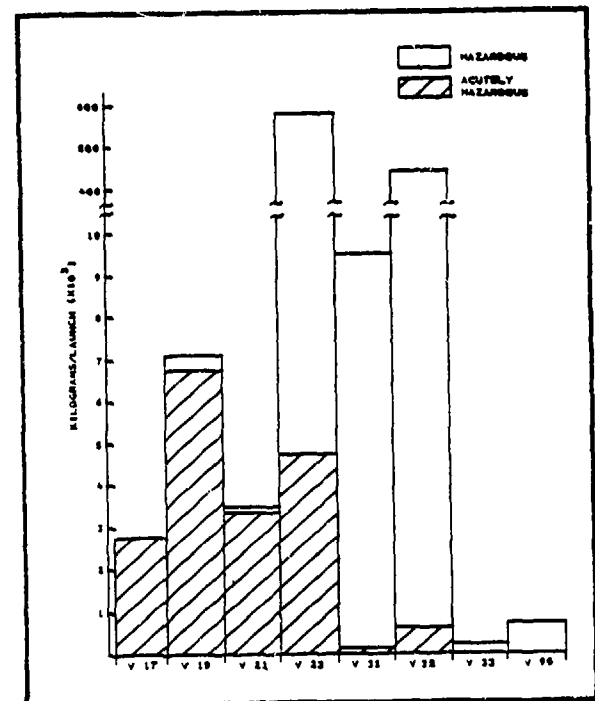


Figure 7. Comparison of hazardous and acutely hazardous waste generation under baseline conditions (reported by station set on a per launch basis).

Generation rates for hazardous and acutely hazardous wastes are provided in Tables 4 and 5. Total projected baseline quantities of hazardous and acutely hazardous waste per launch are 1.0 million kg (2.2 million lb) and 0.02 million kg (0.04 million lb), respectively (Table 4). Consequently, the projected cumulative generation of these wastes for the period 1985 through 1994 is expected to be 128 million kg (282 million lb) and 2.3 million kg (5.1 million lb), respectively (Table 5).

TABLE 4. SUMMARY OF HAZARDOUS AND ACUTELY HAZARDOUS WASTE GENERATION PER MONTH, 1985-1994

	Per Launch		1985 Monthly		1986 Monthly		1987 Monthly		1988-1994 Monthly	
	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds
Acutely Hazardous Wastes	18,333.3	40,418.3	6,111.1	13,472.8	9,166.7	20,209.2	15,277.8	33,681.9	22,916.7	50,522.9
Hazardous Wastes	1,021,637.3	2,252,336.7	340,545.7	750,778.7	510,818.6	1,126,168.3	851,365.7	1,876,947.9	1,277,047.1	2,815,421.6
TOTAL	1,039,970.6	2,292,755.0	346,656.8	764,251.5	519,985.3	1,146,377.5	866,642.5	1,910,629.8	1,299,963.8	2,865,944.5

TABLE 5. SUMMARY OF HAZARDOUS AND ACUTELY HAZARDOUS WASTE GENERATION PER YEAR, 1985-1994

	1985		1986		1987		1988-1994 (per year)		Total for Project	
	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds
Acutely Hazardous Wastes	73,333.4	161,673.2	110,000.0	242,509.8	183,333.4	404,183.0	275,000.1	606,274.5	2,291,667.1	5,052,287.5
Hazardous Wastes	4,086,548.6	9,009,314.8	6,129,824.0	13,514,020.2	10,216,376.6	22,523,373.0	15,324,566.9	33,705,092.5	127,704,636.9	281,542,017.5
TOTAL	4,159,882.0	9,171,018.0	6,239,824.0	13,756,530.0	10,399,710.0	22,927,556.0	15,599,566.0	34,391,366.0	129,996,304.0	286,594,304.0

SECTION 2

FEDERAL AND STATE REGULATIONS FOR HAZARDOUS WASTE GENERATORS

The U.S. Environmental Protection Agency (EPA) has developed a nationwide program to regulate hazardous wastes from generation to final disposal, through directives in the Resource Conservation and Recovery Act (RCRA) of 1976 (PL94-580). These regulations are not industry-specific; all industries, including Department of Defense (DOD) facilities, which generate, store, transport, treat, or dispose of hazardous wastes, are affected by RCRA and must comply with the same set of rules. Vandenberg Air Force Base (VAFB) is considered a generator of hazardous waste, and, depending on its final waste management plan, may also be considered as a storage, treatment, and/or disposal facility.

This section provides a comparison between federal (RCRA) and California (Title 22) hazardous waste regulations. Responsibilities of the hazardous waste generator are also discussed, and include RCRA requirements as well as additional requirements imposed by Title 22. Requirements for transporters and for owners and operators of storage, treatment, and disposal facilities are presented in Volume II. It is important to note that the requirements discussed in this report reflect regulations on the record as of December 1980. Many changes in both state and federal hazardous waste regulations are anticipated for 1981.

The major provisions under RCRA for controlling hazardous wastes are:

- 40 CFR Part 260: Definitions used in other parts corresponding to Sections 3001 through 3004 RCRA rules, and general provisions applicable to these parts (FR date 5/19/80, Part II).
- 40 CFR Part 261: Section 3001: Identification and listing of hazardous waste (FR date 5/19/80, Part III).
- 40 CFR Part 262: Section 3002: Standards applicable to generators of hazardous waste, including manifest system, recordkeeping, and reporting (FR date 5/19/80, Part V).
- 40 CFR Part 263: Section 3003: Standards applicable to transporters of hazardous waste, including manifest system, recordkeeping, and reporting (FR date 5/19/80, Part VI).

- 40 CFR Part 264: Section 3004: Standards applicable to owners and operators of hazardous waste treatment, storage, and disposal facilities, including manifest system, recordkeeping, and reporting (FR date 5/19/80, Part VII).
- 40 CFR Part 265: Section 3004: Interim status standards applicable to owners and operators of hazardous waste treatment, storage, and disposal facilities (FR date 5/19/80, Part VII).
- 40 CFR Parts 122 and 124: Section 3005: Permits for treatment, storage, and disposal of hazardous waste (FR date 5/19/80, Part X).
- 40 CFR Part 123: Section 3006: Guidelines for authorized state hazardous waste programs (FR date 5/19/80, Part X).
- Section 3010: Preliminary notification of hazardous waste activity (FR date 2/26/80).

Section 3006 of RCRA provides for individual states to operate their own hazardous waste programs (HWP) in lieu of the federal program. Title 40 CFR, Part 123, establishes minimum requirements which state HWP's must meet in order to receive EPA approval. The State of California Department of Health Services (CDHS) and the State Water Resources Control Board have applied for interim authorization (Phase I) to administer a state HWP. It is anticipated that interim authorization will be granted by April 1981. With interim authorization, California can operate its own HWP for 2 years after the effective date of the federal regulations. Final or full authorization will be granted if California's HWP is determined by EPA to be equivalent to and consistent with the federal program. The California HWP could be fully authorized by the November 1983 deadline, 2 years prior to the first space shuttle launch at VAFB. For the present, California waste generators must meet both current California Title 22 and RCRA standards (by the time California is granted full authorization, all applicable RCRA regulations will have been incorporated into Title 22). DOD facilities operating in California must, by executive order, comply with all California laws. Milestone events for implementing the California HWP are as follows (5):

- 1981 Program interim authorization will be received; electronic data processing system will be operational; statewide surveys of hazardous waste production will be completed.
- 1981 Hazardous waste recycling clearinghouse will match waste producers with potential markets for wastes; technical information center will provide rapid response to emergencies, and provide information

about waste characteristics, treatment, methods, etc.

1982 Full staff will be "on board," and the state HWP plan will be completed.

1983 All qualified hazardous waste facilities will be under permit.

Although federal requirements will not preempt California law, they will impose a second layer of control on California generators and handlers of hazardous waste who must comply with the most restrictive standard, whether federal or state. For example, states may not preempt federal regulations by imposing any requirement that might interfere with the free movement of hazardous wastes across state boundaries to treatment, storage, or disposal facilities holding an RCRA permit. An outline comparing the fundamental differences between EPA and CDHS regulations for generators of hazardous wastes is presented in Table 6.

Responsibilities of Generators

In order to comply with both EPA and California regulations, a California generator will have the following duties and obligations:

Identifying Hazardous Wastes--It must first be determined if a waste meets the hazardous waste criteria as defined in the RCRA (40 CFR 261) and/or the California Administrative Code (CAC), Title 22. Any solid waste (see glossary definition of a solid waste) is considered hazardous if it is flammable, corrosive, toxic, reactive, irritating, a strong sensitizer, or exhibits EP toxicity. The definitions of these hazardous characteristics are found in 40 CFR 261, Subpart C, and in CAC Title 22. A detailed explanation of these characteristics is found in Appendices B and C. Federal regulations also identify specific wastes considered to be acutely hazardous (40 CFR 261, Subpart D). Similar, but not identical, to the EPA listing are the extremely hazardous wastes identified in CAC Title 22. Eventually, the California rules will include all of EPA's listed wastes, and perhaps additional wastes which the state considers hazardous. For the present, all wastes listed by EPA and the State of California must be manifested. However, EPA annual reports require only EPA-listed wastes.

If a waste is unlisted, a generator may choose to test the suspected waste to determine whether or not it is hazardous, or may declare the waste to be hazardous without testing, based on a knowledge of its hazardous properties (45 FR 262.11). Test protocols are published in Test Methods for Evaluating Solid Waste, USEPA Office of Water and Waste Management, SW-846, 1980.

Small-Quantity Generator Exceptions--Under the EPA regulations, small waste generators (i.e., <1,000 kg/mo hazardous

TABLE 6. COMPARISON OF FEDERAL AND CALIFORNIA REGULATIONS FOR GENERATORS OF HAZARDOUS WASTES SHIPPING TO AN OFF-SITE TREATMENT, STORAGE, OR DISPOSAL FACILITY (41)

Federal	State
Determine if waste is hazardous as defined in 40 CRF, Part 261.	Determine if waste is hazardous as defined in Cal. Ad., Title 22, Div. 4.
Obtain EPA Identification Number (ID#).	--
Obtain EPA Facility Permit if waste has accumulated on generators property for more than 90 days.	Obtain Facilities Permit from CDHS if waste has been stored on property for more than 60 days.
Use proper containers and label properly.	Same
Prepare EPA-specified transport manifest (California Liquid Waste Haulers Manifest permissible for use during interim period).	Must use California Liquid Waste Haulers Manifest (EPA data will be included in future); manifest will eventually be consistent with EPA requirements.
Ship hazardous waste only by a transporter with an EPA identification number.	Ship hazardous waste <u>only</u> with a transporter permitted by CDHS.
Make sure that waste arrives at designated facility.	Same
Submit annual summary of waste disposal activities (Annual Report) and file 45-day Exception Reports for missing manifests to EPA Regional Administrator.	Send copies of all Hazardous Waste Manifests to CDHS every 30 days. Must also report to EPA Region IX annually and make 45-day Exception Reports for missing manifests.
Must keep manifests, annual reports, exception reports, and test results for a period of 3 years.	Reports on hazardous waste activities must be kept for a period of not less than 1 year.

waste; <1 kg/mo acutely hazardous waste) are exempt from record-keeping/manifest requirements (45 FR 261.5). California regulations are more stringent, allowing no exemptions. Even if the generator would qualify as a small generator under RCRA, no exemption would be allowed under California law. California does provide a variance for small quantities or low concentrations. Exact quantities and concentrations are not specified, but the general description states insignificance as a potential hazard to human health, domestic livestock, or wildlife. EPA plans to amend the small generator exceptions over the next 2 to 5 years, possibly reducing the present limit for hazardous wastes from 1,000 to 100 kg/mo. The limit for acutely hazardous waste is not expected to change.

Notification of Hazardous Activities--Within 90 days from the time that operations at the space shuttle facility commence, and before any waste can be transported, the generator will be required to notify the EPA Region IX Administrator and apply for an EPA identification number (45 FR, Part 262.12; 45 FR, Page 12746). If the generator also plans to own/operate facilities for treatment, storage, or disposal of hazardous waste, it may file a single form to cover all activities that occur on the base. There are stiff penalties for failing to notify EPA, including suspension of all operations.

Transportation of Hazardous Wastes--The generator has two options available if hazardous waste is to be transported off site. They may contract with a state-licensed commercial hauler, or transport waste themselves, in which case they must obtain an EPA Transporter's Identification Number (45 FR 263.11) and a California Registered Hazardous Waste Hauler's Permit (CAC Title 22). In addition, they must comply with all applicable EPA (40 CFR 263.11 and 263.31) and Department of Transportation (Hazardous Materials Transportation Act, 49 CFR Parts 171 through 179) regulations. A generator must insure that the hazardous waste is properly containerized and labeled, and that trucks are placarded in accordance with EPA (40 CFR Part 262.30) and DOT (49 CFR Parts 171 through 179) regulations controlling the transportation of hazardous materials.

Hazardous Waste Manifest--Before shipping any hazardous wastes, a generator must prepare the California Hazardous Waste Manifest. Figure 8 presents the new California Hazardous Waste Manifest, which has been developed to insure that California hazardous waste generators, transporters, and facility operators will be in conformance with both the requirements of the new federal hazardous waste regulations adopted pursuant to RCRA, and the requirements of state law. The new manifest will replace the current California Liquid Waste Hauler Record or hazardous waste manifest.

As has been the practice in the past, transporters are expected to print their own manifests. Each manifest will have a unique serial number, as described in Item 1 of "Instructions for

SEE REVERSE SIDES FOR
INSTRUCTIONS PLEASE TYPE
OR PRINT CLEARLY

PRESS HARD

GENERATOR (GENERATOR MUST COMPLETE)

① NAME _____
EPA NO. _____
ADDRESS _____
CITY STATE ZIP CODE _____
PHONE NO. _____
ORDER PLACED BY _____
DATE _____

CALIFORNIA HAZARDOUS WASTE MANIFEST
STATE DEPARTMENT OF HEALTH SERVICES
HAZARDOUS MATERIALS MANAGEMENT SECTION
1447 P STREET, SACRAMENTO, CA 95814

① MANIFEST
NUMBER

② DESIGNATED TSD FACILITY

NAME _____
EPA NO. _____
ADDRESS _____
CITY STATE ZIP CODE _____
PHONE NO. _____

③ ALTERNATE TSD FACILITY
AUTHORIZED TO OPERATE UNDER AN APPROVED STATE OR FEDERAL PROGRAM

NAME _____
EPA NO. _____
ADDRESS _____
CITY STATE ZIP CODE _____
PHONE NO. _____

U.S. DOT PROPER SHIPPING NAME	U.S. DOT HAZARD CLASS	U.S. DOT HAZARD ID NO.	U.S. DOT VOLUME	UNITS	CONTAINERS	HAZARDOUS	DRUMS	BAGS	OTHER	CARTONS	DUMP TRUCK
WASTE											
WASTE											

④ WASTE CATEGORY _____ EX. HAZ. WASTE PERMIT NO. _____

⑤ LIST COMPONENTS: _____

⑥ WASTE PROPERTIES: _____

⑦ PHYSICAL STATE: _____

⑧ SPECIAL HANDLING INSTRUCTIONS: _____

⑨ GENERATING PROCESS: _____

⑩ HANDLING OR DISPOSAL METHOD: _____

GENERATOR CERTIFICATION: THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED & LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION AND THE EPA.

IN THE EVENT OF A SPILL CONTACT THE NATIONAL RESPONSE CENTER U.S. COAST GUARD 1-800-424-8802

TRANSPORTER (HAULER MUST COMPLETE)

① NAME _____
EPA NO. _____
ADDRESS _____
CITY STATE ZIP CODE _____
PHONE NO. _____

② PICK UP DATE _____ TIME _____

③ JOB NO. _____ UNIT NO. _____

TSD FACILITY (OPERATOR MUST COMPLETE)

① NAME _____
EPA NO. _____
ADDRESS _____
CITY STATE ZIP CODE _____
PHONE NO. _____

② QUANTITY OF RECEIVED _____
③ STATE FEE (IF ANY) \$ _____

④ INDICATE ANY SIGNIFICANT DISCREPANCIES BETWEEN MANIFEST AND SHIPMENT _____

⑤ IF WASTE IS HELD FOR DELIVERY ELSEWHERE, SPECIFY THE DESIGNATED TSD FACILITY _____

NAME _____
EPA NO. _____
DATE RECEIVED _____

Figure 8. California hazardous waste manifest form.

INSTRUCTIONS FOR COMPLETING MANIFEST

Conclusion

- Before filing and the mandate, a unique recipient serial number shall be written or printed on the manifest. (Refer to TRANSPORTER Item 3 below)
- Item 1
- Item 2
- Item 3
- Item 4
- Item 5
- Item 6
- Item 7
- Item 8
- Item 9
- Item 10
- Item 11
- Item 12
- Item 13
- Item 14
- Item 15
- Item 16
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- Item 18
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- Item 415
- Item 416
- Item 417

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|----|----------------|----|------------------|----|-------------|------|------------------|-----|------------------|
| 1 | Adult patients | 15 | Brain tumor | 33 | ECG, normal | 49 | not investigated | 65 | Primary melanoma |
| 2 | Brain tumor | 16 | Stroke | 34 | ECG, normal | 50 | not investigated | 66 | Primary melanoma |
| 3 | Adenoma | 17 | Brain tumor, PCB | 35 | ECG, normal | 51 | ECG, normal | 67 | Primary melanoma |
| 4 | Adenoma | 18 | Brain tumor, PCB | 36 | ECG, normal | 52 | ECG, normal | 68 | Primary melanoma |
| 5 | Adenoma | 19 | Brain tumor, PCB | 37 | ECG, normal | 53 | ECG, normal | 69 | Primary melanoma |
| 6 | Adenoma | 20 | Brain tumor, PCB | 38 | ECG, normal | 54 | ECG, normal | 70 | Primary melanoma |
| 7 | Adenoma | 21 | Brain tumor, PCB | 39 | ECG, normal | 55 | ECG, normal | 71 | Primary melanoma |
| 8 | Adenoma | 22 | Brain tumor, PCB | 40 | ECG, normal | 56 | ECG, normal | 72 | Primary melanoma |
| 9 | Adenoma | 23 | Brain tumor, PCB | 41 | ECG, normal | 57 | ECG, normal | 73 | Primary melanoma |
| 10 | Adenoma | 24 | Brain tumor, PCB | 42 | ECG, normal | 58 | ECG, normal | 74 | Primary melanoma |
| 11 | Adenoma | 25 | Brain tumor, PCB | 43 | ECG, normal | 59 | ECG, normal | 75 | Primary melanoma |
| 12 | Adenoma | 26 | Brain tumor, PCB | 44 | ECG, normal | 60 | ECG, normal | 76 | Primary melanoma |
| 13 | Adenoma | 27 | Brain tumor, PCB | 45 | ECG, normal | 61 | ECG, normal | 77 | Primary melanoma |
| 14 | Adenoma | 28 | Brain tumor, PCB | 46 | ECG, normal | 62 | ECG, normal | 78 | Primary melanoma |
| 15 | Adenoma | 29 | Brain tumor, PCB | 47 | ECG, normal | 63 | ECG, normal | 79 | Primary melanoma |
| 16 | Adenoma | 30 | Brain tumor, PCB | 48 | ECG, normal | 64 | ECG, normal | 80 | Primary melanoma |
| 17 | Adenoma | 31 | Brain tumor, PCB | 49 | ECG, normal | 65 | ECG, normal | 81 | Primary melanoma |
| 18 | Adenoma | 32 | Brain tumor, PCB | 50 | ECG, normal | 66 | ECG, normal | 82 | Primary melanoma |
| 19 | Adenoma | 33 | Brain tumor, PCB | 51 | ECG, normal | 67 | ECG, normal | 83 | Primary melanoma |
| 20 | Adenoma | 34 | Brain tumor, PCB | 52 | ECG, normal | 68 | ECG, normal | 84 | Primary melanoma |
| 21 | Adenoma | 35 | Brain tumor, PCB | 53 | ECG, normal | 69 | ECG, normal | 85 | Primary melanoma |
| 22 | Adenoma | 36 | Brain tumor, PCB | 54 | ECG, normal | 70 | ECG, normal | 86 | Primary melanoma |
| 23 | Adenoma | 37 | Brain tumor, PCB | 55 | ECG, normal | 71 | ECG, normal | 87 | Primary melanoma |
| 24 | Adenoma | 38 | Brain tumor, PCB | 56 | ECG, normal | 72 | ECG, normal | 88 | Primary melanoma |
| 25 | Adenoma | 39 | Brain tumor, PCB | 57 | ECG, normal | 73 | ECG, normal | 89 | Primary melanoma |
| 26 | Adenoma | 40 | Brain tumor, PCB | 58 | ECG, normal | 74 | ECG, normal | 90 | Primary melanoma |
| 27 | Adenoma | 41 | Brain tumor, PCB | 59 | ECG, normal | 75 | ECG, normal | 91 | Primary melanoma |
| 28 | Adenoma | 42 | Brain tumor, PCB | 60 | ECG, normal | 76 | ECG, normal | 92 | Primary melanoma |
| 29 | Adenoma | 43 | Brain tumor, PCB | 61 | ECG, normal | 77 | ECG, normal | 93 | Primary melanoma |
| 30 | Adenoma | 44 | Brain tumor, PCB | 62 | ECG, normal | 78 | ECG, normal | 94 | Primary melanoma |
| 31 | Adenoma | 45 | Brain tumor, PCB | 63 | ECG, normal | 79 | ECG, normal | 95 | Primary melanoma |
| 32 | Adenoma | 46 | Brain tumor, PCB | 64 | ECG, normal | 80 | ECG, normal | 96 | Primary melanoma |
| 33 | Adenoma | 47 | Brain tumor, PCB | 65 | ECG, normal | 81 | ECG, normal | 97 | Primary melanoma |
| 34 | Adenoma | 48 | Brain tumor, PCB | 66 | ECG, normal | 82 | ECG, normal | 98 | Primary melanoma |
| 35 | Adenoma | 49 | Brain tumor, PCB | 67 | ECG, normal | 83 | ECG, normal | 99 | Primary melanoma |
| 36 | Adenoma | 50 | Brain tumor, PCB | 68 | ECG, normal | 84 | ECG, normal | 100 | Primary melanoma |
| 37 | Adenoma | 51 | Brain tumor, PCB | 69 | ECG, normal | 85 | ECG, normal | | |
| 38 | Adenoma | 52 | Brain tumor, PCB | 70 | ECG, normal | 86 | ECG, normal | | |
| 39 | Adenoma | 53 | Brain tumor, PCB | 71 | ECG, normal | 87 | ECG, normal | | |
| 40 | Adenoma | 54 | Brain tumor, PCB | 72 | ECG, normal | 88 | ECG, normal | | |
| 41 | Adenoma | 55 | Brain tumor, PCB | 73 | ECG, normal | 89 | ECG, normal | | |
| 42 | Adenoma | 56 | Brain tumor, PCB | 74 | ECG, normal | 90 | ECG, normal | | |
| 43 | Adenoma | 57 | Brain tumor, PCB | 75 | ECG, normal | 91 | ECG, normal | | |
| 44 | Adenoma | 58 | Brain tumor, PCB | 76 | ECG, normal | 92 | ECG, normal | | |
| 45 | Adenoma | 59 | Brain tumor, PCB | 77 | ECG, normal | 93 | ECG, normal | | |
| 46 | Adenoma | 60 | Brain tumor, PCB | 78 | ECG, normal | 94 | ECG, normal | | |
| 47 | Adenoma | 61 | Brain tumor, PCB | 79 | ECG, normal | 95 | ECG, normal | | |
| 48 | Adenoma | 62 | Brain tumor, PCB | 80 | ECG, normal | 96 | ECG, normal | | |
| 49 | Adenoma | 63 | Brain tumor, PCB | 81 | ECG, normal | 97 | ECG, normal | | |
| 50 | Adenoma | 64 | Brain tumor, PCB | 82 | ECG, normal | 98 | ECG, normal | | |
| 51 | Adenoma | 65 | Brain tumor, PCB | 83 | ECG, normal | 99</ | | | |

- [illegible]

TRANSPORTATION

1. Provide the serial number of the manifest. The first three digits shall be your State tax authority's office number. The last six digits may be any convenient combination of digits to signify your office or warehouse. (For example, if your registration number is 800, the number you use should read 800 010100.) The complete manifest number shall be stamped on the manifest by the State tax authority. (For example, if your registration number is 800, the number you use should read 800 010100 on May 21, 1991, it should read 800 010100 after June 1, 1993.)
2. Enter company name, address, and telephone number.
3. Indicate the date and exact time the waste was removed from the generator's facility.
4. Sign the manifest upon receipt of the shipment.

801 W 320 X 11 H 3/4 J 65/2

- Section 17** Provide the TSD facility name and EPA ID number.
- Section 18** If the facility is regulated as a manifestor of the TSD facility, indicate the quantity of the waste in respect to the total (e.g., surface impoundment, landfill, incineration unit, or land treatment unit), the State hazardous waste fee must be sent to DONS. Indicate the fee in Item 19.
- Section 19** If the waste is shipped to the land (e.g., surface impoundment, landfill, incineration unit, or land treatment unit), the State hazardous waste fee must be sent to DONS. Indicate the fee in Item 19.
- Section 20** Write in any descriptions noted between the manifest information requested by the generator or transporter, and add found when the shipment was delivered to the facility. If samples, add reference quantity or character of waste, container type, vehicle type). Some significant descriptions are described in 40CFR 264.12.
- Section 21** Check the box(es) to indicate the methods used to handle or dispose of the waste at the hazardous waste facility. If the waste is treated prior to, or instead of, land disposal, write in the treatment method (e.g., incineration, neutralization, stabilization).
- Section 22** If the waste is held at the facility prior to eventual shipment for treatment, storage or disposal, provide the name of the designated land TSD facility, and its EPA ID number. In each case, give the facility's location (state and county), shall list a new manifest number indicating your facility is the generator of the waste and describing all waste in the shipment. Attach copies of all original manifests associated with the original waste shipments accepted by you shall be attached to the manifest.
- Section 23** Sign the manifest, provide your title within the organization and indicate the date that the shipment was accepted at your facility.
- Section 24** The facility operator shall send a copy of the completed manifest to the DONS on a monthly basis or at otherwise required. It is also an accepted manifest to DONS with copies of all original manifests mailed to it. Attach all such manifest to DONS with copies of all original manifests mailed to it.
- Section 25** The facility operator shall send only one set of copies to DONS to verify the manifest information requirements for generators and TSD facility operators.

Distribution of Manifest Copies:

Copy Number 1 (original)	TSDF bags (send photocopy to DODH)
Copy Number 2	To Transporter after signed by TSDF
Copy Number 3	To Generator from TSDF
Copy Number 4	Generate bags after signed by Transporter (send photocopy to DODH)

TO INSURE LEGIBLE COPIES USE ONLY BLACK CARBON INSERTS OR BLACK PRINT CARBONLESS TRANSFER PAPER.

Figure 8 (continued).

Completing Manifest" (see Figure 9). The instructions will be printed on the backs of each manifest and manifest copy. These instructions specify the requirements for using the manifest, for transferring waste, and for distributing manifest copies.

The new federal regulations, which became effective on November 19, 1980, require that certain information which was not previously required by California law now be provided on all hazardous waste manifests. That information includes the following:

- EPA I.D. number of the generator, transporter, and TSD (treatment, storage, and disposal) facilities.
- Hazardous materials descriptions as required by the U.S. Department of Transportation in 49 CFR.
- The name, address, and EPA I.D. of the TSD facility designated by the generator to receive the waste, and, if desired, an alternate facility.
- A generator's certification with the statement exactly as shown on the enclosed manifest.

The current Liquid Waste Hauler Record cannot be used after December 31, 1980. On January 1, 1981, the new manifest will be the only acceptable shipping document to accompany hazardous waste shipments in California. Questions regarding the new manifest or its use should be directed to one of the following Hazardous Materials Management Section offices:

Sacramento

Hazardous Materials Management Section
714 "P" Street
Sacramento, California 95814
(916) 322-2337

Berkeley

Hazardous Materials Management Section
2151 Berkeley Way, Room 140
Berkeley, California 94704
(415) 540-2043

Los Angeles

Hazardous Materials Management Section
107 S. Broadway, Room 7012
Los Angeles, California 90012
(213) 620-2380

After completing the manifest and transferring the waste to the transporter, a designated person representing the generator signs the certification on the original manifest and all copies

Do not print or type words (L111, 1998 112) (continued from 1)

616 May 12 2001 JET
Form Approved (0416 May 1998) EPA 833

EPA

Form 3606-12A (10-2000)

U.S. ENVIRONMENTAL PROTECTION AGENCY
GENERATOR ANNUAL REPORT - PART A
USE PREVIOUS EDITIONS AND PREVIOUS EDITIONS OF THIS FORM

FROM: **GENERATOR**
NAME: **GENERAL ELECTRIC**
ADDRESS: **10000 WILSON AVENUE**

TO: **RECEIVING FACILITY**
NAME: **GENERAL ELECTRIC**
ADDRESS: **10000 WILSON AVENUE**

DATE RECEIVED: **01/01/01**

DATE OF REPORT: **01/01/01**

NAME OF FACILITY: **GENERAL ELECTRIC**

NAME OF FACILITY: **GENERAL ELECTRIC**

NAME OF FACILITY: **GENERAL ELECTRIC**

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Figure 9. EPA forms 8700-13 and 8700-13a.

(one for each person handling the waste). The transporter then signs and dates the manifest and returns one copy to the generator, who retains it until a copy is received from the designated permitted facility following delivery of the waste. A generator is required to initiate a trace if it does not receive a copy of the manifest from the disposal facility within 35 days after the waste has been shipped. All contacts made while tracing a delinquent manifest should be well documented. If the manifest has not been received within 45 days after shipment, the generator must report the incident to CDHS at (916) 322-2337. Supporting documentation may be required.

Reporting Requirements for Generators--The generator will be required to send copies of all manifests from the previous month to California Department of Health Services, Hazardous Materials Management Branch, 744 P Street, Sacramento, California 95814. In addition, federal regulations require an annual report from generators who ship hazardous waste off site (45 FR 262, Subpart D). The Annual Report is made on EPA Forms 8700-13 and 8700-13a (Figure 9), and sent to CDHS in Sacramento. (If, however, a generator decides to treat, store, or dispose of wastes on base, it must submit an Annual Report covering those wastes in accordance with the provisions of 40 CFR Parts 264, 265, and 266, and with 40 CFR Part 122. In addition to following requirements, generators must comply with reporting requirements for TSD facilities, and should make provisions to hold all records, manifests, and reports for 3 years.

Manifest requirements are somewhat different for rail shipment or bulk shipment of hazardous wastes by water. The generator should consult the regulations if such means are used to transport wastes to permitted handling facilities (45 FR 263, Subpart B).

Disposal of Extremely Hazardous Waste by Generators--Some of the wastes generated by the STS (e.g., monomethyl hydrazine) are defined as extremely hazardous (CAC Sections 66064 and 66680 to 66685). No extremely hazardous waste shall be handled or disposed of in California without an Extremely Hazardous Waste Disposal Permit issued by the state. The generator must apply for this permit at least 15 days prior to the intended date of disposal. It can be expected that TSD facilities will require generators to make arrangements prior to shipment of these special wastes to their sites. Unexpected shipments will be returned at the generator's expense.

Storage Treatment and Disposal of Hazardous Wastes by Generators--If a generator stores hazardous wastes on site for more than 60 days (the 90-day limit set by EPA is preempted by California law), or treats or disposes of hazardous wastes on site, they must apply for and receive a Hazardous Waste Facility Permit, and comply with all applicable regulations (45 FR 264, Subpart A).

An inventory of projected hazardous waste to be generated by the STS is presented in Section 3 of this report. Included with the inventory are many of the items required for the EPA Annual Report, such as hazardous waste identification numbers and waste characteristics. The following section describes the methodology and assumptions used in developing the inventory.

SECTION 3

METHODOLOGY AND ASSUMPTIONS

As of the date of the compilation of this inventory, there have been no space shuttle launches or landings, either at VAFB or KSC. Consequently, operational data regarding waste generation are not yet available. Waste types and quantities must be estimated based on design specifications and projections of materials used. In many cases, these estimates can be related to similar operations, such as aircraft maintenance and conventional rocket launches.

In compiling this inventory, SCS made as much use as possible of existing documentation relating to the proposed space shuttle operation at VAFB. This documentation is listed in the bibliography. In general, the most relevant documents were those concerned with occupational safety and air emissions, since both of these address chemical types and quantities. However, because their inherent purpose differs appreciably from the compilation of a hazardous waste inventory, many and often sizeable data gaps exist.

An attempt was made to bridge these gaps and to complete the data base through direct contact with contractors and Air Force personnel involved in the design of the space shuttle, and related ground operations, facilities, and procedures. Ultimately, a number of questions remain regarding quantities of waste generated and waste forms. Consequently, a number of assumptions and simplifications were necessary to make this inventory as complete as possible. These assumptions and simplifications are detailed below. There are still several areas of uncertainty, however, and in the inventory which follows, a number of wastes are listed without quantity data. This means that a potential hazardous waste was identified, but insufficient information was available at the time of this inventory to produce a reasonable estimate of quantities per launch cycle.

In addition, there were other potentially hazardous wastes identified which are not included in the inventory, i.e., orbiter self-destruct ordnance (SDO) and potential pollution control wastes. It has been established that SDO waste will be generated whenever the orbiter and SRB are deactivated. This waste is hazardous (reactive) under EPA regulatory definitions. However, there are existing military ordnance handling and disposal practices which may be applicable to the shuttle program, and there is an existing ordnance disposal facility at Pt. Mugu. Pollution

control wastes, other than those identified in the baseline inventory, would have to be considered contingency wastes. In particular, SCS believes it likely that some or all of the solvent vapor emissions projected to be vented may come under new regulatory restraints before or during the course of the shuttle program. If this does in fact occur, additional solvent and air pollution control wastes will be generated. The Air Force is aware of this potential. Detailed information on these and other toxic and hazardous STS-related air emissions is available in the Air Force air emissions inventory (23).

VAFB station sets group the various Shuttle Transport System ground operations processing activities into geographic and functional categories. A geographic station set is a site-specific accumulation of equipment, facilities, hardware, and related resources that constitutes a definitive phase of the ground operations. A functional station set is an aggregate of equipment and services, not limited to or readily identified by location, that provides or supports specific functions of system operations.

The inventory prepared for this draft report includes projections of hazardous wastes for eight geographical station sets (i.e., V18, V19, V21, V23, V31, V32, and V33). The potential for hazardous waste generation at Station Sets V27, V28, V30, V81, V84, V86, and V88 cannot be verified at this time. It is considered that these station sets either (1) generate no hazardous waste under baseline conditions, or (2) generate small quantities of hazardous waste which cannot be quantified based on available information.

Assumptions and simplifications were needed to both identify and quantify some of the hazardous waste streams. There are several general types of assumptions and simplifications that have affected the inventory compilation throughout. These are listed below.

- Except where specified in existing STS/VAFB documents, it is assumed that there will be no reclamation or reuse of excess or waste products. This includes excess paint mixtures, used rags, protective clothing (except SCAPE suits), excess hypergols or hypergols removed from the orbiter after an abort or acquisition screen test, and process waters.
- STS data on procedures, materials, and quantities were used wherever they existed. If no STS data were available, an attempt was made to identify relevant KSC data.
- It is assumed that all materials which are not hazardous in and of themselves, but which come into contact with hazardous materials during use, become hazardous wastes when discarded. These include empty containers, rags, protective clothing, worn-out parts, process waters, etc.

This is in accordance with the RCRA hazardous waste regulations.

- Where the chemical composition of a commercial product used during ground operations was unknown and could not be defined, the composition of similar commercial products was used to determine whether the product contained any listed hazardous materials.
- In the case where waste-producing operations are performed at a given station set under one set of conditions, and at another station set under different conditions, one of these station sets was arbitrarily selected as the waste generator. This was done to avoid duplicate accounting when the waste quantities were totalled. For instance, wastes from external tank closeout operations, which could occur at either V23 or V33, were assigned to the pseudo Station Set 99.
- When similar waste-producing operations were identified at several station sets or at several locations within a single station set, and qualitative/quantitative data were available for only one locale, comparable data (the same or a simple multiple) were used for all of the other locales where the operation could occur.
- Where waste generation data from the literature were given as a range, the high value in the range was taken for this inventory.
- Unless otherwise specified in the documents or through personal communications, it is assumed that 10 percent of all paint, insulation, ablator, etc., used during the ground operations will be wasted.
- In converting from volume to mass units (or vice versa) for mixtures of wastes with uncertain compositions, densities were estimated based upon similar waste types of known density or upon densities of the predominant component of the mix.

SECTION 4

HAZARDOUS WASTE INVENTORY

The operation of the Space Shuttle Program at VAFB in the late 1980's and early 1990's will produce significant volumes and varieties of hazardous materials. An inventory of these wastes is necessary to help comply with recent EPA hazardous waste generator regulations and to assess alternative treatment/disposal options. In addition, a portion of the inventory will be used to prepare a supplement to the final Environmental Impact Statement (EIS) for the program.

The intent of this inventory is to identify and quantify all potentially hazardous solid and liquid wastes likely to be generated at VAFB during the STS ground operations. The basic inventory was compiled on a per launch basis, from which annual, monthly, and total project waste generation was calculated. Values are reported in mass and volume units. Estimates of pollutant concentrations, where applicable, are provided in Volume II of this report. The information in the following tables can be used to estimate the quantities needed for EPA reports, and to provide a supplement to the final EIS. Additionally, these tables will form the basis for the Volume II assessment of treatment/disposal alternatives.

Table 7 is a list of the STS hazardous wastes arranged by station set. From left to right, this table shows:

- STA SET - the station set number. Note that Station Set V99 is a pseudo station set, referring to a combination of Station Sets V23 and V33 (see Section 3 for explanation). The wastes identified at V99 come from external tank closeout activities, which may occur at either V23 or V33.
- CAT - category code. This is a sorting tool for grouping wastes with similar characteristics (see Glossary).
- WASTE MATERIAL - descriptions of the projected hazardous wastes. These wastes may be individual chemicals, excess commercial formulations, or mixed wastes. Items which have been indented slightly in the tables represent the chemical constituents of mixed wastes or commercial products.

- SOL OR LIQ - solid or liquid; the projected physical state of the waste material.
- OPERATION - a brief description, where appropriate, of the particular operation producing the waste material.
- HAZ WST NO. EPA/CAL - EPA and California hazardous waste numbers. Both EPA and the State of California have issued lists of wastes that they consider to be hazardous. These are presented in 45 FR 33084-33133 (40 CFR 261) and CAC, Title 22, Division 4, Chapter 30, Article 9, respectively (see Appendices B and C). The EPA numbers will be needed to complete all of the EPA hazardous waste notification, application, and reporting forms required of all hazardous waste generators under RCRA.
- HAZ PROP. EPA/CAL - the hazardous properties of the wastes, according to EPA and California lists or definitions. This information is useful in determining waste compatibility and assessing treatment alternatives (see Glossary for the meanings of hazard codes).
- CAL COMP CLASS - California compatibility class. Special precautions are needed when managing or treating chemically incompatible wastes. The California Department of Health (Law, Regulations, and Guidelines for Handling of Hazardous Waste, February 1975) developed a set of 12 groups to generally classify incompatible hazardous waste. These incompatibility groups are also listed in 45 FR 33257-33258.

Table 8 is a listing of unit factors for generation of STS hazardous wastes. Unit factors are expressed on a per launch (baseline) and per event (contingency) basis. They are grouped alphabetically by category code for each station set. Mass and volume values are given in both metric and English units. Under the volume column (English units), liquid wastes are given in gallons, and solid wastes in cubic feet. Missing numbers indicate insufficient information to quantify a particular waste.

Baseline wastes are those which can be routinely expected during every launch cycle, and are thus expressed on a per launch basis. In some cases, a particular operation does not occur during every launch cycle, but does occur at regular, launch-related intervals. For these operations, the wastes generated are divided by the launch frequency of the operations, and are presented on an average per launch basis.

Contingency wastes are those which will be generated only sporadically from unplanned events. These include abortions, spills, special tests, etc. Contingency values are expressed as estimated quantities per event; event frequency is denoted in the table footnotes.

Table 8 is the basis for all of the tables which follow. It can be used to estimate annual, monthly, or total project hazardous waste emissions for any launch schedule. Tables 9 and 10 present the annual and average monthly hazardous waste generation for each year of the STS Program, from 1985 through 1994. Table 9 presents the data for 1985, representing 4 launches; Table 10, the data for 1986, representing 6 launches; Table 11, the data for 1987, with 10 launches; and Table 12, the monthly and annual data for the period 1988 through 1994, representing 15 launches. Only one table (Table 12) is used to show the wastes generated in 1988 to 1994, as each year is projected to have the same number (i.e., 15) of launches. In each of these tables, the average monthly generation is equal to the annual quantity divided by 12 months.

The hazardous wastes shown in Tables 9 through 12 are listed in the same order as they appear in Table 8. In these tables, only mass values are listed, and a missing number indicates an identified waste for which insufficient information was available to estimate quantities. Subtotals are presented for each category, and each year is totalled by station set.

A summary of the generation of hazardous wastes for the entire STS program is given in Table 13. Mass quantities of these wastes are presented alphabetically by category code for each station set. Both baseline and contingency quantities (monthly and annual) are given per station set. Subtotals for each station set are then added together, resulting in the total quantity of hazardous wastes generated by the STS program for the period 1985 through 1994. In addition, total quantities of all hazardous wastes are given for each category code.

TABLE 7. HAZARDOUS CHARACTERISTICS OF WASTES GENERATED BY THE SHUTTLE TRANSPORT SYSTEM AT VAFB. PAGE 1

STA SET	CAT ⁽¹⁾ WASTE MATERIAL	SOL OR LIQ	OPERATION	HAZ. WST. NO. EPA/CAL.	HAZ. PROP. ⁽²⁾ EPA /CAL.	CAL. COMP. CLASS
0 ⁽³⁾ SO	CONTAMINATED FREON	L	WASHING OF SCAPESUITS	F002 NL ⁽⁴⁾	T T	6B
17 EU	WASTEWATER FROM EEWAS	L	RINSE OF SCAPESUITS & EMERGENCY	P068 NL	H TI	3A
17 FO	DIESEL FUEL	L	POWERING OF COOLING TRAILER	D001 NL	I F	6B
17 FO	DIESEL FUEL & OIL	L	TOWING OF ORBITER BY TRACTOR	D001 NL	I F	6B
17 FS	CONTAMINATED DILUTION WATER MNH	L	EMERGENCY DILUTION OF LEAKS	P068 502 P068 502	CH TI	1A, 3A, 4A
17 OS	CONTAMINATED DILUTION WATER H204	L	EMERGENCY DILUTION OF LEAKS	P080 548 P080 548	H T	3A, 6A
18 HF	HYDRAULIC FLUIDS	L	REPLACEMENT OF HYDRAULIC FLUID	D001 NL	IT TIF	6B
19 AU	TPS ADHESIVE, RTV 566/577 PHENYL METHYL POLYSILOXANE TIN OXIDE IRON OXIDE SILICON HARDENER	S	TILE REPAIR	D001 NL D001 NL NL NL NL	I F	6B
19 AU	EA 911 EPOXY EPOXY ZINC CHROMATE ASBESTOS MERCAPTAN DIMETHYLAMINE	L	TILE BONDING TO ORBITER	D000 NL NL NL U013 75 NL U092 281	T IT	6B
19 AU	EA 934 EPOXY EPOXY RESIN ASBESTOS	L	TILE BONDING TO ORBITER	D000 NL NL U013 75	T T	6B
19 AU	EA 9309 EPOXY EPOXY RESIN GLASS FIBERS ACRYLONITRILE/BUTADIEN/STYRENE ASBESTOS POLYGLYCOL DIAMINE SILANE	L	TILE BONDING TO ORBITER	D000 NL NL NL NL U013 75 NL NL	T T	6B
19 CN	SPRAYCANS OF TPS SEALER FLUORINATED SOLVENT FREON 113	S	REWATERPROOFING OF ORBITER	D003 NL F002 NL F002 NL	R P	1B
19 CH	KOROPON PRIMER CONTAM CANS BUTYL ACETATE METHYL ETHYL KETONE	S	ORBITER TPS CAVITY PREPARATION	NL NL 136 U159 499		6B

TABLE 7 (CONT.) HAZARDOUS CHARACTERISTICS OF WASTES GENERATED BY THE SHUTTLE TRANSPORT SYSTEM AT VAFB. PAGE 2

STA SET	CAT ⁽¹⁾ WASTE MATERIAL	SOL OR LIQ	OPERATION	HAZ. WST. NO. EPA/CAL.	HAZ. PROP. ⁽²⁾ EPA /CAL.	CAL. COMP. CLASS
19 CN	TOLUENE TALC - Mg SILICATES EPOXY RESIN LACQUER SPRAY CANS PIGMENT SOLIDS VEHICLE SOLIDS TOLUENE XYLENE HYDROCARBON PROPELLANT PETROLEUM DISTILLATES	S	TRACER PATTERN FABRICATION	U229 738 NL(4) NL NL NL NL NL NL NL U220 738 U239 776 NL NL NL NL		6B
19 CN	ISP CONTAM CUPS & WOOD STICKS INSTANT SET POLYMER	S	TRACER PATTERN FABRICATION	NL NL NL NL	i F	6B
19 CN	MARSHALL STENCIL INK SPRAYCANS XYLENE NAPHTHA OTHER MATERIALS	S	REFINISH ORBITER TILE SURFACES	NL NL U239 776 D001 NL NL NL		6B
19 CN	LACQUER SPRAYCANS PIGMENT SOLIDS VEHICLE SOLIDS TOLUENE XYLENE HYDROCARBON PROPELLANT PETROLEUM DISTILLATES	S	REFINISH ORBITER TILE SURFACES	NL NL NL NL U220 738 U239 776 NL NL NL NL		6B
19 CN	ENAMEL SPRAYCANS	S	REFINISH ORBITER TILE SURFACES	NL NL		6B
19 CN	ZINC CHROMATE PRIMER CANS	S	REFINISH ORBITER TILE SURFACES	NL NL		6B
19 CN	CONTAMINATED TARE CUPS EA 911 EPOXY EA 934 EPOXY EA 9309 EPOXY	S	TILE BONDING TO ORBITER	NL NL D000 NL D000 NL D000 NL		6B
19 CR	RAGS WITH SOLVENTS, GREASES	S	GENERAL CLEANING	D001 NL	i F	6B
19 CR	SOLVENT-CONTAM CHEESEECLOTH ISOPROPYL ALCOHOL METHYL ETHYL KETONE 1,1,1-TRICHLOROETHANE	S	ORBITER TPS CAVITY PREPARATION	D001 NL D001 396 U159 499 F002 NL	1T FT	6B
19 CR	MEK & IPA CONTAM CHEESEECLOTH METHYL ETHYL KETONE ISOPROPYL ALCOHOL	S	CHUCK FABRICATION FOR ORB TILE	D001 NL U159 499 D001 396	1T TF	6B
19 CR	IPA CONTAMINATED CHEESEECLOTH ISOPROPYL ALCOHOL	S	DENSIFICATION OF ORBITER TILES	D001 396 D001 396	1T FT	6B

TABLE 7 (CONT.) HAZARDOUS CHARACTERISTICS OF WASTES GENERATED BY THE SHUTTLE TRANSPORT SYSTEM AT VAFB. PAGE 3

STA SET	CAT ⁽¹⁾ WASTE MATERIAL	SOL OR LIQ	OPERATION	HAZ. WST. NO. EPA/CAL.	HAZ. PROP. (2) EPA /CAL.	CAL. COMP. CLASS
19 CR	TCE CONTAMINATED CHEESECLOTH 1,1,1-TRICHLOROETHANE	S	TILE REPAIR ON ORBITER	D001 NL ⁽⁴⁾ D001 NL	1T TF	6B
19 CR	MEK CONTAMINATED CHEESECLOTH METHYL ETHYL KETONE	S	ORBITER TILE REPAIR	D001 499 U159 499	1T TF	6B
19 CR	IPA CONTAMINATED CHEESECLOTH ISOPROPYL ALCOHOL	S	ORBITER TILE REPAIR	D001 396 NL 396	1T TF	6B
19 CR	SOLID FILM LUBRIC CONT CHSCLOTH	S	TRACER PATTERN FABRICATION	D001 NL	1 F	6B
19 CR	IPA CONTAMINATED CHEESECLOTH ISOPROPYL ALCOHOL	S	BOND TILE TO STRAIN ISOL PAD	D001 396	1T FT	6B
19 CR	DICHLOROMETHANE CONT CHSECLTY	S	PRESSURE PAD CLEANING	U030 262	1T FT	6B
19 CR	CONTAM CLOTHES, CLOTH & DEBRIS KOROPON BASE PRIMER KOROPON ACTIVATOR BERYLLIUM DUST	S	SANDING OF ET DOORS	NL NL F017 NL F017 NL P015 112	T TI	6B
19 EW	WASTEWATER FROM EEWAS	L	RINSE OF SCAPESUITS & EMERGENCY	P068 NL	H T	3A, 4A
19 FS	WASTEWATER FROM PAYLOAD/ORB MMH	L	RTH SPILLS-HOSE CONNECTIONS	D002 NL P068 502	CH TI	1A, 3A, 4A
19 FS	WASTE FUEL AND PRINOL 355 ⁽⁵⁾ HYDRAZINE MMH	L	FUEL SPILL WASHDOWN SUMP	D002 NL U133 376 P068 502	CH TI	3A
19 HF	VACUUM PUMP OIL TEXACO REGAL OIL 068	L	DENSIFICATION OF ORBITER TILES	D001 NL	i F	6B
19 HS	FUEL SCRUBBER HYDRAZINE MMH	L	REMOVAL OF FUEL VAPORS	D002 NL U133 376 P068 502	CH TI	1A, 3A, 4A
19 PY	HYDRAZINE	L	DRAIN PAYLOADS	U133 376	RT TIF	6B
19 HY	HYDRAZINE	L	DRAIN 3 APU's	U133 376	RT TIF	6B
19 IN	POLYURETHANE FOAM	S	TILE REPAIR	D001 NL	i F	6B
19 IN	ALUMACAST A/B MIXTURE POLYPROPYLENE PENTAMERYTHRITOL AROMATIC WHITE OIL INERT ALUMINIZED PARTICLES DIPHENYLMETHANE DIISOCYANATE POLYMERS OF DPM DIISOCYANATE	L	CHUCK FABRICATION FOR ORB TILE	D001 NL NL NL D001 NL NL NL NL NL NL NL		

TABLE 7 (CONT.) HAZARDOUS CHARACTERISTICS OF WASTES GENERATED BY THE SHUTTLE TRANSPORT SYSTEM AT VAFB.

STA SET	CAT ⁽¹⁾ WASTE MATERIAL	SOL OR LIQ	OPERATION	HAZ. WST. NO. EPA/CAL.	HAZ. PROP. EPA /CAL.	CAL. COMP. CLASS
19 IN	INSTANT SET POLYMER SCRAPS (1) PHENYL METHANE DIISOCYANATE POLY(OXALKYLENE)POLYETHER AROMATIC HYDROCARBONS	S	TRACER PATTERN FABRICATION	D001 NL NL D001 NL	1 F	6B
19 IN	SILANE/ACETIC ACID RESIDUE METHYL TRIMETHOXSILANE ACETIC ACID	S	INITIAL WATERPROOFING OF TILE	D003 2 NL NL 2	CT CT	1A
19 MH	MONOMETHYL HYDRAZINE	L	DRAIN-PURGE APS MANIFOLD & LHS	P068 502	H TF	6B
19 MH	MONOMETHYL HYDRAZINE	L	DRAIN-PURGE FRCS MANIFOLD & LHS	P068 502	H TF	6B
19 MH	MONOMETHYL HYDRAZINE ⁽⁶⁾	L	DRAIN APS FUEL	P068 502	H TF	6B
19 MH	MONOMETHYL HYDRAZINE ⁽⁶⁾	L	DRAIN RAPS FUEL	P068 502	H TF	6B
19 MH	MONOMETHYL HYDRAZINE ⁽⁶⁾	L	DRAIN FRCS FUEL	P068 502	H TF	6B
19 MH	MONOMETHYL HYDRAZINE ⁽⁶⁾	L	DRAIN PBK FUEL	P068 502	H TF	6B
19 NH	WASTEWATER WITH AMMONIA	L	AMMONIA BOILER SERVICING	D002 34	C TCI	1A
19 NO	NITROGEN TETROXIDE	L	DRAIN-PURGE PBK MANIFOLDS	P080 548	H TF	6A
19 NO	NITROGEN TETROXIDE	L	DRAIN-PURGE APS, FRCS MANIFOLD	P080 548	H TF	6A
19 NO	NITROGEN TETROXIDE	L	DRAIN LAPS OXIDIZER	P080 548	H TF	6A
19 NO	NITROGEN TETROXIDE	L	DRAIN RAPS OXIDIZER	P080 548	H TF	6A
19 NO	NITROGEN TETROXIDE	L	DRAIN FRCS OXIDIZER	P080 548	H TF	6A
19 NO	NITROGEN TETROXIDE	L	DRAIN PBK OXIDIZER	P080 548	H TF	6A
19 NO	NITROGEN TETROXIDE	L	DRAIN PAYLOADS OXIDIZER	P080 548	H TF	6A
19 OS	DECONTAMINATE FROM PAYLOAD/ORB H204	L	RTN SPILLS-HOSE CONNECTIONS	P080 NL P080 548	H TF	3A, 6A
19 OS	WASTE OXIDIZER AND PRIMOL 355 ⁽⁵⁾ H204	L	OXIDIZER SPILL WASHDOWN SUMP	P080 NL P080 548	H T	3A
19 PA	KOROPON PRIMER CONT PNT BRUSHES BUTYL ACETATE TALC - MG SILICATES EPOXY RESIN	S	ORBITER TPS CAVITY PREPARATION	F017 NL NL 136 NL NL	1 F	6B
19 PA	LACQUER #66486	L	ORBITER TILE REPAIR	D001 NL	1 F	6B

TABLE 7 (CONT.) HAZARDOUS CHARACTERISTICS OF WASTES GENERATED BY THE SHUTTLE TRANSPORT SYSTEM AT VAFB. PAGE 5

STA SET	CAT(1) WASTE MATERIAL	SOL OR LIQ	OPERATION	HAZ. WST. NO. EPA/CAL.	HAZ. PROP. (2) EPA /CAL.	CAL. COMP. CLASS
19 PA	CONTAMINATED BRUSHES ORGANIC ZINC PRIMER ZINC CHROMATE PRIMER	S	REFINISH ORBITER TILE SURFACES	F017 NL NL D007 NL	TE T	6B
19 PA	ORGANIC ZINC PRIMER ZINC DUST BARYTES MOLYBDATE ORANGE SILICA HIGH MOLECULAR WEIGHT EPOXY CELLOSOLVE ACETATE TOLUENE METHYL ETHYL KETONE	L	REFINISH ORBITER TILE SURFACES	F017 NL NL 777 NL NL NL 519 NL NL NL NL D001 NL U220 738 U159 499	IT TF	6B
19 PA	CONTAMINATED PAINT BRUSHES EA 911 EPOXY EA 934 EPOXY EA 9309 EPOXY	S	TILE BONDING TO ORBITER	F017 NL F017 NL F017 NL F017 NL	IT TFI	6B
19 SO	DOPE & LACQUER THINNER ALIPHATIC NAPHTHA ESTER OR KETONE ISO- OR n-BUTYL ACETATE ISO- OR n-BUTYL ALCOHOL	L	ORBITER TILE REPAIR	D001 523 NL 523 F005 NL NL 136 F003 137	IT TF	4A
19 SU	WASHWATER WITH MEK METHYL ETHYL KETONE	L	SURFACE PREP FOR TILE REPAIR	U159 NL U159 499	IT TF	3A
21 EW	WASTEWATER FROM EEW'S	L	RINSE OF SCAPESUITS & EMERGENCY	P068 NL	H T	3A, 4A
21 FS	WASTEWATER WITH MMH MMH	L	ROUTINE SPILLS CLEANUP	D002 NL P068 502	CH TI	1A, 3A, 4A
21 HS	FUEL SCRUBBER MMH	L	REMOVAL OF FUEL VAPORS	D002 NL P068 502	CH TI	1A, 3A, 4A
21 IN	TILE REPAIR FOAM POLYURETHANE	S	TILE REPAIR	D001 NL D001 NL	I F	6B
21 MH	MONOMETHYL HYDRAZINE	L	ACQUISITION SCREEN TEST	P068 502	H TF	6B
21 NO	NITROGEN TETROXIDE	L	ACQUISITION SCREEN TEST	P080 548	H TF	6A
21 NO	NITROGEN TETROXIDE	L	PBK LOAD/OFF LOAD	P080 548	H TF	6A
21 NO	NITROGEN TETROXIDE	L	RSV/TANK BLOWDOWN	P080 548	H TF	6A
21 NO	NITROGEN TETROXIDE	L	PBK LOAD/OFFLOAD SPILL	P080 548	H TF	6A
21 OS	WASTEWATER WITH OXIDIZER (CONT.)	L	DECONTAMINATE MIXTURES RTN SPL	P080 NL	H TF	3A, 6A

TABLE 7 (CONT.) HAZARDOUS CHARACTERISTICS OF WASTES GENERATED BY THE SHUTTLE TRANSPORT SYSTEM AT VAFB. PAGE 6

STA SET	CAT ⁽¹⁾ WASTE MATERIAL	SOL OR LIQ	OPERATION	HAZ. WST. NO. EPA/CAL.	HAZ. PROP. ⁽²⁾ EPA /CAL.	CAL. COMP. CLASS
N204						
21 SW	WASTEWATER WITH MEK METHYL ETHYL KETONE	L	TILE REPAIR	P080 548 U159 NL ⁽⁴⁾ U159 499	IT TF	3A
21 UP	WASTE SEALS, FILTERS, ETC.	S	EQUIPMENT MAINTENANCE	D001 NL	i F	6B
23 EU	WASTEWATER FROM REWS	L	RINSE OF SCAPESUITS & EMERGENCY	P068 NL	CH TI	3A, 4A
23 FS	HYDRAZINE-CONTAM. WASTEWATER HYDRAZINE	L	WASHDOWN OF EXPECTED N2H4 SPL	U133 376 U133 376	RT TIF	6B
23 FS	HYDRAZINE-CONTAM. CLNUP WATER HYDRAZINE	L	FINAL CLEANUP OF LAUNCH MOUNT	U133 376 U133 376	RT TIF	6B
23 FS	WASTEWATER FROM PPR HYDRAZINE	L	WASHDOWN OF PPR SPILLS	U133 376 U133 376	RT TIF	6B
23 FS	PRIMOL 355(S) HYDRAZINE MMH	L	COVERS OXID. & FUEL SPILLS	D002 NL U133 376 P068 502	CH TI	3A
23 HF	HYDRAULIC FLUIDS TETRAORTHOCRESOL PHOSPHATE	L	MAINT. OF HYDRAULIC DEVICES	D001 NL D001 NL	TI TIF	6B
23 HS	HYDRAZINE & MMH SCRUBBER HYDRAZINE MMH	L	RECOVERY OF HYDRAZINE VAPOR	D002 NL U133 376 P068 502	CH TI	1A, 2A, 4A
23 HY	HYDRAZINE	L	FILL SRB TVC APUs & ORB TANK	U133 376	RT TIF	6B
23 HY	LBM PROPELLANT PARAHYDRAZINE UNSYM DIMETHYLHYDRAZINE	L	CONTINGENCY FUEL OFFLOAD AT LP	U133 376 U133 376 U098 285	RT TIF	6B
23 HY	HYDRAZINE	L	CONTINGENCY FUEL OFFLOAD AT LP	U133 376	RT TIF	6B
23 IN	K3NA INSULATION BUTYL GLYCIDYL ETHER EPOXY RESINS, UNCURED	S	CLOSEOUT OF SRBs	D001 NL D001 NL D001 NL	IT TF	6B
23 MH	MONOMETHYL HYDRAZINE	L	FUELING OF ORBITER	P068 502	H TF	6B
23 MH	MONOMETHYL HYDRAZINE	L	CONTINGENCY FUEL OFFLOAD AT LP	P068 502	H TF	6B
23 NH	AMMONIA	L	CONTINGENCY OFFLOAD AT LP	D002 34	C TCI	1A
23 NO	NITROGEN TETROXIDE	L	LOADING OF ORBITER OXIDIZER	P080 548	H TF	6A
23 NO	LBM OXIDIZER (CONT.)	L	CONTINGENCY OFFLOAD AT LP	P080 548	H TF	6A

TABLE 7 (CONT.) HAZARDOUS CHARACTERISTICS OF WASTES GENERATED BY THE SHUTTLE TRANSPORT SYSTEM AT VAFB. PAGE 7

STA SET	CAT ⁽¹⁾ WASTE MATERIAL	SOL OR LIQ	OPERATION	HAZ. WST. NO. EPA/CAL.	HAZ. PROP. ⁽²⁾ EPA /CAL.	CAL. COMP. CLASS
NITROGEN TETROXIDE						
23 NO	NITROGEN TETROXIDE	L	CONTINGENCY OFFLOAD AT LP	P080 548	H TF	6A
23 OS	N2O4 CONTAM. CLEANUP WATER	L	FINAL CLEANUP OF LAUNCH MOUNT	P080 548	H TF	3A, 6A
	NITROGEN TETROXIDE			P080 548		
23 OS	N2O4 CONTAM. WASTEWATER	L	WASHDOWN OF EXPECTED N2O4 SPL	P080 548	H TF	3A, 6A
	NITROGEN TETROXIDE			P080 548		
23 OS	PRIMOL 355	L	N2O4 SPILL CLEANUP	P080 NL ⁽⁴⁾	H T	3A
	N2O4			P080 548		
23 PS	SRB PROPELLANT SPILL ⁽⁷⁾	S	ACCIDENT INVOLVING 1 SRB	D003 37	ITR TPF	2A, 6A
	AMMONIUM PERCHLORATE			D003 37		
	ALUMINUM POWDER			D003 22		
	PBAN BINDER			NL		
	HTPB BINDER			NL		
	IRON OXIDE			NL		
23 QU	DELUGE WATER	L	ACOUSTIC DAMPING/COOLING OF LP	D002 NL	C C	3A
	ALUMINUM OXIDE			NL		
	AMMONIA			NL		
	HYDROCHLORIC ACID			D002 381		
	ORGANIC CARBON			NL		
23 SO	SOLVENT MIXTURE	L	CLEANUP OF PCR & PPR	D001 262	Ti TIF	4A
	FREON TMC/NF/TF			F002 262		
	SYM. TETRACHLOROETHANE			F002 715		
23 SO	CONTAMINATED SOLVENTS	L	CLEANUP PROT COATING SPRAY EQU	D001 NL	IT TIF	6B
23 SW	SOLVENT WASTEWATER UNSPEC.	L	CLEANUP OF PCR & PPR	D001 NL	CT TC	6B
23 SW	CONTAMINATED WASTEWATER	L	REFURBISHMENT OF LP PROT COAT	D001 NL	IT TF	6B
	SOLVENTS			D001 NL		
	CHLORINATED RUBBER			NL		
	ZINC PRIMER			NL		
31 AL	SURFACTANT	L	SMALL PIPE CLEANING	D002 677	C TI	1A
	NaOH			677		
	SODIUM TRIPOLYPHOSPHATE					
31 AW	EA 934 EPOXY ADHESIVE	S	BUILDUP OF SRB FOR CORK APPL.	D001 NL	IT TIF	6B
	EPOXY RESIN			D001 NL		
	ASBESTOS			U013 75		
	FILLERS			NL		
	POLYAMIDE			NL		
	DIETHYLENETRIAMINE			NL 273		
31 CA	CONTAMINATED AIR FILTERS	S	FILTERING OF SPRAY BOOTH AIR	F005 NL	IT TF	6B

TABLE 7 (CONT.) HAZARDOUS CHARACTERISTICS OF WASTES GENERATED BY THE SHUTTLE TRANSPORT SYSTEM AT VAFB.

STA SET	CAT ⁽¹⁾ WASTE MATERIAL	SOL OR LIQ	OPERATION	HAZ. WST. NO. EPA/CAL.	HAZ. PROP. EPA /CAL.	CAL. COMP. CLASS
31 CA	CHARCOAL FILTER WASTES	S	FILTERING OF CURE ROOM AIR	F005 NL ⁽⁴⁾	T1 TF	6B
31 CA	CONTAMINATED AIR FILTERS	S	FILTERS ON ALL EXHAUST STACKS	D001 NL	I F	6B
31 CN	BOSTIK PRIMER PAINT CANS	S	SRB PAINTING	NL NL		6B
31 CN	BOSTIK TOPCOAT PAINT CANS	S	SRB PAINTING	NL NL		6B
31 CN	RUSTOLEUM PRIMER PAINT CANS	S	SRB FWD SKT RINGS PAINTING	NL NL		6B
31 CN	RUSTOLEUM TOPCOAT PAINT CANS	S	SRB FWD SKT RINGS PAINTING	NL NL		6B
31 CN	MSA-1 EMPTY CONTAINERS	S	SRB INSULATION	NL NL		6B
31 CN	K5NA CONTAINERS	S	K5NA CLOSEOUTS	NL NL		6B
31 CH	K5NA & MTA-2 PACKING MATERIALS	S	CONTAINERS OF INSUL FOR SRBs	D001 NL	T1 IT	6B
31 CR	SOLVENT CONTAMINATED RAGS	S	CLEANING SRB WITH SOLVENTS	D001 NL	I F	6B
31 CR	ALODINE CONTAMINATED RAGS	S	APPLICATION OF ALODINE TO SRB	D007 NL	E T	6B
31 CR	RYMPLE CLOTHS	S	DEGREASING	F001 NL	T1 TF	6B
31 CR	PAINT DROP CLOTHS	S	PROT OF FLOOR DURING PAINTING	F017 NL	T1 IT	6B
31 EW	WASTEWATER FROM EEWs	L	RINSE OF SCALESUITS & EMERGENCY	F017 NL	T T	3A
31 FO	FUEL AND OIL SPILLS	L	RAIL TRANSPORT OF SRB	D001 NL	I F	6B
31 FO	FUEL & OIL WASTES	L	WASTES FROM IN-BUILDING OPS.	D001 NL	I F	6B
31 FS	PRINOL 355 ⁽⁵⁾	L	HYDRAZINE SPILL CLEAN-UP	D002 376	CR TI	6B
31 HS	SCRUBBER EFFLUENT	L	TVC HOT FIRE AREA SCRUBBER	D002 376	TC TI	1A, 3A
31 HY	HYDRAZINE	L	SERVICING OF TVC APU	U133 376	RT TIF	6B
31 IN	MSA-1 (CURED) ⁽⁸⁾ EPICHLORHYDRIN/BGE GLASS ECOSPHERES PHENOLIC MICROSPHERES GLASS FIBERS BE-TONE 27 METHYLENE DIANILINE p-PHENYLENE DIAMINE	S	SRB INSULATION	D001 NL D003 NL NL NL NL NL NL NL D001 NL NL NL	IT TF	6B
31 IN	MSA-1, PART A (UNMIXED) ⁽⁹⁾ METHYLENE CHLORIDE (CONT.)	L	SRB INSULATION	F002 262 F002 262	T1 TF	6B

TABLE 7 (CONT.) HAZARDOUS CHARACTERISTICS OF WASTES GENERATED BY THE SHUTTLE TRANSPORT SYSTEM AT VAFB. PAGE 9

STA SET	CAT ⁽¹⁾ WASTE MATERIAL	SOL OR LIQ	OPERATION	HAZ. WST. NO. EPA/CAL.	HAZ. PROP. (2) EPA /CAL.	CAL. COMP. CLASS
	EPICHLORHYDRIN/BGE			D003 NL ⁽⁴⁾		
31 IN	MSA-1, PART B (UNMIXED) ⁽⁹⁾ METHYLENE CHLORIDE PERCHLOROETHYLENE METHYLENE DIANILINE M-PHENYLENE DIAMINE ETHYL ALCOHOL PHENOLIC MICROSPHERES GLASS ECOSPHERES GLASS FIBERS BENTONE 27	L	SRB INSULATION	U210 576 F002 262 U210 576 D001 NL NL NL D001 NL NL NL NL NL NL NL NL NL	Ti TF	6B
31 IN	MTA-2 (CURED) ⁽⁸⁾ EPICHLORHYDRIN/BGE LP-3, POLYSULFIDE LIQ POLYMER MDA & MPDA STANNOUS OCTOATE PHENOLIC MICROSPHERES	S	SRB INSULATION	D001 NL D003 NL D001 NL D003 NL NL NL NL NL	IT TF	6B
31 IN	MTA-2 (UNMIXED) ⁽⁹⁾ EPICHLORHYDRIN/BGE LP-3, POLYSULFIDE LIQ POLYMER MDA & MPDA STANNOUS OCTOATE PHENOLIC MICROSPHERES METHYLENE CHLORIDE PERCHLOROETHYLENE	L	SRB INSULATION	D001 262 D003 NL D001 NL D003 NL NL NL NL NL F002 262 U210 576	IT TF	6B
31 IN	K5NA BUTYL GLYCIDYL ETHER EPOXY RESINS	S	CLOSEOUT OF SRB AFT SKT & SRM	D001 NL D001 NL D001 NL	IT TIF	6B
31 IN	INSULATION AND PAPER	S	PROT OF FLOOR DURING INSUL	D001 NL	IT TF	6B
31 PA	BOSTIK EPOXY PRIMER EPOXY RESIN AMINE CURING AGENT TITANIUM DIOXIDE CHROMATE PIGMENTS INERT PIGMENTS SUSPENSION & FLOW CONTROL ADDI SOLVENTS	L	SRB PAINTING	F017 NL D003 NL NL NL NL NL D007 202 NL NL NL NL F003 NL	IT TIF	6B
31 PA	BOSTIK EPOXY TOPCOAT EPICHLORHYDRIN/BISPHENOL A AMINE CURING AGENT COLOR PIGMENT SUSPENSION & FLOW CONTROL ADDI SOLVENTS PHOTOCHROM REACTIVE (CONT.)	L	SRB PAINTING	F017 NL D001 NL NL NL NL NL F003 NL	IT TIF	6B

TABLE 7 (CONT.)

HAZARDOUS CHARACTERISTICS OF WASTES GENERATED BY THE SHUTTLE TRANSPORT SYSTEM AT VAFB.

STA SET	CAT ⁽¹⁾ WASTE MATERIAL	SOL OR LIQ	OPERATION	HAZ. WST. NO. EPA/CAL.	HAZ. PROF. EPA /CAL.	CAL. COMP. CLASS
	SOLVENTS NONPHOTOCHROM REACTIVE			F005 NL ⁽⁴⁾		
31 PA	RUSTOLEUM PRIMER	L	SRB FUD SKIRT RINGS PAINTING	F017 NL	1	F 68
	SILICATES			NL		
	YELLOW IRON OXIDE			NL		
	TITANIUM DIOXIDE			NL		
	CALCIUM BOROSILICATE			NL		
	BENTONITE			NL		
	LINSEED PHENOLIC ALKYL RESIN			D001 NL		
	ALIPHATIC HYDROCARBONS			NL		
	DRIERS AND ADDITIVES			NL		
31 PA	RUSTOLEUM TOPCOAT	L	SRB FUD SKIRT RINGS PAINTING	F017 NL	1	F 68
	SILICATES			NL		
	TITANIUM DIOXIDE			NL		
	BENTONITE CLAY			NL		
	TINTING COLORS			NL		
	ALKYL RESIN			D001 NL		
	ALIPHATIC HYDROCARBONS			NL		
	DRIERS & ADDITIVES			NL		
31 PA	GACOFLEX	L	SRB PAINTING	F017 NL	T	TFI 68
	TITANIUM DIOXIDE			NL		
	CLAY			NL		
	HYPALON			NL		
	HYDROCARBON RESIN			NL		
	PERCHLOROETHYLENE			U210 576		
	1,1,1-TRICHLOROETHANE			F002 NL		
	EPOXIDIZED SOYBEAN OIL			NL		
31 PA	PAINT-SPILL ABSORBANT	L	CLEAN-UP OF PAINT SPILLS	F017 NL	T	T 68
31 PU	ALDOLINE CONTAMINATED WASTE WATR	L	RINSE OF CONTAMINATED RACS	D007 NL	EH	TCS 18,3A,6A
	CHROMIC ACID			D007 198		
	FERRICYANIDE SALT			P055 233		
	COMPLEX FLUORIDE SALT			D002 345		
31 SO	PERCHLOROETHYLENE	L	SURFACE CLEANING FOR K3NA	U210 576	T	TI 68
31 SO	TRICHLOROETHANE	L	SURFACE CLEANING FOR K3NA	F002 743	T	TI 68
31 SO	FREON 113	L	SURFACE CLEANING FOR K3NA	F002 NL	T	T 68
31 SO	MSA-1 CONTAMINATED MEC1	L	MSA-1 EQUIPMENT CLEANUP	F002 262	T	T 4A
31 SO	MSA-1 CONTAM PERCHLOROETHYLENE	L	MSA-1 EQUIPMENT CLEANUP	F002 576	T	T 4A
31 SO	PERCHLOROETHYLENE	L	PARTS CLEANING ROOM OPERATIONS	F002 576	T	T 4A
31 SO	TRICHLOROETHANE	L	PARTS CLEANING ROOM OPERATIONS	F002 743	T	T 4A

TABLE 7 (CON) HAZARDOUS CHARACTERISTICS OF WASTES GENERATED BY THE SHUTTLE TRANSPORT SYSTEM AT VAFB. PAGE 11

STA SET	HAZARDOUS WASTE MATERIAL	SOL OR LIQ	OPERATION	HAZ. WST. NO. EPA/CAL.	HAZ. PROP. EPA /CAL.	CAL. COMP. CLASS
31 80	METHYLENE CHLORIDE	L	PARTS CLEANING ROOM OPERATIONS	F002 262	T T	4A
31 90	MTA-2 CONTAMINATED SOLVENTS	L	MTA-2 MIXING TANK CLEANUP	F005 499	Ti TF	6B
31 90	BOSTIK CONTAMINATED SOLVENTS	L	BOSTIK EQUIPMENT CLEANUP	U159 499	IT TF	6B
31 90	RUSTOLEUM CONTAMINATED SOLVENT	L	RUSTOLEUM EQUIPMENT CLEANUP	U159 499	IT TF	6B
32 BA	LITHIUM STORAGE BATTERIES	S	SAFING OF SRB DESTRUCT ORD	D002 705	C TC	1B, 3B, 6B
32 BA	SILVER-ZINC STORAGE BATTERIES	S	SAFING OF SRB DESTRUCT ORD	D011 705	E TC	1A, 6B
32 BA	POTASSIUM HYDROXIDE SOLUTION	L	DRAINAGE OF AG-ZN BATTERIES	D002 621	C TC	1A, 3B
32 CB	HYDRAZINE-CONTAMINATED WATER	L	FLUSHING OF AFT SKT CAT BED	D002 NL ⁽⁴⁾	C TI	3A
32 CS	CONTAMINATED SEAWATER ⁽¹⁰⁾	L	PARTIAL ONDECK PUMP OUT OF SRB	NL NL		3A
32 CS	CONTAMINATED SEAWATER ⁽¹⁰⁾	L	DRAINAGE OF SRB INTERIOR	NL NL		3A
32 CU	SRB FWD SKT CLEANING WASTES	L	CLEANING OF FWD SKT TP CAVITY	NL NL		
32 EV	WASTEWATER FROM EEW'S	L	RINSE OF SCAPESUITS & EMERGENCY	P068 NL	CH TI	3A, 4A
32 FO	BILGE WASTES	L	BOAT RETRIEVAL OF SPENT SRB'S	D001 NL	I TF	6B
32 FO	DIESEL FUEL & OIL SPILLS	L	TRANSPORT BY TRACTOR OF SRB'S	D001 NL	I F	6B
32 FS	WASTE FUEL & PRIMOL 355 ⁽⁵⁾ HYDRAZINE	L	FUEL SPILL WASHDOWN SUMP	D002 NL U133 376	C CTI	3A
32 HS	HYDRAZINE SCRUBBER EFFLUENT HYDRAZINE	L	DRAINAGE OF TVC APUS ON SRB'S	D002 NL U133 376	C TI	3A
32 HY	HYDRAZINE	L	DRAINAGE OF TVC APUS ON SRB'S	U133 376	RT TIF	6B
32 IH	INSULATION WASTES, SOLID MSA-1 INSULATION MTA-2 INSULATION KSHA INSULATION PR-855 INSULATION	S	STRIPPING OFF SRB INSULATION	D001 NL D001 NL D001 NL D001 NL	I F	6B
32 IN	INSULATION CONTAM FILTERS	S	FILTER HIGH PRES WATER SPRAY	D001 NL		6B
32 IW	INSULATION-CONTAMINATED WATER MSA-1 INSULATION MTA-2 INSULATION KSHA INSULATION PR-855 INSULATION	L	INSULATION STRIP W/WATER SPRAY	NL NL		3A

STA SET	CAT ⁽¹⁾ WASTE MATERIAL	SOL OR LIQ	OPERATION	HAZ. WST. NO. EPA/CAL.	HAZ. PROP. ⁽²⁾ EPA /CAL.	CAL. COMP. CLASS
32 PR	PRESERVATIVE CHEMICALS PROTECTIVE LUBRICANTS	L	PROTECTION OF SRB SEG JOINTS	D003 NL ⁽⁴⁾ D003 NL	C C	1A
32 PS	SRB SOLID PROPELLANT AMMONIUM PERCHLORATE ALUMINUM POWDER FERRIC OXIDE POLYMER & EPOXY RESIN	S	ACCID. SPILL OF RESIDUAL FUEL	D003 NL D003 37 D003 22 NL NL D003 NL	R F	6B
32 SB	DETERGENT WASHWATER ⁽¹¹⁾	L	WASHING OF SRB COMPONENTS	NL NL		3A
32 SB	POTABLE RINSE WATER	L	RINSING OF SRB COMPONENTS	NL NL		3A
32 SB	DEIONIZED RINSE WATER	L	FINAL RINSE OF SRB COMPONENTS	NL NL		3A
32 SI	SRB RINSE WATER	L	ONDECK RINSE OF SRB EXTERIOR	NL NL		3A
32 SO	SOLVENTS FREON TMC/TM SOLVENTS, UNSPECIFIED	L	PREPARATION OF SRB SEG JOINTS	D001 262 D002 262 D001 NL	I IF	6B 6B
33 CA	AIR FILTERS	S	FILTERING PARTICULATES	D001 NL	I F	6B
33 EU	WASTEWATER FROM EEWLS	L	EMERGENCY WASHWATER	D001 NL	T T	6B
33 HF	HYDRAULIC FLUIDS	L	CHANGING HYDRAULIC FLUID	D001 NL	Ti TIF	6B
99 AU	GX-6300 ABLATOR ADHESIVE RESIN STM L 663 RESIN STM L 664 SILICA POWDER CARBON POWDER CURING AGENT L 663 CURING AGENT L 664 HEPTANE XYLENE	S	PREP FOR ABLATOR CLOSEOUTS	D001 366 NL NL NL NL NL NL NL NL NL NL D001 366 U239 776	IT TF	6B
99 AU	ISOCHEM POLYESTER RESIN ADHESV STYRENE MEK PEROXIDE CATALYST DIMETHYL PHTHALATE	S	PREP FOR SPRAY-ON FOAM CLOSE	D003 697 D003 697 U160 500 U102 NL	ITR TFPI	6B
99 CA	FILTER	S	FILTER PARTICULATE IN CLN AREA	D001 NL	I F	6B
99 CN	SOLVENT CONTAMINATED CONTAINER SOLVENTS ⁽¹²⁾	S	SURFACE PREP FOR ET CLOSEOUT	NL NL D001 NL		6B
99 CN	PRIMER CONTAMINATED CONTAINERS	S	PRIMING FOR ET CLOSEOUTS	NL NL		6B
99 CN	ADHESIVE CONTAMINATED CONTAINR	S	PREPARATION FOR ET CLOSEOUTS	NL NL		6B

TABLE 7 (CONT.) HAZARDOUS CHARACTERISTICS OF WASTES GENERATED BY THE SHUTTLE TRANSPORT SYSTEM AT VAFB.

ST. CAT	WASTE MATERIAL	SOL OR LIQ	OPERATION	HAZ. INST. NO. EPA/CAL.	HAZ. PROP. EPA /CAL.	CAL. COMP. CLASS
99 IN	SILICA MICROSPHERES PHENOLIC MICROSPHERES CURING AGENT STM L664, PT B	S	FOAM TRIM BEFORE ADHES APPL	0001 NL 0001 NL	1 F	68
99 PA	POUR FOAM "TRIMMINGS" POLYURETHANE	L	PRIMER FOR FOAM INSUL ET CLOSE	F017 NL U161 504 U239 776 U057 NL D007 NL NL NL F003 137 U220 738 D001 NL U159 499	1 TL TIF	68
99 PA	EPOXY PRIMER METHYLENE ISO-UTYL KETONE XYLENE CYCLOHEXANONE CHROMATES INORGANIC PIGMENTS N-BUTANOL TOLUENE AMINO SILANE METHYL ETHYL KETONE	L	PRIMER FOR OR ET CLOSEOUT	F017 597 D001 597 NL NL	1 T TF	68
99 PA	D.C. 1200 VM AND P NAPHTHA ORGANOMETALLIC SALTS	L	PRIMER FOR OR ET CLOSEOUT	F002 262	1 T	68
99 SO	FREON THC	L	SURFACE PROP FOR ET CLOSEOUT	F002 NL	1 T TF	68
99 SO	1,1,1-TRICHLOROETHANE	L	SURFACE P OR ET CLOSEOUT	F002 NL	1 T TF	68
99 SO	MEK & CELLOSOLVE	L	SUBSTRATE EQUIP CLEANUP	U159 439	1 T FT	68
99 SO	HEPTANE	L	ABLATOR EQUIPMENT CLEANUP	D001 366	1 T TF	68
99 SO	CELLOSOLVE ACETATE	L	FOAM ADHES & PRIMER EQUIP CLNP	D001 NL	1 T TF	68
99 SO	METHYL ETHYL KETONE	L	FOAM ADHES & PRIMER EQUIP CLNF	U159 499	1 T TF	68
99 SR	SOLVENT REDUCER METHYL ETHYL KETONE CYCLOHEXANONE	L	SURFACE PREP FOR ET CLOSEOUT	U159 499 U159 499 U057 NL	1 T FT	68
99 SW	SOLVENT CONTAMINATED WATER	L	RINSING OF CONTAMINATED RACS	F003 NL	1 T	3A, 68

TABLE 7 (CONT.)

HAZARDOUS CHARACTERISTICS OF WASTE GENERATED BY THE SHUTTLE TRANSPORT SYSTEM AT VAFB.

STA SET	CAT ⁽¹⁾ WASTE MATERIAL	SOL CR LIQ	OPERATION	HAZ. WST. NO. EPA/CAL.	HAZ. PROP. EPA /CAL.	CAL. COMP. CLASS
99 CN	SOLVENT CONTAINERS	S	EQUIPMENT CLEANUP	NL ⁽⁴⁾ NL		
99 CN	POUR FOAM CONTAINERS	S	CONTAINERS FOR POLYOL & MDI	NL NL		6B
99 CN	ABLATOR CONTAMINATED CONTAINER	S	ET HAND-PACKED ABLATOR CLOSE	NL NL		6B
99 CR	SOLVENT CONTAMINATED RAGS	S	SURFACE PREP FOR ET CLOSEOUT	D001 NL	1T TF	6B
99 CR	ADHESIVE CONTAMINATED RAGS	S	PREPARATION FOR ET CLOSEOUTS	D003 697	1TR TFPI	6B
99 CR	EPOXY PRIMER-CONTAMINATED RAGS	S	APPL OF EPOXY PRIMER TO ET	D001 NL	1TE FTI	6B
99 IN	BX-250 FOAM (SOFI) DIPHENYL METHANE DIISOCYANATE FREON 11 AMINES POLYOLS SUPER MEK PEROXIDE POLYESTER RESIN DIMETHYL PHTHALATE	S	ET SPRAY-ON FOAM CLOSEOUTS	D003 500 D001 NL U229 NL NL NL NL NL U160 500 NL NL U102 NL	TIR TFPI	6A
99 IN	POUR FOAM (MIXED) ⁽⁸⁾ POLYURETHANE	S	ET POUR FOAM CLOSEOUT	D001 NL D001 NL	1 F	6B
99 IN	POUR FOAM PART A (UNMIXED) ⁽⁹⁾ DIPHENYL METHANE DIISOCYANATE FREON 11 POLYOLS, AMINES	L	ET POUR FOAM CLOSEOUTS	D001 NL D001 NL U229 NL NL NL	1 F	6B
99 IN	POUR FOAM PART B (UNMIXED) ⁽⁹⁾ FREON 11 AMINE CATALYST POLYETHER POLYOL BLEND	L	ET POUR FOAM CLOSEOUTS	D001 NL U229 NL NL NL	1 F	6B
99 IN	POUR FOAM CONTAMINATED PAPER	S	ET POUR FOAM CLOSEOUTS	D001 NL	1 F	6B
99 IN	SUPER LIGHT ABLATOR (1) RESIN L664, PT A SILICA FIBERS CORK PHENOLIC MICROSPHERES SILICA MICROSPHERES CURING AGENT	S	ET HAND-PACKED ABLATOR CLOSE	D001 336 NL NL NL NL NL NL NL NL NL NL	1T FT	6B
99 IN	SUPER LIGHT ABLATOR (11) RESIN STM L664, PT A CARBON POWDER SILICA FIBERS CORK (CONT.)	S	HAND-PACKED ABLATOR CLJSEOUT	D001 366 NL NL NL NL NL NL NL NL	1T TF	6B

FOOTNOTES

1. See Category Codes Glossary for definition of all abbreviations.
2. See Glossary for definitions of abbreviations.
3. Station Set Zero is used for wastes from the space shuttle launches which are generated at a place other than a designated station set (e.g., SCAPE suit cleaning facility).
4. NL = not listed.
5. Primol 355 is a high-viscosity mineral oil. Usage requires a design decision and Air Force approval. Either Primol 355, another oil, or a foam will be used to prevent vaporization of spilled hypergols.
6. This waste could be off-loaded either at Station Set V19 or V21. Station Set V19 has been arbitrarily chosen.
7. This contingency could occur either at Station Set V23 or V31. Station Set V23 has been arbitrarily chosen.
8. Insulation is mixed, but not used.
9. Insulation is unmixed, but with shelf life exceeded.
10. Nature of contaminants not determined.
11. Contains unidentified surfactants and/or detergents.
12. Solvents include Freon TMC, trichloroethane, methyl ethyl ketone, and cellosolve (4).

TABLE 8. UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH BASELINE		QUANTITY PER EVENT CONTINGENCY		VOLUME LITERS ⁽¹⁾		VOLUME LITERS ⁽¹⁾	
		MASS KILOGRAMS	POUNDS	MASS KILOGRAMS	POUNDS	GAL OR CF	GAL OR CF	GAL OR CF	GAL OR CF
STA. SET= 0 CAT=SO CONTAMINATED FREON	L	2376.8 ⁽³⁾	5240.0 ⁽³⁾	.0	.0	400.0 ⁽³⁾	.0	.0	.0
SUBTOTAL FOR STA. SET 0									
SOLIDS		.0	.0	.0	.0	.0	.0	.0	.0
LIQUIDS		2376.8	5240.0	1514.0	400.0	400.0	.0	.0	.0
SUBTOTAL		2376.8	5240.0						
STA. SET=17 CAT=EW WASTEWATER FROM EEWTS	L	2725.4 ⁽⁴⁾	6008.4 ⁽⁴⁾	2725.2 ⁽⁴⁾	720.0 ⁽⁴⁾				
STA. SET=17 CAT=FO DIESEL FUEL	L						.0	.0	.0
STA. SET=17 CAT=FO DIESEL FUEL & OIL	L						.0	.0	.0
STA. SET=17 CAT=FS CONTAMINATED DILUTION WATER MMH	L	.0	.0	.0	.0	.0	.0	.0	.0
STA. SET=17 CAT=OS CONTAMINATED DILUTION WATER M204	L	.0	.0	.0	.0	.0	.0	.0	.0
SUBTOTAL FOR STA. SET 17									
SOLIDS		.0	.0	.0	.0	.0	.0	.0	.0
LIQUIDS		2725.4	6008.4	2725.2	720.0	720.0	.0	.0	.0
SUBTOTAL		2725.4	6008.4						
STA. SET=18 CAT=HF HYDRAULIC FLUIDS	L	4.3 ⁽⁵⁾	9.5 ⁽⁵⁾	9.5 ⁽⁵⁾	2.5 ⁽⁵⁾	2.5 ⁽⁵⁾	.0	.0	.0
SUBTOTAL FOR STA. SET 18									
SOLIDS		.0	.0	.0	.0	.0	.0	.0	.0
LIQUIDS		4.3	9.5	9.5	2.5	2.5	.0	.0	.0
SUBTOTAL		4.3	9.5						
STA. SET=19 CAT=AW TPS ADHESIVE, RTV 566/577 PHENYL METHYL POLYSILOXANE TIN OXIDE IRON OXIDE SILICON HARDENER	S	1.1	2.5	8.5	.3	.3	.0	.0	.0
STA. SET=19 CAT=AW EA 911 EPOXY (CONT.)	L				.0	.0	.0	.0	.0

TABLE 8 (CONT.)

UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

PAGE 2

WASTE MATERIAL	SOL CR LTD	QUANTITY PER LAUNCH BASELINE		QUANTITY PER EVENT CONTINGENCY		VOLUME LITERS(1)		VOLUME GAL OR CF	
		MASS KILOGRAMS	POUNDS	MASS KILOGRAMS	POUNDS	LITERS(1)	LITERS(1)	MASS KILOGRAMS	POUNDS
EPXY									
ZINC CHROMATE									
ASBESTO									
MERCAPTAN									
DIMETHYLAMINE									
STA. SET-19 CAT-AM	L								
EA 934 EPXY									
EPXY RESIN									
ASBESTOS									
STA. SET-19 CAT-AM	L								
EA 9309 EPXY									
EPXY RESIN									
GLASS FIBERS									
ACRYLONITRILE/BUTADIENE/STYRENE									
ASBESTOS									
POLY-LYCOL DIAMINE									
SILANE									
STA. SET-19 CAT-CH	S								
SPRAYCANS OF TPS SEALER									
FLUORINATED SOLVENT									
FREON 113									
STA. SET-19 CAT-CH	S								
KOROPON PRIMER CONTAM CANS									
BUTYL ACETATE									
METHYL ETHYL KEONE									
TOUENE									
TALC - Mg SILICATES									
EPXY RESIN									
STA. SET-19 CAT-CH	S								
LACQUER SPRAY CANS									
PIGMENT SOLIDS									
VEHICLE SOLIDS									
TOUENE									
XYLENE									
HYDROCARBON PROPELLANT									
PETROLEUM DISTILLATES									
STA. SET-19 CAT-CH	S								
ISP CONTAM CUPS & WOOD STICKS									
INSTANT SET POLYMER									
STA. SET-19 CAT-CH	S								
MARSHALL STENCIL INK SPRAYCANS									
XYLENE									
NAPHTHA									
(CONT.)									

TABLE 8 (CONT.) UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

PAGE 3

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH BASELINE			VOLUME LITERS(1)	GAL OR CF	KILOGRAMS	QUANTITY PER EVENT CONTINGENCY		VOLUME LITERS(1)	GAL OR CF
		MASS KILOGRAMS	POUNDS	MASS KILOGRAMS				POUNDS			
OTHER MATERIALS											
STA. SET-19 CAT-CN LACQUER SPRAYCANS	S	2.2(7)	4.8(7)	22.7	.8	.0	.0	.0	.0	.0	.0
PIGMENT SOLIDS						.0	.0	.0	.0	.0	.0
VEHICLE SOLIDS						.0	.0	.0	.0	.0	.0
TOLUENE						.0	.0	.0	.0	.0	.0
XYLENE						.0	.0	.0	.0	.0	.0
HYDROCARBON PROPELLANT						.0	.0	.0	.0	.0	.0
PETROLEUM DISTILLATES						.0	.0	.0	.0	.0	.0
STA. SET-19 CAT-CN ENAMEL SPRAYCANS	S	4.1(7)	9.0(7)	42.5	1.5	.0	.0	.0	.0	.0	.0
STA. SET-19 CAT-CN ZINC CHROMATE PRIMER CANS	S	4.1(7)	9.0(7)	42.5	1.5	.0	.0	.0	.0	.0	.0
STA. SET-19 CAT-CN CONTAMINATED TARE CUPS	S					.0	.0	.0	.0	.0	.0
EA 911 EPOXY						.0	.0	.0	.0	.0	.0
EA 934 EPOXY						.0	.0	.0	.0	.0	.0
EA 9309 EPOXY						.0	.0	.0	.0	.0	.0
STA. SET-19 CAT-CN RAGS WITH SOLVENTS, GREASES	S	4.5(9)	10.0(9)	56.6	2.0	.0	.0	.0	.0	.0	.0
STA. SET-19 CAT-CN SOLVENT-CONTAM CHEESECLOTH	S					.0	.0	.0	.0	.0	.0
ISOPROPYL ALCOHOL						.0	.0	.0	.0	.0	.0
METHYL ETHYL KETONE						.0	.0	.0	.0	.0	.0
1,1,1-TRICHLOROETHANE						.0	.0	.0	.0	.0	.0
STA. SET-19 CAT-CN MEK & IPA CONTAM CHEESECLOTH	S					.0	.0	.0	.0	.0	.0
METHYL ETHYL KETONE						.0	.0	.0	.0	.0	.0
ISOPROPYL ALCOHOL						.0	.0	.0	.0	.0	.0
STA. SET-19 CAT-CN IPA CONTAMINATED CHEESECLOTH	S					.0	.0	.0	.0	.0	.0
ISOPROPYL ALCOHOL						.0	.0	.0	.0	.0	.0
STA. SET-19 CAT-CN TCE CONTAMINATED CHEESECLOTH	S					.0	.0	.0	.0	.0	.0
1,1,1-TRICHLOROETHANE						.0	.0	.0	.0	.0	.0
STA. SET-19 CAT-CN MEK CONTAMINATED CHEESECLOTH	S					.0	.0	.0	.0	.0	.0
METHYL ETHYL KETONE						.0	.0	.0	.0	.0	.0
STA. SET-19 CAT-CN IPA CONTAMINATED CHEESECLOTH	S					.0	.0	.0	.0	.0	.0
(CONT.)											

TABLE 8 (CONT.) UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH			QUANTITY PER EVENT CONTINGENCY			VOLUME	
		MASS KILOGRAMS	POUNDS	LITERS ⁽¹⁾	MASS KILOGRAMS	POUNDS	LITERS ⁽¹⁾	GAL OR CF	GAL OR CF
ISOPROPYL ALCOHOL					.0	.0			.0
STA. SET=19 CAT=CR SOLID FILM LUBRIC CONT CHSCLTH S					.0	.0	.0		.0
STA. SET=19 CAT=CR IPA CONTAMINATED CHEESE CLOTH S					.0	.0	.0		.0
ISOPROPYL ALCOHOL					.0	.0			.0
STA. SET=19 CAT=CR DICHLOROMETHANE CONT CHSCLTH S					.0	.0	.0		.0
STA. SET=19 CAT=CR CONTAIN CLOTHES, CLOTH & DEBRIS S		4.5 ⁽¹⁰⁾	10.0 ⁽¹⁰⁾	141.6	.0	.0	.0	5.0	.0
KOROFON BASE PRIMER					.0	.0			.0
KOROFON ACTIVATOR					.0	.0			.0
BERYLLIUM DUST					.0	.0			.0
STA. SET=19 CAT=EW WASTEWATER FROM EEW&S	L	3028.2 ⁽⁴⁾	6676.0 ⁽⁴⁾	3028.0 ⁽⁴⁾	800.0 ⁽⁴⁾				
STA. SET=19 CAT=FS WASTEWATER FROM PAYLOAD/ORB	L	544.3	1200.0	567.8	150.0	.0	.0	.0	.0
MMH		54.4	120.3		15.0	.0			.0
STA. SET=19 CAT=FS WASTE FUEL AND PRINOL 355 ⁽¹¹⁾	L	36.3	80.0	37.8	10.0	.0	.0	.5	
HYDRAZINE & MMH		1.8	4.0						
STA. SET=19 CAT=HF VACUUM PUMP OIL	L	4.5	10.0	4.5	1.2	.0	.0	.0	.0
TEXACO REGAL OIL 968					.0	.0			.0
STA. SET=19 CAT=HS FUEL SCRUBBER	L	2540.1	5600.0	2649.5	700.0	.0	.0	.0	.0
HYDRAZINE & MMH		50.8	112.0		14.0	.0	.0		.0
STA. SET=19 CAT=HY HYDRAZINE	L	.0	.0	.0	.0	4989.5 ⁽¹²⁾	11000.0 ⁽¹²⁾	4969.7 ⁽¹²⁾	1313.0 ⁽¹²⁾
STA. SET=19 CAT=HY HYDRAZINE	L	68.0	150.0	68.1	18.0	68.0 ⁽¹²⁾	150.0 ⁽¹²⁾	68.1 ⁽¹²⁾	18.0 ⁽¹²⁾
STA. SET=19 CAT=IN POLYURETHANE FOAM	S	4.5	10.0	416.2	14.7	.0	.0	.0	.0
STA. SET=19 CAT=IN ALUMINACAST A/B MIXTURE	L	.1	.3			.0	.0	.0	.0

(CONT.)

TABLE 8 (CONT.) UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

PAGE 5

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH BASELINE				QUANTITY PER EVENT CONTINGENCY			
		MASS KILOGRAMS	POUNDS	VOLUME LITERS(1)	GAL OR CF	MASS KILOGRAMS	POUNDS	VOLUME LITERS(1)	GAL OR CF
POLYPROPYLENE PENTAERYTHRITOL						.0	.0		.0
AROMATIC WHITE OIL						.0	.0		.0
INERT ALUMINIZED PARTICLES						.0	.0		.0
DIPHENYLMETHANE DIISOCYANATE						.0	.0		.0
POLYMERS OF DPM DIISOCYANATE						.0	.0		.0
STA. SET=19 CAT=IN									
INSTANT SET POLYMER SCRAPS	S	1.8(13)	4.0(13)	22.7	.8	.0	.0	.0	.0
DIPHENYL METHANE DIISOCYANATE						.0	.0		.0
POLY(OXALKYLENE)POLYETHER						.0	.0		.0
AROMATIC HYDROCARBONS						.0	.0		.0
STA. SET=19 CAT=IN									
SILANE/ACETIC ACID RESIDUE	S	.5	1.0	5.7	.2	.0	.0	.0	.0
METHYL TRIMETHOXSILANE						.0	.0		.0
ACETIC ACID						.0	.0		.0
STA. SET=19 CAT=MH									
MONOMETHYL HYDRAZINE	L	35.4	78.0	40.5	10.7	.0	.0	.0	.0
STA. SET=19 CAT=MH									
MONOMETHYL HYDRAZINE	L	9.1	20.0	10.2	2.7	.0	.0	.0	.0
STA. SET=19 CAT=MH									
MONOMETHYL HYDRAZINE (14)	L	18.8(15)	41.4(15)	21.6(15)	5.7(15)	214.5(12)	473.0(12)	246.0(12)	65.0(12)
STA. SET=19 CAT=MH									
MONOMETHYL HYDRAZINE (14)	L	18.8(15)	41.4(15)	21.6(15)	5.7(15)	296.6(12)	654.0(12)	340.6(12)	90.0(12)
STA. SET=19 CAT=MH									
MONOMETHYL HYDRAZINE (14)	L	13.3(15)	29.4(15)	15.1(15)	4.0(15)	365.6(12)	806.0(12)	416.3(12)	110.0(12)
STA. SET=19 CAT=MH									
MONOMETHYL HYDRAZINE (14)	L	41.6(15)	91.8(15)	47.7(15)	12.6(15)	.0	.0	.0	.0
STA. SET=19 CAT=MH									
WASTE WATER WITH AMMONIA	L	36.3(15)	80.0(15)	37.8(15)	10.0(15)	.0	.0	.0	.0
STA. SET=19 CAT=NO									
NITROGEN TETROXIDE	L	5.4	12.0	3.8	1.0	.0	.0	.0	.0
STA. SET=19 CAT=NO									
NITROGEN TETROXIDE	L	9.8	21.6	6.8	1.8	.0	.0	.0	.0
STA. SET=19 CAT=NO									
NITROGEN TETROXIDE	L	34.3(15)	75.6(15)	24.2(15)	6.4(15)	326.1(12)	719.0(12)	227.1(12)	60.0(12)
STA. SET=19 CAT=NO									
NITROGEN TETROXIDE	L	34.3(15)	75.6(15)	24.2(15)	6.4(15)	465.8(12)	1027.0(12)	325.5(12)	86.0(12)
STA. SET=19 CAT=NO									
NITROGEN TETROXIDE	L	23.9(15)	52.6(15)	16.7(15)	4.4(15)	572.4(12)	1262.0(12)	397.4(12)	105.0(12)

TABLE 6 (CONT.)

UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

PAGE 6

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH			QUANTITY PER EVENT CONTINGENCY		
		MASS KILOGRAMS	POUNDS	VOLUME LITERS ⁽¹⁾	MASS KILOGRAMS	POUNDS	VOLUME LITERS ⁽¹⁾
STA. SET=19 CAT=NO NITROGEN TETROXIDE	L	79.5 ⁽¹⁵⁾	175.2 ⁽¹⁵⁾	55.3 ⁽¹⁵⁾	.0	.0	.0
STA. SET=19 CAT=NO NITROGEN TETROXIDE	L	.0	.0	.0	8164.6 ⁽¹²⁾	18000.0 ⁽¹²⁾	5677.5 ⁽¹²⁾
STA. SET=19 CAT=OS DECONTAMINATE FROM PAYLOAD/ORB L N204	L	290.3 2.7	640.0 6.0	302.8	.0	.0	.0
STA. SET=19 CAT=OS WASTE OXIDIZER AND PRIMOL 355 L N204	L	37.2 2.7	82.0 6.0	37.8	.0	.0	.0
STA. SET=19 CAT=PA KOROPON PRIMER CONT PNT BRUSHES S BUTYL ACETATE TALC - Mg SILICATES EPOXY RESIN	S	18.1 ⁽¹⁶⁾	40.0 ⁽¹⁶⁾	141.6	.0	.0	.0
STA. SET=19 CAT=PA LACQUER #626486	L	.6 ⁽¹⁷⁾	1.3 ⁽¹⁷⁾	.8	.0	.0	.0
STA. SET=19 CAT=PA CONTAMINATED BRUSHES ORGANIC ZINC PRIMER ZINC CHROMATE PRIMER	S	1.8 ⁽¹⁶⁾	4.0 ⁽¹⁶⁾	14.2	.0	.0	.0
STA. SET=19 CAT=PA ORGANIC ZINC PRIMER ZINC DUST BARYTES MOLYBDATE ORANGE SILICA HIGH MOLECULAR WEIGHT EPOXY CELLULOSE ACETATE TOLUENE METHYL ETHYL KETONE	L	5.7 ⁽¹⁸⁾	12.5 ⁽¹⁸⁾	5.7	.0	.0	.0
STA. SET=19 CAT=PA CONTAMINATED PAINT BRUSHES EA 911 EPOXY EA 934 EPOXY EA 9389 EPOXY	S	1.8 ⁽¹⁶⁾	4.0 ⁽¹⁶⁾	14.2	.0	.0	.0
STA. SET=19 CAT=SO DOPE & LACQUER THINNER ALIPHATIC CAPTNA ESTER OR KETONE (CONT.)	L	.8 ⁽¹⁷⁾ .1 .4	1.8 ⁽¹⁷⁾ .3 .8	.8	.0	.0	.0

TABLE 8 (CONT.)

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH BASELINE			QUANTITY PER EVENT CONTINGENCY			VOLUME	
		MASS KILOGRAMS	POUNDS	LITERS(1)	GAL OR CF	MASS KILOGRAMS	POUNDS	LITERS(1)	GAL OR CF
ISO- OR n-BUTYL ACETATE		.2	.5			.0	.0		.0
ISO- OR n-BUTYL ALCOHOL		.1	.2			.0	.0		.0
STA. SET-19 CAT-SW WASHWATER WITH MEK METHYL ETHYL KETONE	L	42.4 6.1	93.5 13.5	45.4	12.0 2.0	.0 .0	.0 .0	.0	.0 .0
SUBTOTAL FOR STA. SET 19									
SOLIDS		59.6	131.4						
LIQUIDS		6959.0	15342.0	1030.7	36.4				
SUBTOTAL		7018.6	15473.4	7074.5	1869.1				
STA. SET-21 CAT-EU WASTEWATER FROM EENLS	L	2725.4(4)	6008.4(4)	2725.2(4)	720.0(4)				
STA. SET-21 CAT-FS WASTEWATER WITH MMH	L	108.0 10.0	238.0 22.0	113.6	30.0 3.0	.0 .0	.0 .0	.0	.0 .0
STA. SET-21 CAT-HS FUEL SCRUBBER MMH	L	362.9 6.6	800.0 14.6	378.5	100.0 2.0	.0 .0	.0 .0	.0	.0 .0
STA. SET-21 CAT-IN TILE REPAIR FOAM POLYURETHANE	S	4.5 4.5	10.0 10.0	416.2	14.7 14.7	.0 .0	.0 .0	.0	.0 .0
STA. SET-21 CAT-MM MONOMETHYL HYDRAZINE	L	.0	.0	.0	.0				
STA. SET-21 CAT-MO NITROGEN TETROXIDE	L	.0	.0	.0	.0	4898.0(19)	10800.0(19)	3406.5(19)	900.0(19)
STA. SET-21 CAT-MO NITROGEN TETROXIDE	L	15.0	33.0	10.6	2.8	.0	.0	.0	.0
STA. SET-21 CAT-MO NITROGEN TETROXIDE	L	51.3	113.0	35.6	9.4	.0	.0	.0	.0
STA. SET-21 CAT-MO NITROGEN TETROXIDE	L	.0	.0	.0	.0	4898.8(20)	10800.0(20)	3406.5(20)	900.0(20)
STA. SET-21 CAT-OS WASTEWATER WITH OXIDIZER H2O4	L	72.0 .5	160.4 1.2	75.7	20.0 .1	.0 .0	.0 .0	.0	.0 .0
STA. SET-21 CAT-SW WASTEWATER WITH MEK METHYL ETHYL KETONE	L	42.4 6.1	93.4 13.4	45.4	12.0 2.0	.0 .0	.0 .0	.0	.0 .0

TABLE 8 (CONT.) UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH		QUANTITY PER EVENT		QUANTITY PER EVENT		QUANTITY PER EVENT	
		MASS KILOGRAMS	POUNDS	VOLUME LITERS ⁽¹⁾	GAL OR CF	MASS KILOGRAMS	POUNDS	CONTINGENCY LITERS ⁽¹⁾	VOLUME GAL OR CF
STA. SET=21 CAT=WP WASTE SEALS, FILTERS, ETC.	S	4.5 ⁽²¹⁾	10.0 ⁽²¹⁾	283.2	10.0	.0	.0	.0	.0
SUBTOTAL FOR STA. SET 21									
SOLIDS		9.1	20.0	699.4	24.7				
LIQUIDS		3377.5	7446.2	3384.5	894.2				
SUBTOTAL		3386.6	7466.2						
STA. SET=23 CAT=EW WASTEWATER FROM EEWAS	L	3028.2 ⁽⁴⁾	6676.0 ⁽⁴⁾	3028.0 ⁽⁴⁾	800.0 ⁽⁴⁾				
STA. SET=23 CAT=FS HYDRAZINE-CONTAM. WASTEWATER HYDRAZINE	L	567.9 28.1	1252.0 62.0	567.8	150.0 .3				
STA. SET=23 CAT=FS HYDRAZINE-CONTAM. CLNUP WATER HYDRAZINE	L	189.1 2.1	417.0 4.6	189.3	50.0 .5				
STA. SET=23 CAT=FS WASTEWATER FROM PPR HYDRAZINE	L	2271.1	5007.0	2271.0	600.0				
STA. SET=23 CAT=FS PRIMOL 355 ⁽¹¹⁾ HYDRAZINE MMH	L	340.6	751.0	378.5	100.0				
STA. SET=23 CAT=HF HYDRAULIC FLUIDS TETRAORTHCRESOL PHOSPHATE	L	393.7 393.7	868.0 868.0	378.5	100.0 100.0	.0 .0	.0 .0	.0 .0	.0 .0
STA. SET=23 CAT=HS HYDRAZINE & MMH SCRUBBER HYDRAZINE MMH	L	757.0 ⁽¹⁸⁾ 16.8 13.2	1669.0 ⁽¹⁸⁾ 37.0 29.0	757.0	200.0 4.0 4.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0
STA. SET=23 CAT=HY HYDRAZINE	L	208.2	459.0	189.3	50.0	.0	.0	.0	.0
STA. SET=23 CAT=HY LBM PROPELLANT PARAHYDRAZINE UNSYM DIMETHYLHYDRAZINE	L	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	79378.3 ⁽²²⁾ 39689.1 39689.1	175000.0 ⁽²²⁾ 87500.0 87500.0	79373.3 ⁽²²⁾	20970.5 ⁽²²⁾
STA. SET=23 CAT=HY HYDRAZINE	L	.0	.0	.0	.0	5425.4 ⁽²²⁾	11961.0 ⁽²²⁾	5425.0 ⁽²²⁾	1433.3 ⁽²²⁾
STA. SET=23 CAT=1N KSWA INSULATION (CONT.)	S	10.4	23.0	84.9	3.0	.0	.0	.0	.0

TABLE 8 (CONT.) UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

PAGE 9

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH BASELINE		VOLUME		QUANTITY PER EVENT CONTINGENCY		VOLUME	
		MASS KILOGRAMS	POUNDS	LITERS(1)	GAL OR CF	MASS KILOGRAMS	POUNDS	LITERS(1)	GAL OR CF
BUTYL GLYCIDYL ETHER EPOXY RESINS, UNCURED						.0	.0		.0
						.0	.0		.0
STA. SET-23 CAT-MH MONOMETHYL HYDRAZINE	L	330.7	729.0	378.5	100.0	.0	.0	.0	.0
STA. SET-23 CAT-MH MONOMETHYL HYDRAZINE	L	.0	.0	.0	.0	12052.3 ⁽²²⁾	26571.0 ⁽²²⁾	13788.8 ⁽²²⁾	3643.0 ⁽²²⁾
STA. SET-23 CAT-MH AMMONIA	L	.0	.0	.0	.0	47.2 ⁽²²⁾	104.0 ⁽²²⁾	61.3 ⁽²²⁾	16.2 ⁽²²⁾
STA. SET-23 CAT-MH NITROGEN TETROXIDE	L	183.4	404.3	123.0	32.5	.0	.0	.0	.0
STA. SET-23 CAT-MH LBN OXIDIZER	L	.0	.0	.0	.0	79378.3 ⁽²²⁾	175000.0 ⁽²²⁾	53254.9 ⁽²²⁾	14070.0 ⁽²²⁾
STA. SET-23 CAT-MH NITROGEN TETROXIDE	L	.0	.0	.0	.0	79378.3	175000.0		
STA. SET-23 CAT-MH NITROGEN TETROXIDE	L	.0	.0	.0	.0	28129.8 ⁽²²⁾	62016.0 ⁽²²⁾	19398.9 ⁽²²⁾	5125.2 ⁽²²⁾
STA. SET-23 CAT-MH N2O4 CONTAM. CLEANUP WATER	L	113.4	250.0	113.6	30.0	.0	.0	.0	.0
NITROGEN TETROXIDE		1.1	2.5		.3				
STA. SET-23 CAT-MH N2O4 CONTAM. WASTE WATER	L	378.3	834.0	378.5	100.0	.0	.0	.0	.0
NITROGEN TETROXIDE		28.1	62.0		5.0				
STA. SET-23 CAT-MH PRINOL 355(11) N2O4	L	340.6	751.0	378.5	100.0				
STA. SET-23 CAT-PS SRB PROPELLANT SPILL (23)	S	.0	.0	.0	.0	504301.3 ⁽²⁴⁾	111800.0 ⁽²⁴⁾	261436.0 ⁽²⁴⁾	9232.8 ⁽²⁴⁾
AMMONIUM PERCHLORATE		.0	.0	.0	.0	351033.3	773900.0		
ALUMINUM POWDER		.0	.0	.0	.0	80648.3	177800.0		
PBAN BINDER		.0	.0	.0	.0	70578.6	155600.0		
HTPB BINDER		.0	.0	.0	.0	33.1	73.0		
IRON OXIDE		.0	.0	.0	.0	2019.5	4450.0		
STA. SET-23 CAT-QW DELUCO WATER	L	567894.6	1252000.0	567750.0	150000.0	.0	.0	.0	.0
ALUMINUM OXIDE		3.4	7.4			.0	.0	.0	.0
AMMONIA		.2	.5			.0	.0	.0	.0
HYDROCHLORIC ACID		362.4	799.0			.0	.0	.0	.0
ORGANIC CARBON		3.4	7.5			.0	.0	.0	.0
STA. SET-23 CAT-SO SOLVENT MIXTURE (CONT.)	L	291.5	642.6	208.2	55.0 ⁽²⁵⁾	.0	.0	.0	.0

TABLE 8 (CONT.) UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB PAGE 10

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH			QUANTITY PER EVENT CONTINGENCY			VOLUME	
		MASS KILOGRAMS	POUNDS	LITERS(1)	MASS KILOGRAMS	POUNDS	LITERS	(1) LITERS	GAL OR CF
FREON THC/MF/TF SYM, TETRACHLOROETHANE		.0	.0	.0	.0	.0	.0	.0	.0
STA. SET-23 CAT-SO CONTAMINATED SOLVENTS	L	264.9(26)	584.0(26)	189.3	.0	.0	.0	.0	.0
STA. SET-23 CAT-SW SOLVENT WASTE WATER UNSPEC.	L	416.4(18)	918.0(18)	416.3	.0	.0	.0	.0	.0
STA. SET-23 CAT-SW CONTAMINATED WASTE WATER SOLVENTS CHLORINATED RUBBER ZINC PRIMER	L	946.2(18)	2086.0(18)	946.3	.0	.0	.0	.0	.0
SUBTOTAL FOR STA. SET 23 SOLIDS LIQUIDS SUBTOTAL		10.4 578915.9 578926.3	23.0 1276297.8 1276320.8	84.9 578641.4 578641.4	3.0 152877.5 152877.5				
STA. SET-31 CAT=AL SURFACTANT NaOH SODIUM TRIPOLYPHOSPHATE	L				.0	.0	.0	.0	.0
STA. SET-31 CAT=AW EA 934 EPDXY ADHESIVE EPDXY RESIN ASBESTOS FILLERS POLYAMIDE DIETHYLENETRIAMINE	S	15.9(26) 6.8 1.8 3.2 3.6 .5	35.0(26) 15.0 4.0 7.0 8.0 1.0	84.9	.0	.0	.0	.0	.0
STA. SET-31 CAT=CA CONTAMINATED AIR FILTERS	S	22.7	50.0	1415.8(21)	.0	.0	.0	.0	.0
STA. SET-31 CAT=CA CHARCOAL FILTER WASTES	S				.0	.0	.0	.0	.0
STA. SET-31 CAT=CA CONTAMINATED AIR FILTERS	S	22.7	50.0	1415.8(21)	.0	.0	.0	.0	.0
STA. SET-31 CAT=CN BOSTIK PRIMER PAINT CANS	S	6.8(6)	15.0(6)	56.6	.0	.0	.0	.0	.0
STA. SET-31 CAT=CN BOSTIK TOPCOAT PAINT CANS	S	20.4(6)	45.0(6)	169.9	.0	.0	.0	.0	.0
STA. SET-31 CAT=CN RUSTOLEUM PRIMER PAINT CANS	S	.9(6)	2.0(6)	8.5	.0	.0	.0	.0	.0

TABLE 8 (CONT.) UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH		VOLUME		QUANTITY PER EVENT		QUANTITY PER EVENT		VOLUME	
		MASS KILOGRAMS	POUNDS	LITERS (1)	GAL OR CF	MASS KILOGRAMS	POUNDS	MASS KILOGRAMS	POUNDS	LITERS (1)	GAL OR CF
STA. SET-31 CAT=CN RUSTOLEUM TOPCOAT PAINT CANS	S	.9 (6)	2.0 (6)	9.5	.3	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT=CN MSA-1 EMPTY CONTAINERS	S	453.6 (20)	1000.0 (20)	8494.0	300.0	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT=CN KSHA CONTAINERS	S	3.4	7.5	56.6	2.0	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT=CN KSHA & MTA-2 PACKING MATERIALS	S	2267.9 (20)	5000.0 (20)	42474.0	1500.0	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT=CR SOLVENT CONTAMINATED RAGS	S	4.5 (9)	10.0 (9)	56.6	2.0	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT=CR ALODINE CONTAMINATED RAGS	S	2.3 (9)	5.0 (9)	28.3	1.0	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT=CR RYMPLE CLOTHS	S	4.5 (9)	10.0 (9)	56.6	2.0	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT=CR PAINT DROP CLOTHS	S	6.0 (9)	15.0 (9)	84.9	3.0	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT=EW WASTEWATER FROM EEMS	L	1211.3 (4)	2670.4 (4)	1211.2 (4)	320.0 (4)	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT=FO FUEL AND OIL SPILLS	L	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT=FO FUEL & OIL WASTES	L	38.1	84.0	37.0	10.0	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT=FB PRIMOL 355 (11)	L	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT=HS SCRUBBER EFFLUENT	L	37.6 (10)	83.0 (10)	37.0	10.0	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT=HY HYDRAZINE	L	109.5	241.3	109.0	28.8	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT=IN MSA-1 (CURED) (20)	S	90.7	200.0	1248.7	44.1 (25)	.0	.0	.0	.0	.0	.0
EPICHLDRYDRIN/BGE		36.3	80.1			.0	.0	.0	.0	.0	.0
GLASS ECOSPHERES		10.7	23.6			.0	.0	.0	.0	.0	.0
PHENOLIC MICROSPHERES		32.2	70.9			.0	.0	.0	.0	.0	.0
GLASS FIBERS		4.0	8.8			.0	.0	.0	.0	.0	.0
BENTONE 27		3.0	6.7			.0	.0	.0	.0	.0	.0

(CONT.)

TABLE 8 (CONT.)

UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

PAGE 12

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH BASELINE		QUANTITY PER EVENT CONTINGENCY		VOLUME	
		MASS KILOGRAMS	POUNDS	MASS KILOGRAMS	POUNDS	LITERS(1)	GAL OR CF
METHYLENE DIANILINE		3.2	7.0	.0	.0		.0
m-PHENYLENE DIAMINE		1.3	2.9	.0	.0		.0
STA. SET-31 CAT-IN							
MSA-1, PART A (UNMIXED)(30)	L			.0	.0	.0	.0
METHYLENE CHLORIDE				.0	.0		.0
EPICHLORHYDRIN/BCE				.0	.0		.0
STA. SET-31 CAT-IN							
MSA-1, PART B (UNMIXED)(30)	L			.0	.0	.0	.0
METHYLENE CHLORIDE				.0	.0		.0
PERCHLOROETHYLENE				.0	.0		.0
METHYLENE DIANILINE				.0	.0		.0
m-PHENYLENE DIAMINE				.0	.0		.0
ETHYL ALCOHOL				.0	.0		.0
PHENOLIC MICROSPHERES				.0	.0		.0
GLASS ECOSPHERES				.0	.0		.0
GLASS FIBERS				.0	.0		.0
BENTONE 27				.0	.0		.0
STA. SET-31 CAT-IN							
MTA-2 (CURED)(25)	S	45.4	100.0	.0	.0	150.0	.0
EPICHLORHYDRIN/BCE		14.0	30.9	.0	.0	4247.4	.0
LP-3, POLYSULFIDE LIQ POLYMER		14.0	30.9	.0	.0		.0
MDA & BPDA		5.6	12.3	.0	.0		.0
STANNOUS OCTOATE		.5	1.2	.0	.0		.0
PHENOLIC MICROSPHERES		11.2	24.7	.0	.0		.0
STA. SET-31 CAT-IN							
MTA-2 (UNMIXED)(30)	L	13.6	30.0	.0	.0	40.0	.0
EPICHLORHYDRIN/BCE		4.2	9.3	.0	.0		.0
LP-3, POLYSULFIDE LIQ POLYMER		4.2	9.3	.0	.0		.0
MDA & BPDA		1.7	3.7	.0	.0		.0
STANNOUS OCTOATE		.2	.4	.0	.0		.0
PHENOLIC MICROSPHERES		3.4	7.4	.0	.0		.0
METHYLENE CHLORIDE				.0	.0		.0
PERCHLOROETHYLENE				.0	.0		.0
STA. SET-31 CAT-IN							
KSHA	S	7.3	16.0	.0	.0	2.0	.0
BUTYL GLYCIDYL ETHER				.0	.0		.0
EPOXY RESINS				.0	.0		.0
STA. SET-31 CAT-IN							
INSULATION AND PAPER	S			.0	.0	.0	.0
STA. SET-31 CAT-PA							
BUSTIK EPOXY PRIMER	L	12.2	27.0	.0	.0	11.4	.0
EPOXY RESIN		1.6	3.5	.0	.0		.0
AMINE CURING AGENT		.3	.6	.0	.0		.0

(CONT.)

TABLE 8 (CONT.)

UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

PAGE 13

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH BASELINE		VOLUME LITERS(I)		QUANTITY PER EVENT CONTINGENCY		VOLUME LITERS(II)	
		MASS KILOGRAMS	POUNDS	GAL OR CF	MASS KILOGRAMS	POUNDS	MASS KILOGRAMS	GAL OR CF	MASS KILOGRAMS
TITANIUM DIOXIDE		.3	.6		.0	.0	.0		.0
CHROMATE PIGMENTS		.5	1.2		.0	.0	.0		.0
INERT PIGMENTS		1.7	3.8		.0	.0	.0		.0
SUSPENSION & FLOW CONTROL ADDI		<.1	.1		.0	.0	.0		.0
SOLVENTS		7.3	16.2		.0	.0	.0		.0
STA. SET-31 CAT-PA									
BOSTIK EPOXY TOPCOAT	L	16.8	37.0	15.1	4.0	.0	.0	.0	.0
EPICHLORHYDRIIN/BISPHENOL A		4.1	9.0		.0	.0	.0		.0
AMINE CURING AGENT		.6	1.4		.0	.0	.0		.0
COLOR PIGMENT		3.4	7.5		.0	.0	.0		.0
SUSPENSION & FLOW CONTROL ADDI		.2	.5		.0	.0	.0		.0
SOLVENTS PHOTOCHROM REACTIVE		1.6	3.5		.0	.0	.0		.0
SOLVENTS NONPHOTOCHROM REACTIVE		6.8	15.0		.0	.0	.0		.0
STA. SET-31 CAT-PA									
RUSTOLEUM PRIMER	L	3.6	8.0	3.8	1.0	.0	.0	.0	.0
SILICATES		.6	1.3		.0	.0	.0		.0
YELLOW IRON OXIDE		.3	.6		.0	.0	.0		.0
TITANIUM DIOXIDE		.1	.2		.0	.0	.0		.0
CALCIUM BOROSILICATE		.7	1.5		.0	.0	.0		.0
BENTONITE		<.1	<.1		.0	.0	.0		.0
LINSEED PHENOLIC ALKYL RESIN		.7	1.6		.0	.0	.0		.0
ALIPHATIC HYDROCARBONS		1.2	2.6		.0	.0	.0		.0
DRIERS AND ADDITIVES		.1	.2		.0	.0	.0		.0
STA. SET-31 CAT-PA									
RUSTOLEUM TOPCOAT	L	3.6	8.0	3.8	1.0	.0	.0	.0	.0
SILICATES		1.2	2.6		.0	.0	.0		.0
TITANIUM DIOXIDE		.6	1.4		.0	.0	.0		.0
BENTONITE CLAY		<.1	<.1		.0	.0	.0		.0
TINTING COLORS		.1	.2		.0	.0	.0		.0
ALKYL RESIN		.6	1.4		.0	.0	.0		.0
ALIPHATIC HYDROCARBONS		1.1	2.4		.0	.0	.0		.0
DRIERS & ADDITIVES		<.1	.1		.0	.0	.0		.0
STA. SET-31 CAT-PA									
GACOFLEX	L	17.7	39.0	11.4	3.0	.0	.0	.0	.0
TITANIUM DIOXIDE		1.2	2.7		.0	.0	.0		.0
CLAY		1.4	3.1		.0	.0	.0		.0
HYPALON		1.8	3.9		.0	.0	.0		.0
HYDROCARBON RESIN		.4	.8		.0	.0	.0		.0
PERCHLOROETHYLENE		8.3	18.3		.0	.0	.0		.0
1,1,1-TRICHLOROETHANE		4.4	9.8		.0	.0	.0		.0
EPOXIDIZED SOYBEAN OIL		.2	.4		.0	.0	.0		.0
STA. SET-31 CAT-PA									
PRINT-SPILL ABSORBANT	L	.0	.0	.0	.0	.0	.0	.0	.0
STA. SET-31 CAT-PW									
ALDOLINE CONTAMINATED WASTE	L	151.5(118)	334.6(118)	151.4	40.0	.0	.0	.0	.0
(CONT.)									

TABLE 8 (CONT.)

UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

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WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH		VOLUME LITERS(1)	GAL OR CF	MASS KILOGRAMS	QUANTITY PER EVENT CONTINGENCY		VOLUME LITERS(1)	GAL OR CF
		MASS KILOGRAMS	POUNDS				POUNDS			
CHROMIC ACID		2.7(31)	5.9(31)			.0	.0		.0	.0
FERRICYANIDE SALT		1.5	3.3			.0	.0		.0	.0
COMPLEX FLUORIDE SALT		.0	.1			.0	.0		.0	.0
STA. SET-31 CAT-SO PERCHLOROETHYLENE	L	.6	1.4	.4	.1	.0	.0	.0	.0	.0
STA. SET-31 CAT-SO TRICHLOROETHANE	L	.5	1.1	.4	.1	.0	.0	.0	.0	.0
STA. SET-31 CAT-SO FREON 113	L	.6	1.3	.4	.1	.0	.0	.0	.0	.0
STA. SET-31 CAT-SO NSA-1 CONTAMINATED MEC1	L	1505.5	3319.0	1135.5	300.0	.0	.0	.0	.0	.0
STA. SET-31 CAT-SO NSA-1 CONTAM PERCHLOROETHYLENE	L	1852.0	4083.0	1135.5	300.0	.0	.0	.0	.0	.0
STA. SET-31 CAT-SO PERCHLOROETHYLENE	L	277.6	612.0	170.3	45.0	.0	.0	.0	.0	.0
STA. SET-31 CAT-SO TRICHLOROETHANE	L	81.6	180.0	60.6	16.0	.0	.0	.0	.0	.0
STA. SET-31 CAT-SO METHYLENE CHLORIDE	L	255.8	564.0	193.0	51.0	.0	.0	.0	.0	.0
STA. SET-31 CAT-SO NTA-2 CONTAMINATED SOLVENTS	L	529.8(26)	1168.0(26)	378.5	100.0	.0	.0	.0	.0	.0
STA. SET-31 CAT-SO BOSTIK CONTAMINATED SOLVENTS	L	264.9(26)	584.0(26)	189.3	50.0	.0	.0	.0	.0	.0
STA. SET-31 CAT-SO AUSTOLEUM CONTAMINATED SOLVENT	L	264.9(26)	584.0(26)	189.3	50.0	.0	.0	.0	.0	.0
SUBTOTAL FOR STA. SET 31 SOLIDS		2976.7	6562.5	59964.0	2117.7					
LIQUIDS		6649.4	14659.5	5197.2	1373.1					
SUBTOTAL		9626.1	21222.0							
STA. SET-32 CAT-SO LITHIUM STORAGE BATTERIES	S	24.5	54.0	42.5	1.5	.0	.0	.0	.0	.0
STA. SET-32 CAT-SO SILVER-ZINC STORAGE BATTERIES	S	40.8	90.0	51.0	1.8	.0	.0	.0	.0	.0
STA. SET-32 CAT-SO POTASSIUM HYDROXIDE SOLUTION	L	8.7(18)	19.2(18)	8.7	2.3	.0	.0	.0	.0	.0

TABLE 8 (CONT.)

UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

PAGE 15

WASTE MATERIAL	SOL OR LIO	QUANTITY PER LAUNCH BASELINE			QUANTITY PER EVENT CONTINGENCY				
		MASS KILOGRAMS	POUNDS	VOLUME LITERS(1)	GAL OR CF	MASS KILOGRAMS	POUNDS	VOLUME LITERS(1)	GAL OR CF
STA. SET-32 CAT-CB HYDRAZINE-CONTAMINATED WATER	L	108.9(18)	240.0(18)	113.6	30.0	.0	.0	.0	.0
STA. SET-32 CAT-CS CONTAMINATED SEAWATER(32)	L	.0	.0	.0	.0	.0	.0	.0	.0
STA. SET-32 CAT-CS CONTAMINATED SEAWATER(32)	L	14514.9	32000.0	15140.0	4000.0	.0	.0	.0	.0
STA. SET-32 CAT-CV SRB FWD 6KT CLEANING WASTES	L					.0	.0	.0	.0
STA. SET-32 CAT-EV WASTEWATER FROM EEWSS	L	605.6(4)	1335.2(4)	605.6(4)	160.0(4)				
STA. SET-32 CAT-FO BILGE WASTES	L					.0	.0	.0	.0
STA. SET-32 CAT-FO DIESEL FUEL & OIL SPILLS	L	.0	.0	.0	.0				
STA. SET-32 CAT-FS WASTE FUEL & PRIMOL 355(11) HYDRAZINE	L	.0 .0	.0 .0	.0 .0	.0 .0				
STA. SET-32 CAT-HS HYDRAZINE SCRUBBER EFFLUENT HYDRAZINE	L	191.4(18) 1.6	400.0(18) 3.6	189.3	50.0 .4	.0 .0	.0 .0	.0 .0	.0 .0
STA. SET-32 CAT-HY HYDRAZINE	L	41.0	90.5	40.9	10.8	.0	.0	.0	.0
STA. SET-32 CAT-IN INSULATION WASTES, SOLID(33) MSA-1 INSULATION MTA-2 INSULATION KSHA INSULATION PR-855 INSULATION	S	725.7	1600.0	11326.4(34)	400.0(34)	.0 .0 .0 .0 .0	.0 .0 .0 .0 .0	.0 .0 .0 .0 .0	.0 .0 .0 .0 .0
STA. SET-32 CAT-IN INSULATION CONTAM FILTERS	S	4.5(21)	10.0(21)	283.2	10.0	.0	.0	.0	.0
STA. SET-32 CAT-IN INSULATION-CONTAMINATED WATER(33) MSA-1 INSULATION MTA-2 INSULATION KSHA INSULATION PR-855 INSULATION	L	185291.5(18)	408500.0(18)	185313.6	48960.0	.0 .0 .0 .0 .0	.0 .0 .0 .0 .0	.0 .0 .0 .0 .0	.0 .0 .0 .0 .0
STA. SET-32 CAT-PR PRESERVATIVE CHEMICALS (CONT.)	L					.0	.0	.0	.0

TABLE 8 (CONT.)

UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

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WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH BASELINE		VOLUME		MASS		QUANTITY PER EVENT CONTINGENCY		VOLUME	
		MASS KILOGRAMS	POUNDS	LITERS(1)	GAL OR CF	KILOGRAMS	POUNDS	LITERS(1)	GAL OR CF		
PROTECTIVE LUBRICANTS											
STA. SET=32 CAT=PS	S	.0	.0	.0	.0	78.5(24)	173.0(24)	39.6(24)	1.4(24)		
SRB SOLID PROPELLANT		.0	.0		.0	54.4	120.0				
AMMONIUM PERCHLORATE		.0	.0		.0	12.7	28.0				
ALUMINUM POWDER		.0	.0		.0	.5	1.0				
FERRIC OXIDE		.0	.0		.0	10.9	24.0				
POLYMER & EPOXY RESIN											
STA. SET=32 CAT=SB	L	34935.7	76800.0	36336.0	9600.0	.0	.0	.0	.0		
DETERGENT WASHWATER(35)											
STA. SET=32 CAT=SB	L	120473.5	265600.0	125662.0	33200.0	.0	.0	.0	.0		
POTABLE RINSE WATER											
STA. SET=32 CAT=SB	L	56390.3	124320.0	58818.9	15540.0	.0	.0	.0	.0		
DEIONIZED RINSE WATER											
STA. SET=32 CAT=SI	L	21772.3	48000.0	22710.0	6000.0	.0	.0	.0	.0		
SRB RINSE WATER											
STA. SET=32 CAT=SO	L	10.6(26)	23.4(26)	7.6	2.0	.0	.0	.0	.0		
SOLVENTS						.0	.0	.0	.0		
FREON TMC/TH						.0	.0	.0	.0		
SOLVENTS, UNSPECIFIED						.0	.0	.0	.0		
SUBTOTAL FOR STA. SET 32											
SOLIDS		795.6	1754.0	11703.0	413.3						
LIQUIDS		434234.5	957328.3	444946.1	117595.1						
SUBTOTAL		435030.1	959082.3								
STA. SET=33 CAT=CA	S	4.5(21)	10.0(21)	283.2	10.0	.0	.0	.0	.0		
AIR FILTERS											
STA. SET=33 CAT=EW	L	189.1	417.0	189.3	50.0						
WASTEWATER FROM EEWAS											
STA. SET=33 CAT=HF	L					.0	.0	.0	.0		
HYDRAULIC FLUIDS											
SUBTOTAL FOR STA. SET 33											
SOLIDS		4.5	10.0	283.2	10.0						
LIQUIDS		189.1	417.0	189.3	50.0						
SUBTOTAL		193.7	427.0								
STA. SET=99 CAT=AW	S	5.9	13.0			.0	.0	.0	.0		
CX-6300 ABLATOR ADHESIVE		.6	1.3			.0	.0	.0	.0		
RESIN STM L 663											
(CONT.)											

TABLE 8 (CONT.)

UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

PAGE 17

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH BASELINE			QUANTITY PER EVENT CONTINGENCY				
		MASS KILOGRAMS	POUNDS	VOLUME LITERS(1)	VOLUME GAL OR CF	MASS KILOGRAMS	POUNDS	LITERS(1)	VOLUME GAL OR CF
RESIN STM L 664		2.2	4.8			.0	.0		.0
SILICA POWDER		.2	.4			.0	.0		.0
CARBON POWDER		.2	.4			.0	.0		.0
CURING AGENT L 663		.2	.5			.0	.0		.0
CURING AGENT L 664		<.1	.1			.0	.0		.0
HEPTANE		2.4	5.2			.0	.0		.0
XYLENE		.1	.3			.0	.0		.0
STA. SET=99 CAT=AW									
ISOCHEM POLYESTER RESIN ADHESV S		5.9	13.0			.0	.0		.0
STYRENE						.0	.0		.0
MEK PEROXIDE CATALYST						.0	.0		.0
DIMETHYL PHTHALATE						.0	.0		.0
STA. SET=99 CAT=CA									
FILTER	S					.0	.0		.0
STA. SET=99 CAT=CH									
SOLVENT CONTAMINATED CONTAINER S		2.3(28)	5.0(28)	42.5	1.5	.0	.0		.0
SOLVENTS(36)						.0	.0		.0
STA. SET=99 CAT=CH									
PRIMER CONTAMINATED CONTAINERS S		.3(28)	.7(28)	5.7	.2	.0	.0		.0
STA. SET=99 CAT=CH									
ADHESIVE CONTAMINATED CONTAINR S		.3(28)	.7(28)	5.7	.2	.0	.0		.0
STA. SET=99 CAT=CH									
SOLVENT CONTAINERS	S					.0	.0		.0
STA. SET=99 CAT=CH									
POUR FOAM CONTAINERS	S	22.7	50.0	379.4(28)	13.4(28)	.0	.0		.0
STA. SET=99 CAT=CH									
ABLATOR CONTAMINATED CONTAINER S		.3(28)	.7(28)	5.7	.2	.0	.0		.0
STA. SET=99 CAT=CR									
SOLVENT CONTAMINATED RACS	S	4.5(9)	10.0(9)	56.6	2.0	.0	.0		.0
STA. SET=99 CAT=CR									
ADHESIVE CONTAMINATED RACS	S	4.5(9)	10.0(9)	56.6	2.0	.0	.0		.0
STA. SET=99 CAT=CR									
EPOXY PRIMER-CONTAMINATED RACS S		2.3(9)	5.0(9)	28.3	1.0	.0	.0		.0
STA. SET=99 CAT=IN									
BX-250 FOAM (80F1)	S	117.9	260.0	3681.1	130.0	.0	.0		.0
DIPHENYL METHANE DIISOCYANATE		29.5	65.0			.0	.0		.0
FREON 11		19.1	42.0			.0	.0		.0
ANINES		10.4	23.0			.0	.0		.0
(CONT.)									

TABLE 8 (CONT.) UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH BASELINE		VOLUME		QUANTITY PER EVENT CONTINGENCY		VOLUME	
		MASS KILOGRAMS	POUNDS	LITERS(1)	GAL OR CF	POUNDS	LITERS(1)	GAL OR CF	
POLYOLS									
SUPER MEK PEROXIDE						.0			.0
POLYESTER RESIN						.0			.0
DIMETHYL PHTHALATE						.0			.0
STA. SET-99 CAT-IN									
POUR FOAM (MIXED)(29)	S	124.7(37)	275.0(37)	2775.0	98.0	.0	0		.0
POLYURETHANE						.0			.0
STA. SET-99 CAT-IN									
POUR FOAM PART A (UNMIXED)(30)	L	6.4	14.0	18.9	5.0	.0	0		.0
DIPHENYL METHANE DIISOCYANATE		3.2	7.0			.0			.0
FREON 11		2.0	4.5			.0			.0
POLYOLS, AMINES		1.1	2.5			.0			.0
STA. SET-99 CAT-IN									
POUR FOAM PART B (UNMIXED)(30)	L	6.4	14.0	18.9	5.0	.0	.0		.0
FREON 11		1.3	2.8			.0			.0
AMINE CATALYST		.1	.3			.0			.0
POLYETHER POLYOL BLEND		4.9	10.9			.0			.0
STA. SET-99 CAT-IN									
POUR FOAM CONTAMINATED PAPER	S	1.5(28)	3.3(28)	311.5	11.0	.0	.0		.0
STA. SET-99 CAT-IN									
SUPER LIGHT ABLATOR (1)	S	4.5	10.0	424.7(36)	15.0(36)	.0	.0		.0
RESIN L664, PT A		2.7	5.9			.0			.0
SILICA FIBERS		.3	.6			.0			.0
CORK		.5	1.2			.0			.0
PHENOLIC MICROSPHERES		.1	.3			.0			.0
SILICA MICROSPHERES		.6	1.4			.0			.0
CURING AGENT		.3	.6			.0			.0
STA. SET-99 CAT-IN									
SUPER LIGHT ABLATOR (11)	S	4.5	10.0	424.7(36)	15.0(36)	.0	.0		.0
RESIN STN L664, PT A		1.4	3.0			.0			.0
CARBON POWDER						.0			.0
SILICA FIBERS						.0			.0
CORK						.0			.0
SILICA MICROSPHERES						.0			.0
PHENOLIC MICROSPHERES						.0			.0
CURING AGENT STN L664, PT B		.8	1.7			.0	.6		.0
STA. SET-99 CAT-IN									
SUPER LIGHT ABLATOR (11)	S	4.5	10.0	424.7(36)	15.0(36)	.0	.0		.0
RESIN STN L664, PT A		1.4	3.0			.0			.0
CARBON POWDER						.0			.0
SILICA FIBERS						.0			.0
CORK						.0			.0
SILICA MICROSPHERES						.0			.0
PHENOLIC MICROSPHERES						.0			.0
CURING AGENT STN L664, PT B		.8	1.7			.0	.6		.0
STA. SET-99 CAT-IN									
POUR FOAM "TRIMMINGS"	S	4.5	10.0	424.7(36)	15.0(36)	.0	.0		.0
POLYURETHANE						.0			.0
STA. SET-99 CAT-PA									
EPOXY PRIMER	L	<.1	.1			.0	.0		.0
METHYLENE ISOBUTYL KETONE						.0			.0

(CONT.)

TABLE 8 (CONT.) UNIT GENERATION OF SHUTTLE TRANSPORT SYSTEM HAZARDOUS WASTES AT VAFB

WASTE MATERIAL	SOL OR LIQ	QUANTITY PER LAUNCH BASELINE		VOLUME LITERS(1) GAL OR CF		MASS KILOGRAMS		QUANTITY PER EVENT CONTINGENCY		VOLUME LITERS(1) GAL OR CF	
		MASS KILOGRAMS	POUNDS	LITERS(1)	GAL OR CF	KILOGRAMS	POUNDS	POUNDS	LITERS(1)	GAL OR CF	
XYLENE						.0	.0	.0			.0
CYCLOHEXANONE						.0	.0	.0			.0
CHROMATES						.0	.0	.0			.0
INORGANIC PIGMENTS						.0	.0	.0			.0
N-BUTANOL						.0	.0	.0			.0
TOLUENE						.0	.0	.0			.0
AMINO SILANE						.0	.0	.0			.0
METHYL ETHYL KETONE						.0	.0	.0			.0
STA. SET-99 CAT-PA	L	<.1(27)	<.1(27)	<.1	<.1	.0	.0	.0	.0	.0	.0
D.C. 1200						.0	.0	.0			.0
VM AND P NAPHTHA						.0	.0	.0			.0
ORGANOMETALLIC SALTS											
STA. SET-99 CAT-80	L	.1(27)	.3(27)	<.1	<.1	.0	.0	.0	.0	.0	.0
FREDON TNC											
STA. SET-99 CAT-80	L	.1(27)	.3(27)	<.1	<.1	.0	.0	.0	.0	.0	.0
1,1,1-TRICHLOROETHANE											
STA. SET-99 CAT-80	L	12.2	26.9	13.1	4.0	.0	.0	.0	.0	.0	.0
MEK & CELLOSOLVE											
STA. SET-99 CAT-80	L	75.1	165.5	113.2	29.9	.0	.0	.0	.0	.0	.0
HEPTANE											
STA. SET-99 CAT-80	L	107.0	236.0	113.2	29.9	.0	.0	.0	.0	.0	.0
CELLOSOLVE ACETATE											
STA. SET-99 CAT-80	L	88.4	194.9	109.8	29.0	.0	.0	.0	.0	.0	.0
METHYL ETHYL KETONE											
STA. SET-99 CAT-SR	L	.5	1.2	.4	.1	.0	.0	.0	.0	.0	.0
SOLVENT REDUCER						.0	.0	.0	.0	.0	.0
METHYL ETHYL KETONE		.4	.8	.0	.0	.0	.0	.0	.0	.0	.0
CYCLOHEXANONE		.2	.4			.0	.0	.0	.0	.0	.0
STA. SET-99 CAT-SW	L	81.0	178.6	113.6	30.0	.0	.0	.0	.0	.0	.0
SOLVENT CONTAMINATED WATER											
SUBTOTAL FOR STA. SET 99											
SOLIDS		306.8	676.4	8622.2	304.5						
LIQUIDS		377.3	831.9	503.0	132.9						
SUBTOTAL		684.1	1508.3								
GRAND TOTAL, ALL STATION SETS		4162.7	9177.3	92388.2	2909.6						
SOLIDS		1035809.3	2283580.5	1044184.5	275874.4						
LIQUIDS		1039972.0	2292758.0								
TOTAL											

1. Volume of solids and liquids is expressed in liters to maintain consistency in table format. Divide liters by 1,000 to obtain cubic meters of solids.
2. Station Set Zero is used for wastes from the space shuttle launches which are generated at a place other than a designated station set (e.g., SCAPE suit cleaning facility).
3. This assumes that cleaning the SCAPE suits will require approximately 2 gallons (7.6 liters) of freon per SCAPE suit.
4. Baseline amounts are based on the assumption that each SCAPE suit at a given station set is pre-rinsed with EEW&S water for 10 minutes at a rate of 4 gallons (15 liters) per minute once every launch cycle (20).
5. Waste is not generated every launch cycle. Amount per launch used to calculate amount per year represents an average for multiple launch cycles.
6. Paint cans are assumed to weigh 7.5 pounds per cubic foot (120 kg/m^3), or 1 pound per gallon can.
7. Spray cans are assumed to weigh 6 pounds per cubic foot (95 kg/m^3).
8. Cups and wood sticks are assumed to weigh 3 pounds per cubic foot (48 kg/m^3).
9. Contaminated rags are assumed to weigh 5 pounds per cubic foot (80 kg/m^3).
10. Contaminated clothes, cloth, and debris are assumed to weigh 2 pounds per cubic foot (32 kg/m^3).
11. Primol 355 is a high-viscosity mineral oil. Usage requires a design decision and Air Force approval. Either Primol 355, another oil, or a foam will be used to prevent vaporization of spilled hypergols.
12. Contingency is a once-around abort. It is assumed that once every 2 years, independent of the number of launches, one before-launch abort and one once-around abort will occur. Values reported on a per year basis represent half the waste from an abort.
13. Density of Instant Set Polymer scraps is assumed to be 5 pounds per cubic foot (79 kg/m^3).
14. This waste could be off-loaded either at Station Set V19 or V21. Station Set V19 has been arbitrarily chosen.
15. The operation generating this waste occurs once every 5 launches. The unit factor per launch used to calculate annual quantities equals the total amount of waste generated per operation divided by 5.
16. Paint brushes are assumed to weigh 8 pounds per cubic foot (128 kg/m^3).

17. This assumes a density of 0.8 g/ml (6.7 lb/gal).
18. This assumes the density of water (1.0 g/ml; 8.3 lb/gal).
19. This assumes that the acquisition screen test which produces the wastes occurs an average of once every three launch cycles.
20. This assumes that one payload bay kit is spilled per year, independent of the number of launches.
21. Contaminated filters are assumed to weigh 1 pound per cubic foot (16 kg/m³).
22. Contingency is a before-launch abort. It is assumed that once every 2 years, independent of the number of launches, one before-launch abort and one once-around abort will occur (15). Values reported on a per year basis represent half the waste from an abort.
23. This contingency could occur either at Station Set V23 or V31. Station Set V23 has been arbitrarily chosen.
24. This contingency assumes one SRB per year is damaged and releases propellant, independent of the number of launches. Contingency amounts for an SRB propellant spill are not included in the total contingency amounts for the station set and for all wastes combined. Should this unlikely event occur, it is assumed that the propellant will spontaneously ignite and burn.
25. Volume given is amount based on number of 55-gallon drums required to hold the waste.
26. This assumes a density of 1.4 g/ml (11.7 lb/gal), based on the average density of solvents commonly used for STS operations.
27. This assumes that 10 percent of total amount used becomes waste (4).
28. Containers and packing materials are assumed to weigh 0.3 pounds per cubic feet.
29. Insulation is mixed, but not used.
30. Insulation is unmixed, but with the shelf life exceeded.
31. This assumes wastewater is 5 percent alodine by weight.
32. Nature of contaminants not determined.

- 33. This assumes that all insulations are removed with equal efficiency. Quantities ignore loss of material due to burnoff.
- 34. This assumes a density of 4 pounds per cubic foot (64 kg/m^3).
- 35. Contains unidentified surfactants and/or detergents.
- 36. Solvents include Freon TMC, trichloroethane, methyl ethyl ketone, and cellosolve (4).
- 37. Density of pour foam is assumed to be 2.8 pounds per cubic foot (45 kg/m^3).
- 38. Density of ablator is assumed to be 0.67 pounds per cubic foot (10.6 kg/m^3).

TABLE 9. HAZARDOUS WASTE GENERATION FOR 1985 *

PAGE 1

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 17 CAT= S0 CONTAMINATED FREON	792.3 ⁽³⁾	1746.7 ⁽³⁾	9507.2 ⁽³⁾	20960.0 ⁽³⁾	.0	.0
SUBTOTAL FOR SET 0	792.3	1746.7	9507.2	20960.0	.0	.0
STA.SET= 17 CAT= EW WASTEWATER FROM EEWs	908.5 ⁽⁴⁾	2002.8 ⁽⁴⁾	10901.4 ⁽⁴⁾	24033.6 ⁽⁴⁾	.0	.0
STA.SET= 17 CAT= F0 DIESEL FUEL	.0	.0	.0	.0	.0	.0
STA.SET= 17 CAT= F0 DIESEL FUEL & OIL	.0	.0	.0	.0	.0	.0
STA.SET= 17 CAT= FS CONTAMINATED DILUTION WATER MMH	.0	.0	.0	.0	.0	.0
STA.SET= 17 CAT= OS CONTAMINATED DILUTION WATER H204	.0	.0	.0	.0	.0	.0
SUBTOTAL FOR SET 17	908.5	2002.8	10901.4	24033.6	.0	.0
STA.SET= 18 CAT= HF HYDRAULIC FLUIDS	1.4 ⁽⁵⁾	3.2 ⁽⁵⁾	17.2 ⁽⁵⁾	38.0 ⁽⁵⁾	.0	.0
SUBTOTAL FOR SET 18	1.4	3.2	17.2	38.0	.0	.0
STA.SET= 19 CAT= AU TPS ADHESIVE, RTV 566/577 PHENYL METHYL POLYSILOXANE TIN OXIDE IRON OXIDE SILICON HARDENER	.4	.8	4.5	10.0	.0	.0
STA.SET= 19 CAT= AU EA 911 EPOXY (CONT.)					.0	.0

HAZARDOUS WASTE GENERATION FOR 1985

TABLE 9 (CONT.)

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EPOXY					
ZINC CHROMATE					
ASBESTOS					
MERCAPTAN					
DIMETHYLAMINE					
STA.SET= 19 CAT= AW					
EA 934 EPOXY				.0	.0
EPOXY RESIN					
ASBESTOS					
STA.SET= 19 CAT= AW					
EA 9309 EPOXY				.0	.0
EPOXY RESIN					
GLASS FIBERS					
ACRYLONITRILE/BUTADIEN/STYRENE					
ASBESTOS					
POLYGLYCOL DIAMINE					
SILANE					
STA.SET= 19 CAT= CN					
SPRAYCANS OF TPS SEALER					
FLUORINATED SOLVENT					
FREON 113	2.3 ⁽⁶⁾	27.2 ⁽⁶⁾	60.0 ⁽⁶⁾	.0	.0
STA.SET= 19 CAT= CN					
KOROPON PRIMER CONTAM CANS					
BUTYL ACETATE					
METHYL ETHYL KETONE					
TOLUENE					
TALC - Mg SILICATES					
EPOXY RESIN					
STA.SET= 19 CAT= CN					
LACQUER SPRAY CANS	.9 ⁽⁷⁾	2.0 ⁽⁷⁾	24.0 ⁽⁷⁾	.0	.0
PIGMENT SOLIDS					
VEHICLE SOLIDS					
TOLUENE					
XYLENE					
HYDROCARBON PROPELLANT					
PETROLEUM DISTILLATES					
STA.SET= 19 CAT= CN					
ISP CONTAM CUPS & WOOD STICKS	.2 ⁽⁸⁾	2.7 ⁽⁸⁾	6.0 ⁽⁸⁾	.0	.0
INSTANT SET POLYMER					
STA.SET= 19 CAT= CN					
MARSHALL STENCIL INK SPRAYCANS	.1 ⁽⁷⁾	1.1 ⁽⁷⁾	2.4 ⁽⁷⁾	.0	.0
XYLENE					
(CONT.)					

TABLE 9 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

PAGE 3

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
NAPTHA OTHER MATERIALS						
STA.SET= 19 CAT= CN LACQUER SPRAYCANS PIGMENT SOLIDS VEHICLE SOLIDS TOLUENE XYLENE HYDROCARBON PROPELLANT PETROLEUM DISTILLATES	.7 ⁽⁷⁾	1.6 ⁽⁷⁾	8.7 ⁽⁷⁾	19.2 ⁽⁷⁾	.0	.0
STA.SET= 19 CAT= CN ENAMEL SPRAYCANS	1.4 ⁽⁷⁾	3.0 ⁽⁷⁾	16.3 ⁽⁷⁾	36.0 ⁽⁷⁾	.0	.0
STA.SET= 19 CAT= CN ZINC CHROMATE PRIMER CANS	1.4 ⁽⁷⁾	3.0 ⁽⁷⁾	16.3 ⁽⁷⁾	36.0 ⁽⁷⁾	.0	.0
STA.SET= 19 CAT= CN CONTAMINATED TARE CUPS EA 911 EPOXY EA 934 EPOXY EA 9309 EPOXY					.0	.0
STA.SET= 19 CAT= CR RACS WITH SOLVENTS, GREASES	1.5 ⁽⁹⁾	3.3 ⁽⁹⁾	18.1 ⁽⁹⁾	40.0 ⁽⁹⁾	.0	.0
STA.SET= 19 CAT= CR SOLVENT-CONTAM CHEESECLOTH ISOPROPYL ALCOHOL METHYL ETHYL KETONE 1,1,1-TRICHLOROETHANE					.0	.0
STA.SET= 19 CAT= CR MEK & IPA CONTAM CHEESECLOTH METHYL ETHYL KETONE ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESECLOTH ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR TCE CONTAMINATED CHEESECLOTH 1,1,1-TRICHLOROETHANE					.0	.0
STA.SET= 19 CAT= CR MEK CONTAMINATED CHEESECLOTH METHYL ETHYL KETONE					.0	.0

TABLE 9 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

PAGE 4

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESEECLOTH ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR SOLID FILM LUBRIC CONT CHSECLTH					.0	.0
STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESEECLOTH ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR DICHLOROMETHANE CONT CHSECLTH					.0	.0
STA.SET= 19 CAT= CR CONTAIN CLOTHES, CLOTH & DEBRIS KOROPON BASE PRIMER KOROPON ACTIVATOR BERYLLIUM DUST	1.5 ⁽¹⁰⁾	3.3 ⁽¹⁰⁾	18.1 ⁽¹⁰⁾	40.0 ⁽¹⁰⁾	.0	.0
STA.SET= 19 CAT= EW WASTEWATER FROM EEW&S	1009.4 ⁽⁴⁾	2225.3 ⁽⁴⁾	12112.7 ⁽⁴⁾	26704.0 ⁽⁴⁾		
STA.SET= 19 CAT= FS WASTEWATER FROM PAYLOAD/ORB MMH	181.4 18.1	400.0 40.0	2177.2 217.7	4800.0 480.0	.0	.0
STA.SET= 19 CAT= FS WASTE FUEL AND PRIMOL 355 ⁽¹¹⁾ HYDRAZINE & MMH	12.1 .6	26.7 1.3	145.1 7.3	320.0 16.0		
STA.SET= 19 CAT= HF VACUUM PUMP OIL TEXACO REGAL OIL 068	1.5	3.3	18.1	40.0	.0	.0
STA.SET= 19 CAT= HS FUEL SCRUBBER HYDRAZINE & MMH	846.7 16.9	1866.7 37.3	10160.4 203.2	22400.0 448.0	.0	.0
STA.SET= 19 CAT= HY HYDRAZINE	.0	.0	.0	.0	2494.7 ⁽¹²⁾	5500.0 ⁽¹²⁾
STA.SET= 19 CAT= HY HYDRAZINE	22.7	50.0	272.2	600.0	34.0 ⁽¹²⁾	75.0 ⁽¹²⁾
STA.SET= 19 CAT= IN POLYURETHANE FOAM	1.5	3.3	18.1	40.0	.0	.0

HAZARDOUS WASTE GENERATION FOR 1985

TABLE 9 (CONT.)

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 19 CAT= IN ALUMACAST A/B MIXTURE POLYPROPYLENE PENTAERYTHRITOL AROMATIC WHITE OIL INERT ALUMINIZED PARTICLES DIPHENYLMETHANE DIISOCYANATE POLYMERS OF DPM DIISOCYANATE	<.1	.1	.5	1.2	.0	.0
STA.SET= 19 CAT= IN INSTANT SET POLYMER SCRAPS DIPHENYL METHANE DIISOCYANATE POLY(OXALKYLENE)POLYETHER AROMATIC HYDROCARBONS	.6 ⁽¹³⁾	1.3 ⁽¹³⁾	7.3 ⁽¹³⁾	16.0 ⁽¹³⁾	.0	.0
STA.SET= 19 CAT= IN SILANE/ACETIC ACID RESINUE METHYL TRIMETHOXY-SILANE ACETIC ACID	.2	.3	1.8	4.0	.0	.0
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE	11.8	26.6	141.5	312.0	.0	.0
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE	3.0	6.7	36.3	80.0	.0	.0
STA.SET= 19 CAT= MH ⁽¹⁴⁾ MONOMETHYL HYDRAZINE	6.3 ⁽¹⁵⁾	13.8 ⁽¹⁵⁾	75.1 ⁽¹⁵⁾	165.6 ⁽¹⁵⁾	107.3 ⁽¹²⁾	236.5 ⁽¹²⁾
STA.SET= 19 CAT= MH ⁽¹⁴⁾ MONOMETHYL HYDRAZINE	6.3 ⁽¹⁵⁾	13.8 ⁽¹⁵⁾	75.1 ⁽¹⁵⁾	165.6 ⁽¹⁵⁾	148.3 ⁽¹²⁾	327.0 ⁽¹²⁾
STA.SET= 19 CAT= MH ⁽¹⁴⁾ MONOMETHYL HYDRAZINE	4.4 ⁽¹⁵⁾	9.8 ⁽¹⁵⁾	53.3 ⁽¹⁵⁾	117.6 ⁽¹⁵⁾	182.8 ⁽¹²⁾	403.0 ⁽¹²⁾
STA.SET= 19 CAT= MH ⁽¹⁴⁾ MONOMETHYL HYDRAZINE	13.9 ⁽¹⁵⁾	30.6 ⁽¹⁵⁾	166.6 ⁽¹⁵⁾	367.2 ⁽¹⁵⁾	.0	.0
STA.SET= 19 CAT= NH WASTEWATER WITH AMMONIA	12.1 ⁽¹⁵⁾	26.7 ⁽¹⁵⁾	145.1 ⁽¹⁵⁾	320.0 ⁽¹⁵⁾	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	1.8	4.0	21.8	48.0	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	3.3	7.2	39.2	86.4	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	11.4 ⁽¹⁵⁾	25.2 ⁽¹⁵⁾	137.2 ⁽¹⁵⁾	302.4 ⁽¹⁵⁾	163.1 ⁽¹²⁾	359.5 ⁽¹²⁾

TABLE 9 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

PAGE 6

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	11.4 ⁽¹⁵⁾	25.2 ⁽¹⁵⁾	137.2 ⁽¹⁵⁾	302.4 ⁽¹⁵⁾	232.9 ⁽¹²⁾	513.5 ⁽¹²⁾
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	8.0 ⁽¹⁵⁾	17.5 ⁽¹⁵⁾	95.4 ⁽¹⁵⁾	210.4 ⁽¹⁵⁾	286.2 ⁽¹²⁾	631.0 ⁽¹²⁾
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	26.5 ⁽¹⁵⁾	58.4 ⁽¹⁵⁾	317.9 ⁽¹⁵⁾	700.8 ⁽¹⁵⁾	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	4082.3 ⁽¹²⁾	9000.0 ⁽¹²⁾
STA.SET= 19 CAT= OS DECONTAMINATE FROM PAYLOAD/ORB N204	96.8 .9	213.3 2.0	1161.2 10.9	2560.0 24.0	.0	.0
STA.SET= 19 CAT= OS WASTE OXIDIZER AND PRIMOL 355 ⁽¹¹⁾ N204	12.4 .9	27.3 2.0	148.8 10.9	328.0 24.0	.0	.0
STA.SET= 19 CAT= PA KOROPON PRIMER CONT PNT BRUSHES BUTYL ACETATE TALC - Mg SILICATES EPOXY RESIN	6.0 ⁽¹⁶⁾	13.3 ⁽¹⁶⁾	72.6 ⁽¹⁶⁾	160.0 ⁽¹⁶⁾	.0	.0
STA.SET= 19 CAT= PA LACQUER #626486	.2 ⁽¹⁷⁾	. ⁽¹⁷⁾	2.4 ⁽¹⁷⁾	5.2 ⁽¹⁷⁾	.0	.0
STA.SET= 19 CAT= PA CONTAMINATED BRUSHES ORGANIC ZINC PRIMER ZINC CHROMATE PRIMER	.6 ⁽¹⁶⁾	1.3 ⁽¹⁶⁾	7.3 ⁽¹⁶⁾	16.0 ⁽¹⁶⁾	.0	.0
STA.SET= 19 CAT= PA ORGANIC ZINC PRIMER ZINC DUST EPOXYES POLYBDATE ORANGE SILICA HIGH MOLECULAR WEIGHT EPOXY CELLSOLVE ACETATE TOLUENE METHYL ETHYL KETONE	1.9 ⁽¹⁸⁾	4.2 ⁽¹⁸⁾	22.7 ⁽¹⁸⁾	50.0 ⁽¹⁸⁾	.0	.0
STA.SET= 19 CAT= PA CONTAMINATED PAINT BRUSHES EA 911 EPOXY (CONT.)	.6 ⁽¹⁶⁾	1.3 ⁽¹⁶⁾	7.3 ⁽¹⁶⁾	16.0 ⁽¹⁶⁾	.0	.0

TABLE 9 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EA 934 EPOXY						
EA 9309 EPOXY						
STA.SET= 19 CAT= 90						
DOPE & LACQUER THINNER	.3	.6	3.3	7.2	.0	.0
ALIPHATIC NAPHTHA	<.1	.1	.5	1.2		
ESTER OR KETONE	.1	.3	1.5	3.2		
ISO- OR n-BUTYL ACETATE	.1	.2	.9	2.0		
ISO- OR n-BUTYL ALCOHOL	<.1	.1	.4	.8		
STA.SET= 19 CAT= SW						
WASHWATER WITH MEK	14.1	31.2	169.6	374.0	.0	.0
METHYL ETHYL KETONE	2.0	4.5	24.5	54.0		
SUBTOTAL FOR SET 19	2339.5	5157.8	28074.3	61293.6	7731.7	17045.5
STA.SET= 21 CAT= EV						
WASTEWATER FROM EEW&S	908.5 ⁽⁴⁾	2002.8 ⁽⁴⁾	10901.4 ⁽⁴⁾	24033.6 ⁽⁴⁾		
STA.SET= 21 CAT= FS						
WASTEWATER WITH MMH	36.0	79.3	431.8	952.0	.0	.0
	3.3	7.3	39.9	88.0		
STA.SET= 21 CAT= H3						
FUEL SCRUBBER	121.0	266.7	1451.5	3209.0	.0	.0
MMH	2.2	4.9	26.5	58.4		
STA.SET= 21 CAT= IN						
TILE REPAIR FOAM	1.5	3.3	18.1	40.0	.0	.0
POLYURETHANE	1.5	3.3	18.1	40.0		
STA.SET= 21 CAT= MH						
MONOMETHYL HYDRAZINE	.0	.0	.0	.0		
STA.SET= 21 CAT= NO						
NITROGEN TETROXIDE	.0	.0	.0	.0	6531.7 ⁽¹⁹⁾	14400.0 ⁽¹⁹⁾
STA.SET= 21 CAT= NO						
NITROGEN TETROXIDE	5.0	11.0	59.9	132.0	.0	.0
STA.SET= 21 CAT= NO						
NITROGEN TETROXIDE	17.1	37.7	205.0	452.0	.0	.0
STA.SET= 21 CAT= NO						
NITROGEN TETROXIDE	.0	.0	.0	.0	4898.8 ⁽²⁰⁾	10890.0 ⁽²⁰⁾
STA.SET= 21 CAT= OS						
WASTEWATER WITH OXIDIZER	24.3	53.5	291.0	641.6	.0	.0

(CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

TABLE 9 (CONT.)

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
N204	.2	.4	2.2	4.8		
STA.SET= 21 CAT= SW WASTEWATER WITH MEK METHYL ETHYL KETONE	14.1 2.0	31.1 4.5	169.5 24.3	373.6 53.6	.0	.0
STA.SET= 21 CAT= WP WASTE SEALS, FILTERS, ETC.	1.5 ⁽²¹⁾	3.3 ⁽²¹⁾	18.1 ⁽²¹⁾	40.0 ⁽²¹⁾	.0	.0
SUBTOTAL FOR SET 21	1128.9	2488.7	13546.4	29864.8	11430.5	25200.0
STA.SET= 23 CAT= EW WASTEWATER FROM EEW'S	1003.4	2225.3	12112.7	26704.0		
STA.SET= 23 CAT= FS HYDRAZINE-CONTAM. WASTEWATER HYDRAZINE	169.3 9.4	417.3 20.7	2271.6 112.5	5009.0 248.0		
STA.SET= 23 CAT= FS HYDRAZINE-CONTAM. CLNUP WATER HYDRAZINE	43.0 .7	139.0 1.5	756.6 8.3	1668.0 19.4		
STA.SET= 23 CAT= FS WASTEWATER FROM PPR HYDRAZINE	757.0	1669.0	9084.5	20028.0		
STA.SET= 23 CAT= FS PRIMOL 355 ⁽¹¹⁾ HYDRAZINE MMH	113.5	250.3	1362.6	3004.0		
STA.SET= 23 CAT= HF HYDRAULIC FLUIDS TETRAORTHOCESOL PHOSPHATE	131.2 131.2	289.3 289.3	1574.9 1574.9	3472.0 3472.0	.0	.0
STA.SET= 23 CAT= HS HYDRAZINE & MMH SCRUBBER HYDRAZINE MMH	252.3 ⁽¹⁸⁾ 5.6 4.4	556.3 ⁽¹⁸⁾ 12.3 9.7	3028.2 ⁽¹⁸⁾ 67.1 52.6	6676.0 ⁽¹⁸⁾ 148.0 116.0	.0	.0
STA.SET= 23 CAT= HY HYDRAZINE	69.4	153.0	832.8	1836.0	.0	.0
STA.SET= 23 CAT= HY LBM PROPELLANT PARAHYDRAZINE (CONT.)	.0 .0	.0 .0	.0 .0	.0 .0	39689.1 ⁽²²⁾	87500.0 ⁽²²⁾

TABLE 5 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

PAGE 9

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
UNSYM DIMETHYLHYDRAZINE	.0	.0	.0	.0		
STA.SET= 23 CAT= HY HYDRAZINE	.0	.0	.0	.0	2712.7 ⁽²²⁾	5980.5 ⁽²²⁾
STA.SET= 23 CAT= IN KSWA INSULATION	3.5	7.7	41.7	92.0	.0	.0
BUTYL GLYCIDYL ETHER EPOXY RESINS, UNCURED						
STA.SET= 23 CAT= MH MONOMETHYL HYDRAZINE	110.2	243.0	1322.7	2916.0	.0	.0
STA.SET= 23 CAT= MH MONOMETHYL HYDRAZINE	.0	.0	.0	.0	6026.2 ⁽²²⁾	13285.5 ⁽²²⁾
STA.SET= 23 CAT= NH AMMONIA	.0	.0	.0	.0	47.2 ⁽²²⁾	104.0 ⁽²²⁾
STA.SET= 23 CAT= NO NITROGEN TETROXIDE	61.1	134.8	733.5	1617.2	.0	.0
STA.SET= 23 CAT= NO LBM OXIDIZER	.0	.0	.0	.0	39689.1 ⁽²²⁾	87500.0 ⁽²²⁾
NITROGEN TETROXIDE	.0	.0	.0	.0		
STA.SET= 23 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	14064.3 ⁽²²⁾	31009.0 ⁽²²⁾
STA.SET= 23 CAT= OS N2O4 CONTAM. CLEANUP WATER	37.8	83.3	453.6	1000.0		
NITROGEN TETROXIDE	.4	.8	4.5	10.0		
STA.SET= 23 CAT= OS N2O4 CONTAM. WASTEWATER	126.1	278.0	1513.2	3336.0		
NITROGEN TETROXIDE	9.4	20.7	112.5	248.0		
STA.SET= 23 CAT= OS PRIMOL 355(11) N2O4	113.5	250.3	1362.6	3004.0		
STA.SET= 23 CAT= P8 SRB PROPELLANT SPILL(23)	.0	.0	.0	.0	504301.3 ⁽²⁴⁾	1111800.0 ⁽²⁴⁾
AMMONIUM PERCHLORATE	.0	.0	.0	.0		
ALUMINUM POWDER	.0	.0	.0	.0		
PBAN BINDER	.0	.0	.0	.0		
HTPB BINDER	.0	.0	.0	.0		
IRON OXIDE	.0	.0	.0	.0		
STA.SET= 23 CAT= QW DELUGE WATER	189298.2	417333.3	2271578.5	5008000.0	.0	.0

(CONT.)

TABLE 9 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

PAGE 10

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
ALUMINUM OXIDE	1.1	2.5	13.4	29.6		
AMMONIA	.1	.2	.9	2.0		
HYDROCHLORIC ACID	120.8	266.3	1449.7	3196.0		
ORGANIC CARBON	1.1	2.5	13.6	30.0		
STA.SET= 23 CAT= SO SOLVENT MIXTURE	97.2(25)	214.2(25)	1165.9(25)	2570.4(25)	.0	.0
FREON TMC/MF/11 SYM. TETRACHLOROETHANE						
STA.SET= 23 CAT= SO CONTAMINATED SOLVENTS	88.3(26)	194.7(26)	1059.6(26)	2336.0(26)	.0	.0
STA.SET= 23 CAT= SW SOLVENT WASTEWATER UNSPEC.	138.8(18)(25)	306.0(18)(25)	1665.6(18)(25)	3672.0(18)(25)	.0	.0
STA.SET= 23 CAT= SW CONTAMINATED WASTEWATER SOLVENTS	315.4(18)	695.3(18)	3784.8(18)	8344.0(18)	.0	.0
CHLORINATED RUBBER ZINC PRIMER						
SUBTOTAL FOR SET 23	192975.4	425440.3	2315705.0	5105283.0	102229.2	225378.0
STA.SET= 31 CAT= AL SURFACTANT NaOH					.0	.0
SODIUM TRIPOLYPHOSPHATE						
STA.SET= 31 CAT= AW EA 934 EPOXY ADHESIVE	5.3(26)(27)	11.7(26)(27)	63.5(26)(27)	140.0(26)(27)	.0	.0
EPOXY RESIN	2.3	5.0	27.2	60.0		
ASBESTOS	.6	1.3	7.3	16.0		
FILLERS	1.1	2.3	12.7	28.0		
POLYAMIDE	1.2	2.7	14.5	32.0		
DIETHYLENETRIAMINE	.2	.3	1.8	4.0		
STA.SET= 31 CAT= CA CONTAMINATED AIR FILTERS	7.6	16.7	90.7	200.0	.0	.0
STA.SET= 31 CAT= CA CHARCOAL FILTER WASTES					.0	.0
STA.SET= 31 CAT= CA CONTAMINATED AIR FILTERS	7.6	16.7	90.7	200.0	.0	.0
STA.SET= 31 CAT= CH BOSTIK PRIMER PAINT CANS	2.3(6)	5.0(6)	27.2(6)	60.0(6)	.0	.0

TABLE 9 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

PAGE 11

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 31 CAT= CN BOSTIK TOPCOAT PAINT CANS	6.8 ⁽⁶⁾	15.0 ⁽⁶⁾	81.6 ⁽⁶⁾	180.0 ⁽⁶⁾	.0	.0
STA.SET= 31 CAT= CN RUSTOLEUM PRIMER PAINT CANS	.3 ⁽⁶⁾	.7 ⁽⁶⁾	3.6 ⁽⁶⁾	8.0 ⁽⁶⁾	.0	.0
STA.SET= 31 CAT= CN RUSTOLEUM TOPCOAT PAINT CANS	.3 ⁽⁶⁾	.7 ⁽⁶⁾	3.6 ⁽⁶⁾	8.0 ⁽⁶⁾	.0	.0
STA.SET= 31 CAT= CN MSA-1 EMPTY CONTAINERS	151.2 ⁽²⁸⁾	333.3 ⁽²⁸⁾	1814.4 ⁽²⁸⁾	4000.0 ⁽²⁸⁾	.0	.0
STA.SET= 31 CAT= CN KSHA CONTAINERS	1.1	2.5	13.6	30.0	.0	.0
STA.SET= 31 CAT= CN KSHA & MTA-2 PACKING MATERIALS	756.0 ⁽²⁸⁾	1666.7 ⁽²⁸⁾	9071.8 ⁽²⁸⁾	20000.0 ⁽²⁸⁾	.0	.0
STA.SET= 31 CAT= CR SOLVENT CONTAMINATED RAGS	1.5 ⁽⁹⁾	3.3 ⁽⁹⁾	18.1 ⁽⁹⁾	40.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= CR ALODINE CONTAMINATED RAGS	.8 ⁽⁹⁾	1.7 ⁽⁹⁾	9.1 ⁽⁹⁾	20.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= CR RYMPLE CLOTHS	1.5 ⁽⁹⁾	3.3 ⁽⁹⁾	18.1 ⁽⁹⁾	40.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= CR PAINT DROP CLOTHS	2.3 ⁽⁹⁾	5.0 ⁽⁹⁾	27.2 ⁽⁹⁾	60.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= EW WASTEWATER FROM EEW&S	403.8 ⁽⁴⁾	890.1 ⁽⁴⁾	4845.1 ⁽⁴⁾	10681.6 ⁽⁴⁾		
STA.SET= 31 CAT= FO FUEL AND OIL SPILLS	.0	.0	.0	.0		
STA.SET= 31 CAT= FO FUEL & OIL WASTES	12.7	28.0	152.4	336.0	.0	.0
STA.SET= 31 CAT= FS PRIMOL 355 ⁽¹¹⁾	.0	.0	.0	.0		
STA.SET= 31 CAT= HS SCRUBBER EFFLUENT	12.5 ⁽¹⁸⁾	27.7 ⁽¹⁸⁾	150.6 ⁽¹⁸⁾	332.0 ⁽¹⁸⁾	.0	.0
STA.SET= 31 CAT= HY HYDRAZINE	36.5	80.4	437.8	965.2	.0	.0
STA.SET= 31 CAT= IN MSA-1 (CURED) ⁽²⁹⁾	30.2 ⁽²⁵⁾	66.7 ⁽²⁵⁾	362.9 ⁽²⁵⁾	800.0 ⁽²⁵⁾	.0	.0

(CONT.)

TABLE 9 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

PAGE 12

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EPICHLORHYDRIN/BGE	12.1	26.7	143.3	320.4		
GLASS ECOSPHERES	3.6	7.9	42.8	94.4		
PHENOLIC MICROSPHERES	10.7	23.6	128.6	283.6		
GLASS FIBERS	1.3	2.9	16.0	35.2		
BENTONE 27	1.0	2.2	12.2	26.8		
METHYLENE DIANILINE	1.1	2.3	12.7	28.0		
m-PHENYLENE DIAMINE	.4	1.0	5.3	11.6		
STA.SET= 31 CAT= IN					.0	.0
MSA-1, PART A (UNMIXED) ⁽³⁰⁾						
METHYLENE CHLORIDE					.0	.0
EPICHLORHYDRIN/BGE						
STA.SET= 31 CAT= IN						
MSA-1, PART B (UNMIXED) ⁽³⁰⁾					.0	.0
METHYLENE CHLORIDE						
PERCHLOROETHYLENE						
METHYLENE DIANILINE						
m-PHENYLENE DIAMINE						
ETHYL ALCOHOL						
PHENOLIC MICROSPHERES						
GLASS ECOSPHERES						
GLASS FIBERS						
BENTONE 27						
STA.SET= 31 CAT= IN						
MTA-2 (CURED) ⁽²⁹⁾	15.1	33.3	181.4	400.0	.0	.0
EPICHLORHYDRIN/BGE	4.7	10.3	56.1	123.6		
LP-3, POLYSULFIDE LIQ POLYMER	4.7	10.3	56.1	123.6		
MDA & MPDA	1.9	4.1	22.3	49.2		
STANNOUS OCTOATE	.2	.4	2.2	4.8		
PHENOLIC MICROSPHERES	3.7	8.2	44.8	98.8		
STA.SET= 31 CAT= IN						
MTA-2 (UNMIXED) ⁽³⁰⁾	4.5	10.0	54.4	120.0	.0	.0
EPICHLORHYDRIN/BGE	1.4	3.1	16.9	37.2		
LP-3, POLYSULFIDE LIQ POLYMER	1.4	3.1	16.9	37.2		
MDA & MPDA	.6	1.2	6.7	14.8		
STANNOUS OCTOATE	.1	.1	.7	1.6		
PHENOLIC MICROSPHERES	1.1	2.5	13.4	29.6		
METHYLENE CHLORIDE						
PERCHLOROETHYLENE						
STA.SET= 31 CAT= IN						
KSNA	2.4	5.3	29.0	64.0	.0	.0
BUTYL GLYCIDYL ETHER						
EPOXY RESINS						
STA.SET= 31 CAT= IN						
INSULATION AND PAPER					.0	.0

TABLE 9 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 31 CAT= PA						
BOSTIK EPOXY PRIMER	4.1	9.0	49.0	108.0	.0	.0
EPOXY RESIN	.5	1.2	6.4	14.0		
AMINE CURING AGENT	.1	.2	1.1	2.4		
TITANIUM DIOXIDE	.2	.4	2.2	4.8		
CHROMATE PIGMENTS	.6	1.3	6.9	15.2		
INERT PIGMENTS	<.1	<.1	.2	.4		
SUSPENSION & FLOW CONTROL ADDI SOLVENTS	2.4	5.4	29.4	64.8		
STA.SET= 31 CAT= PA						
BOSTIK EPOXY TOPCOAT	5.6	12.3	67.1	148.0	.0	.0
EPICHLORHYDRIN/BISPHENOL A	1.4	3.0	16.3	36.0		
AMINE CURING AGENT	.2	.5	2.5	5.6		
COLOR PIGMENT	1.1	2.5	13.6	30.0		
SUSPENSION & FLOW CONTROL ADDI	.1	.2	.9	2.0		
SOLVENTS PHOTOCHROM REACTIVE	.5	1.2	6.4	14.0		
SOLVENTS NONPHOTOCHROM REACTIVE	2.3	5.0	27.2	60.0		
STA.SET= 31 CAT= PA						
RUSTOLEUM PRIMER	1.2	2.7	14.5	32.0	.0	.0
SILICATES	.2	.4	2.4	5.2		
YELLOW IRON OXIDE	.1	.2	1.1	2.4		
TITANIUM DIOXIDE	<.1	.1	.4	.8		
CALCIUM BOROSILICATE	.2	.5	2.7	6.0		
BENTONITE	<.1	<.1	.1	.2		
LINSEED PHENOLIC ALKYL RESIN	.2	.5	2.9	6.4		
ALIPHATIC HYDROCARBONS	.4	.9	4.7	10.4		
DRIERS AND ADDITIVES	<.1	.1	.4	.8		
STA.SET= 31 CAT= PA						
RUSTOLEUM TOPCOAT	1.2	2.7	14.5	32.0	.0	.0
SILICATES	.4	.9	4.7	10.4		
TITANIUM DIOXIDE	.2	.5	2.5	5.6		
BENTONITE CLAY	<.1	<.1	.1	.2		
TINTING COLORS	<.1	.1	.4	.8		
ALKYL RESIN	.2	.5	2.5	5.6		
ALIPHATIC HYDROCARBONS	.4	.8	4.4	9.6		
DRIERS & ADDITIVES	<.1	<.1	.2	.4		
STA.SET= 31 CAT= PA						
GACOFLEX	5.9	13.0	70.8	156.0	.0	.0
TITANIUM DIOXIDE	.4	.9	4.9	10.8		
CLAY	.5	1.0	5.6	12.4		
HYPALON	.6	1.3	7.1	15.6		
HYDROCARBON RESIN	.1	.3	1.5	3.2		
PERCHLOROETHYLENE	2.8	6.1	33.2	73.2		
1,1,1-TRICHLOROETHANE	1.5	3.3	17.8	39.2		

(CONT.)

TABLE 9 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

PAGE 14

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EPOXIDIZED SOYBEAN OIL	.1	.1	.7	1.6		
STA.SET= 31 CAT= PA PAINT-SPILL ABSORBANT	.0	.0	.0	.0		
STA.SET= 31 CAT= PW ALODINE CONTAMINATED WASTEWATER	50.5 ⁽¹⁸⁾	111.3 ⁽¹⁸⁾	606.0 ⁽¹⁸⁾	1336.0 ⁽¹⁸⁾	.0	.0
CHROMIC ACID	9 ⁽³¹⁾	2.0 ⁽³¹⁾	10.7 ⁽³¹⁾	23.6 ⁽³¹⁾		
FERRICYANIDE SALT	.5	1.1	6.0	13.2		
COMPLEX FLUORIDE SALT	<.1	<.1	.2	.4		
STA.SET= 31 CAT= S0 PERCHLOROETHYLENE	.2	.5	2.5	5.6	.0	.0
STA.SET= 31 CAT= S0 TRICHLOROETHANE	.2	.4	2.0	4.4	.0	.0
STA.SET= 31 CAT= S0 FREON 113	.2	.4	2.4	5.2	.0	.0
STA.SET= 31 CAT= S0 MSA-1 CONTAMINATED MECL	501.8	1106.3	6021.9	13276.0	.0	.0
STA.SET= 31 CAT= S0 MSA-1 CONTAM PERCHLOROETHYLENE	617.3	1361.0	7408.0	16332.0	.0	.0
STA.SET= 31 CAT= S0 PERCHLOROETHYLENE	92.5	204.0	1110.4	2448.0	.0	.0
STA.SET= 31 CAT= S0 TRICHLOROETHANE	27.2	60.0	326.6	720.0	.0	.0
STA.SET= 31 CAT= S0 METHYLENE CHLORIDE	85.3	188.0	1023.3	2256.0	.0	.0
STA.SET= 31 CAT= S0 MTA-2 CONTAMINATED SOLVENTS	176.6 ⁽²⁶⁾	389.3 ⁽²⁶⁾	2119.2 ⁽²⁶⁾	4672.0 ⁽²⁶⁾	.0	.0
STA.SET= 31 CAT= S0 BOSTIK CONTAMINATED SOLVENTS	88.3 ⁽²⁶⁾	194.7 ⁽²⁶⁾	1059.6 ⁽²⁶⁾	2336.0 ⁽²⁶⁾	.0	.0
STA.SET= 31 CAT= S0 RUSTOLEUM CONTAMINATED SOLVENT	88.3 ⁽²⁶⁾	194.7 ⁽²⁶⁾	1059.6 ⁽²⁶⁾	2336.0 ⁽²⁶⁾	.0	.0
SUBTOTAL FOR SET 31	3208.7	7074.0	38504.4	84888.0	.0	.0
STA.SET= 32 CAT= BA LITHIUM STORAGE BATTERIES	8.2	18.0	98.0	216.0	.0	.0

TABLE 9 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

PAGE 15

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 32 CAT= BA SILVER-ZINC STORAGE BATTERIES	13.6	30.0	163.3	360.0	.0	.0
STA.SET= 32 CAT= BA POTASSIUM HYDROXIDE SOLUTION	2.9 ⁽¹⁸⁾	6.4 ⁽¹⁸⁾	34.8 ⁽¹⁸⁾	76.8 ⁽¹⁸⁾	.0	.0
STA.SET= 32 CAT= CB HYDRAZINE-CONTAMINATED WATER	36.3 ⁽¹⁹⁾	80.0 ⁽¹⁸⁾	435.4 ⁽¹⁸⁾	960.0 ⁽¹⁸⁾	.0	.0
STA.SET= 32 CAT= CS CONTAMINATED SEAWATER ⁽³²⁾	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= CS CONTAMINATED SEAWATER ⁽³²⁾	4838.3	10666.7	58059.5	128000.0	.0	.0
STA.SET= 32 CAT= CW SRB FWD SKT CLEANING WASTES					.0	.0
STA.SET= 32 CAT= EW WASTEWATER FROM EEVES	201.9 ⁽⁴⁾	445.1 ⁽⁴⁾	2422.5 ⁽⁴⁾	5340.8 ⁽⁴⁾	.0	.0
STA.SET= 32 CAT= FO BILGE WASTES					.0	.0
STA.SET= 32 CAT= FO DIESEL FUEL & OIL SPILLS	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= FS WASTE FUEL & PRIMOL 355 ⁽¹¹⁾ HYDRAZINE	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= HS HYDRAZINE SCRUBBER EFFLUENT HYDRAZINE	60.5 ⁽¹⁸⁾ .5	133.3 ⁽¹⁸⁾ 1.2	725.7 ⁽¹⁸⁾ 6.5	1600.0 ⁽¹⁸⁾ 14.4	.0	.0
STA.SET= 32 CAT= HY HYDRAZINE	13.7	30.2	164.2	362.6	.0	.0
STA.SET= 32 CAT= IN INSULATION WASTES, SOLID ⁽³³⁾ MSA-1 INSULATION MTA-2 INSULATION K5NA INSULATION PR-855 INSULATION	241.9 ⁽³⁴⁾	533.3 ⁽³⁴⁾	2903.0 ⁽³⁴⁾	6400.0 ⁽³⁴⁾	.0	.0
STA.SET= 32 CAT= IN INSULATION CONTAM FILTERS	1.5 ⁽²¹⁾	3.3 ⁽²¹⁾	18.1 ⁽²¹⁾	40.0 ⁽²¹⁾	.0	.0
STA.SET= 32 CAT= IW INSULATION-CONTAMINATED WATER ⁽³³⁾ (CONT.)	61763.8 ⁽¹⁸⁾	136166.7 ⁽¹⁸⁾	741166.0 ⁽¹⁸⁾	1634000.0 ⁽¹⁸⁾	.0	.0

TABLE 9 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

PAGE 16

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
MSA-1 INSULATION						
MTA-2 INSULATION						
K5NA INSULATION						
PR-855 INSULATION						
STA.SET= 32 CAT= PR PRESERVATIVE CHEMICALS PROTECTIVE LUBRICANTS					.0	.0
STA.SET= 32 CAT= PS SRB SOLID PROPELLANT	.0	.0	.0	.0	78.5 ⁽²⁴⁾	173.0 ⁽²⁴⁾
AMMONIUM PERCHLORATE	.0	.0	.0	.0		
ALUMINUM POWDER	.0	.0	.0	.0		
FERRIC OXIDE	.0	.0	.0	.0		
POLYMER & EPOXY RESIN	.0	.0	.0	.0		
STA.SET= 32 CAT= SB DETERGENT WASHWATER ⁽³⁵⁾	11611.9	25600.0	139342.8	307200.0	.0	.0
STA.SET= 32 CAT= SB POTABLE RINSE WATER	40157.8	88533.3	481894.0	1062400.0	.0	.0
STA.SET= 32 CAT= SB DEIONIZED RINSE WATER	18796.8	41440.0	225561.2	497280.0	.0	.0
STA.SET= 32 CAT= SI SRB RINSE WATER	7257.4	16000.0	87089.3	192000.0	.0	.0
STA.SET= 32 CAT= SO SOLVENTS FREON TMC/TM SOLVENTS, UNSPECIFIED	3.5 ⁽²⁶⁾	7.8 ⁽²⁶⁾	42.5 ⁽²⁶⁾	93.6 ⁽²⁶⁾	.0	.0
SUBTOTAL FOR SET 32	145010.0	319694.1	1740120.5	3836329.0	.0	.0
STA.SET= 33 CAT= CA AIR FILTERS	1.5 ⁽²¹⁾	3.3 ⁽²¹⁾	18.1 ⁽²¹⁾	40.0 ⁽²¹⁾	.0	.0
STA.SET= 33 CAT= EW WASTEWATER FROM EEW&S	63.0	139.0	756.6	1668.0		
STA.SET= 33 CAT= HF HYDRAULIC FLUIDS					.0	.0
SUBTOTAL FOR SET 33	64.6	142.3	774.7	1708.0	.0	.0

TABLE 9 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

PAGE 17

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	BASELINE MONTHLY POUNDS	BASELINE YEARLY KILOGRAMS	BASELINE YEARLY POUNDS	CONTINGENCY PER YEAR KILOGRAMS	CONTINGENCY PER YEAR POUNDS
STA.SET= 99 CAT= AW GX-6300 ABLATOR ADHESIVE	2.0	4.3	23.6	52.0	.0	.0
RESIN STM L 663	.2	.4	2.4	5.2		
RESIN STM L 664	.7	1.6	8.7	19.2		
SILICA POWDER	.1	.1	.7	1.6		
CARBON POWDER	.1	.1	.7	1.6		
CURING AGENT L 663	.1	.2	.9	2.0		
CURING AGENT L 664	<.1	<.1	.2	.4		
HEPTANE	.8	1.7	9.4	20.8		
XYLENE	<.1	.1	.5	1.2		
STA.SET= 99 CAT= AW ISOCHEN POLYESTER RESIN ADHESV STYRENE	2.0	4.3	23.6	52.0	.0	.0
NEK PEROXIDE CATALYST DIMETHYL PHTHALATE						
STA.SET= 99 CAT= CA FILTER					.0	.0
STA.SET= 99 CAT= CH SOLVENT CONTAMINATED CONTAINER SOLVENTS(36)	.8(28)	1.7(28)	9.1(28)	20.0(28)	.0	.0
STA.SET= 99 CAT= CH PRIMER CONTAMINATED CONTAINERS	.1(28)	.2(28)	1.3(28)	2.8(28)	.0	.0
STA.SET= 99 CAT= CH ADHESIVE CONTAMINATED CONTAINR	.1(28)	.2(28)	1.3(28)	2.8(28)	.0	.0
STA.SET= 99 CAT= CH SOLVENT CONTAINERS					.0	.0
STA.SET= 99 CAT= CH POUR FOAM CONTAINERS	7.6(28)	16.7(28)	90.7(28)	200.0(28)	.0	.0
STA.SET= 99 CAT= CH ABLATOR CONTAMINATED CONTAINER	.1(28)	.2(28)	1.3(28)	2.8(28)	.0	.0
STA.SET= 99 CAT= CR SOLVENT CONTAMINATED RAGS	1.5(9)	3.3(9)	18.1(9)	40.0(9)	.0	.0
STA.SET= 99 CAT= CR ADHESIVE CONTAMINATED RAGS	1.5(9)	3.3(9)	18.1(9)	40.0(9)	.0	.0
STA.SET= 99 CAT= CR EPOXY PRIMER-CONTAMINATED RAGS	.8(9)	1.7(9)	9.1(9)	20.0(9)	.0	.0
STA.SET= 99 CAT= 1H BX-250 FOAM (SOFI)	39.3	86.7	471.7	1040.0	.0	.0

TABLE 9 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

PAGE 18

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
DIPHENYL METHANE DIISOCYANATE	9.8	21.7	117.9	260.0		
FREON 11	6.4	14.0	76.2	168.0		
ANINES	3.5	7.7	41.7	92.0		
POLYOLS						
SUPER NEK PEROXIDE						
POLYESTER RESIN						
DIMETHYL PHTHALATE						
STA.SET= 99 CAT= IN FOUR FOAM (MIXED)(29)	41.6(37)	91.7(37)	498.9(37)	1100.0(37)	.0	.0
POLYURETHANE						
STA.SET= 99 CAT= IN POUR FOAM PART A (UNMIXED)(30)	2.1	4.7	25.4	56.0	.0	.0
DIPHENYL METHANE DIISOCYANATE	1.1	2.3	12.7	28.0		
FREON 11	.7	1.5	8.2	18.0		
POLYOLS, ANINES	.4	.8	4.5	10.0		
STA.SET= 99 CAT= IN POUR FOAM PART B (UNMIXED)(30)	2.1	4.7	25.4	56.0	.0	.0
FREON 11	.4	.9	5.1	11.2		
AMINE CATALYST	<.1	.1	.5	1.2		
POLYETHER POLYOL BLEND	1.6	3.6	19.8	43.6		
STA.SET= 99 CAT= IN POUR FOAM CONTAMINATED PAPER	.5(28)	1.1(28)	6.0(28)	13.2(28)	.0	.0
STA.SET= 99 CAT= IN SUPER LIGHT ABLATOR (1)	1.5	3.3	18.1	40.0	.0	.0
RESIN L664, PT A	.9	2.0	10.7	23.6		
SILICA FIBERS	.1	.2	1.1	2.4		
CORK	.2	.4	2.2	4.8		
PHENOLIC MICROSPHERES	<.1	.1	.5	1.2		
SILICA MICROSPHERES	.2	.5	2.5	5.6		
CURING AGENT	.1	.2	1.1	2.4		
STA.SET= 99 CAT= IN SUPER LIGHT ABLATOR (11)	1.5	3.3	18.1	40.0	.0	.0
RESIN STM L664, PT A	.5	1.0	5.4	12.0		
CARBON POWDER						
SILICA FIBERS						
CORK						
SILICA MICROSPHERES						
PHENOLIC MICROSPHERES	.3	.6	3.1	6.8		
CURING AGENT STM L664, PT B						
STA.SET= 99 CAT= IN POUR FOAM "TRIMMINGS"	1.5	3.3	18.1	40.0	.0	.0
POLYURETHANE						

TABLE 9 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1985

PAGE 19

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 99 CAT= PA EPOXY PRIMER METHYLENE ISOBUTYL KETONE XYLENE CYCLOHEXANONE CHROMATES INORGANIC PIGMENTS N-BUTANOL TOLUENE AMINO SILANE METHYL ETHYL KETONE	<.1 (27)	<.1 (27)	.2 (27)	.4 (27)	.0	.0
STA.SET= 99 CAT= PA D.C. 1200 VM AND P NAPHTHA ORGANOMETALLIC SALTS	<.1 (27)	<.1 (27)	.2 (27)	.4 (27)	.0	.0
STA.SET= 99 CAT= 80 FREON TMC	<.1 (27)	.1 (27)	.5 (27)	1.2 (27)	.0	.0
STA.SET= 99 CAT= 80 1,1,1-TRICHLOROETHANE	<.1 (27)	.1 (27)	.5 (27)	1.2 (27)	.0	.0
STA.SET= 99 CAT= 80 MEK & CELLOSOLVE	4.1	9.0	48.8	107.6	.0	.0
STA.SET= 99 CAT= 80 HEPTANE	25.0	55.2	300.3	662.0	0	.0
STA.SET= 99 CAT= 80 CELLOSOLVE ACETATE	35.7	78.7	428.2	944.0	.0	.0
STA.SET= 99 CAT= 80 METHYL ETHYL KETONE	29.5	65.0	353.6	779.6	.0	.0
STA.SET= 99 CAT= 8R SOLVENT REDUCER METHYL ETHYL KETONE CYCLOHEXANONE	.2 .1 .1	.4 .3 .1	2.2 1.5 .7	4.8 3.2 1.6	.0	.0
STA.SET= 99 CAT= 8W SOLVENT CONTAMINATED WATER	27.0	59.5	324.0	714.4	.0	.0
SUBTOTAL FOR SET 99	228.0	502.8	2736.6	6033.2	.0	.0
TOTAL FOR ALL SETS	346857.3	764252.6	4159888.0	9171032.0	121391.3	267623.5

TABLE 9 (CONT.)
SUMMARY BY CATEGORY
HAZARDOUS WASTE GENERATION FOR 1985
PAGE 20

CATEGORY	BASELINE MONTHLY KILOGRAMS	BASELINE MONTHLY POUNDS	BASELINE YEARLY KILOGRAMS	BASELINE YEARLY POUNDS	CONTINGENCY PER YEAR KILOGRAMS	CONTINGENCY PER YEAR POUNDS
SO	2753.8	6071.2	33047.8	72854.0	.0	.0
EW	4504.4	9930.5	54052.3	119165.6	.0	.0
FO	12.7	28.0	152.4	336.0	.0	.0
FS	1352.5	2981.7	16229.4	35781.0	.0	.0
OS	410.9	905.8	4930.3	10869.6	.0	.0
HF	134.2	295.8	1610.2	3550.0	.0	.0
AW	9.6	21.2	115.2	254.0	.0	.0
CN	933.6	2058.7	11202.8	24698.0	.0	.0
CR	12.9	28.3	154.2	340.0	.0	.0
HS	1293.0	2850.7	15516.4	34208.0	.0	.0
HY	142.2	313.6	1706.9	3763.2	4430.6	9905.5
IN	393.2	866.9	4718.4	10402.4	.0	.0
MH	155.9	343.7	1870.6	4124.0	6464.6	14252.0
NH	12.1	26.7	145.1	320.0	47.2	104.0
NO	145.6	321.0	1747.0	3851.6	65050.2	143412.0
PA	27.4	60.3	328.4	724.0	.0	.0
SW	509.5	1123.2	6113.5	13478.0	.0	.0
WP	1.5	3.3	18.1	40.0	.0	.0
PS	.0	.0	.0	.0	504379.8	1111073.0
QW	189298.2	417333.3	2271578.5	5008000.0	.0	.0
AL	16.6	36.7	199.6	440.0	.0	.0
CA	50.5	111.3	566.0	1236.0	.0	.0
PW	24.7	54.4	296.1	652.0	.0	.0
BA	36.3	80.0	435.4	970.0	.0	.0
CB	4838.3	10666.7	58059.5	128000.0	.0	.0
CS	.0	.0	.0	.0	.0	.0
CW	61763.8	136166.7	741166.0	1634000.0	.0	.0
IW	.0	.0	.0	.0	.0	.0
PR	70566.5	155573.3	846798.0	1864000.0	.0	.0
SB	7257.4	16000.0	87089.3	192000.0	.0	.0
SI	.2	.4	2.2	4.0	.0	.0
SR					.0	.0

* For footnotes, see Table 8.

TABLE 10. HAZARDOUS WASTE GENERATION FOR 1986 *

PAGE 1

WASTE MATERIAL	BASLINE MONTHLY KILOGRAMS	POUNDS	BASLINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA. SET= 0 ⁽²⁾ CAT= S0 CONTAMINATED FREON	1188.4 ⁽³⁾	2620.0 ⁽³⁾	14260.9 ⁽³⁾	31440.0 ⁽³⁾	.0	.0
SUBTOTAL FOR SET 0	1188.4	2620.0	14260.9	31440.0	.0	.0
STA. SET= 17 CAT= EU WASTEWATER FROM EEWLS	1362.7 ⁽⁴⁾	3004.2 ⁽⁴⁾	16352.1 ⁽⁴⁾	36050.4 ⁽⁴⁾	.0	.0
STA. SET= 17 CAT= FO DIESEL FUEL	.0	.0	.0	.0	.0	.0
STA. SET= 17 CAT= FO DIESEL FUEL & OIL	.0	.0	.0	.0	.0	.0
STA. SET= 17 CAT= FS CONTAMINATED DILUTION WATER MH	.0	.0	.0	.0	.0	.0
STA. SET= 17 CAT= OS CONTAMINATED DILUTION WATER H2O4	.0	.0	.0	.0	.0	.0
SUBTOTAL FOR SET 17	1362.7	3004.2	16352.1	36050.4	.0	.0
STA. SET= 18 CAT= HF HYDRAULIC FLUIDS	2.2 ⁽⁵⁾	4.8 ⁽⁵⁾	25.9 ⁽⁵⁾	57.0 ⁽⁵⁾	.0	.0
SUBTOTAL FOR SET 18	2.2	4.8	25.9	57.0	.0	.0
STA. SET= 19 CAT= AW TPS ADHESIVE, RTV 566/577 PHENYL METHYL POLYSILOXANE TIN OXIDE IRON OXIDE SILICON HARDENER	.6	1.3	6.8	15.0	.0	.0
STA. SET= 19 CAT= AW EA 911 EPOXY (CONT.)					.0	.0

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

PAGE 2

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EPOXY					
ZINC CHROMATE					
ASBESTOS					
MERCAPTAN					
DIMETHYLAMINE					
STA.SET= 19 CAT= AW					
EA 934 EPOXY				.0	.0
EPOXY RESIN					
ASBESTOS					
STA.SET= 19 CAT= AW					
EA 9309 EPOXY				.0	.0
EPOXY RESIN					
GLASS FIBERS					
ACRYLONITRILE/BUTADIEN/STYRENE					
ASBESTOS					
POLYGLYCOL DIAMINE					
SILANE					
STA.SET= 19 CAT= CH					
SPRAYCANS OF TPS SEALER				.0	.0
FLUORINATED SOLVENT					
FREON 113					
STA.SET= 19 CAT= CH					
KOROPON PRIMER CONTAM CANS	3.4 ⁽⁶⁾	40.8 ⁽⁶⁾	90.0 ⁽⁶⁾	.0	.0
BUTYL ACETATE					
METHYL ETHYL KETONE					
TOLUENE					
TALC - M ₂ SILICATES					
EPOXY RESIN					
STA.SET= 19 CAT= CH					
LACQUER SPRAY CANS	1.4 ⁽⁷⁾	16.3 ⁽⁷⁾	36.0 ⁽⁷⁾	.0	.0
PIGMENT SOLIDS					
VEHICLE SOLIDS					
TOLUENE					
XYLENE					
HYDROCARBON PROPELLANT					
PETROLEUM DISTILLATES					
STA.SET= 19 CAT= CH					
ISP CONTAM CUPS & WOOD STICKS	.3 ⁽⁸⁾	4.1 ⁽⁸⁾	9.0 ⁽⁸⁾	.0	.0
INSTANT SET POLYMER					
STA.SET= 19 CAT= CH					
MARSHALL STENCIL INK SPRAYCANS	.1 ⁽⁷⁾	1.6 ⁽⁷⁾	3.6 ⁽⁷⁾	.0	.0
XYLENE					
(CONT.)					

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

PAGE 3

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
NAPHTHA OTHER MATERIALS						
STA.SET= 19 CAT= CN LACQUER SPRAYCANS PIGMENT SOLIDS VEHICLE SOLIDS TOLUENE XYLENE HYDROCARBON PROPELLANT PETROLEUM DISTILLATES	1.1 ⁽⁷⁾	2.4 ⁽⁷⁾	13.1 ⁽⁷⁾	28.8 ⁽⁷⁾	.0	.0
STA.SET= 19 CAT= CN ENAMEL SPRAYCANS	2.0 ⁽⁷⁾	4.5 ⁽⁷⁾	24.5 ⁽⁷⁾	54.0 ⁽⁷⁾	.0	.0
STA.SET= 19 CAT= CN ZINC CHROMATE PRIMER CANS	2.0 ⁽⁷⁾	4.5 ⁽⁷⁾	24.5 ⁽⁷⁾	54.0 ⁽⁷⁾	.0	.0
STA.SET= 19 CAT= CN CONTAMINATED TARE CUPS EA 911 EPOXY EA 934 EPOXY EA 9309 EPOXY					.0	.0
STA.SET= 19 CAT= CR RAGS WITH SOLVENTS, GREASES	2.3 ⁽⁹⁾	5.0 ⁽⁹⁾	27.2 ⁽⁹⁾	60.0 ⁽⁹⁾	.0	.0
STA.SET= 19 CAT= CR SOLVENT-CONTAM CHEESEECLOTH ISOPROPYL ALCOHOL METHYL ETHYL KETONE 1,1,1-TRICHLOROETHANE					.0	.0
STA.SET= 19 CAT= CR MEK & IPA CONTAM CHEESEECLOTH METHYL ETHYL KETONE ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESEECLOTH ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR TCE CONTAMINATED CHEESEECLOTH 1,1,1-TRICHLOROETHANE					.0	.0
STA.SET= 19 CAT= CR MEK CONTAMINATED CHEESEECLOTH METHYL ETHYL KETONE					.0	.0

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESEECLOTH ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR SOLID FILM LUBRIC CONT CHSCLTH					.0	.0
STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESEECLOTH ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR DICHLOROMETHANE CONT CHSECLTH					.0	.0
STA.SET= 19 CAT= CR CONTAM CLOTHES, CLOTH & DEBRIS KOROPON BASE PRIMER BERYLLIUM DUST	2.3 ⁽¹⁰⁾	5.0 ⁽¹⁰⁾	27.2 ⁽¹⁰⁾	60.0 ⁽¹⁰⁾	.0	.0
STA.SET= 19 CAT= EW WASTEWATER FROM EEWS	1514.1 ⁽⁴⁾	3338.0 ⁽⁴⁾	18169.0 ⁽⁴⁾	40056.0 ⁽⁴⁾		
STA.SET= 19 CAT= FS WASTEWATER FROM PAYLOAD/ORB MMH	272.2 27.2	600.0 60.0	3265.8 326.6	7200.0 720.0	.0	.0
STA.SET= 19 CAT= FS WASTE FUEL AND PRIMOL 355 ⁽¹¹⁾ HYDRAZINE & MMH	18.1 .9	40.0 2.0	217.7 10.9	480.0 24.0		
STA.SET= 19 CAT= HF VACUUM PUMP OIL TEXACO REGAL OIL 068	2.3	5.0	27.2	60.0	.0	.0
STA.SET= 19 CAT= HS FUEL SCRUBBER HYDRAZINE & MMH	1270.1 25.4	2800.0 56.0	15240.6 304.8	33600.0 672.0	.0	.0
STA.SET= 19 CAT= HY HYDRAZINE	.0	.0	.0	.0	2494.7 ⁽¹²⁾	5500.0 ⁽¹²⁾
STA.SET= 19 CAT= HY HYDRAZINE	34.0	75.0	408.2	900.0	34.0 ⁽¹²⁾	75.0 ⁽¹²⁾
STA.SET= 19 CAT= IN POLYURETHANE FOAM	2.3	5.0	27.2	60.0	.0	.0

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

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WASTE MATERIAL

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA. SET= 19 CAT= IN POLYURETHANE MIXTURE POLYURETHANE PARTICLES DIPHENYLMETHANE DIISOCYANATE POLYMERS OF DPM DIISOCYANATE	.1	.2	.8	1.8	.0	.0
STA. SET= 19 CAT= IN INSTANT SET POLYMER SCRAPS DIPHENYL METHANE DIISOCYANATE POLY(OXALKYLENE)POLYETHER AROMATIC HYDROCARBONS	.9 ⁽¹³⁾	2.0 ⁽¹³⁾	10.9 ⁽¹³⁾	24.0 ⁽¹³⁾	.0	.0
STA. SET= 19 CAT= IN SILANE/ACETIC ACID RESIDUE METHYL TRIMETHOXY-SILANE ACETIC ACID	.2	.5	2.7	6.0	.0	.0
STA. SET= 19 CAT= MH MONOMETHYL HYDRAZINE	17.7	39.0	212.3	468.0	.0	.0
STA. SET= 19 CAT= MH MONOMETHYL HYDRAZINE	4.5	10.0	54.4	120.0	.0	.0
STA. SET= 19 CAT= MH ⁽¹⁴⁾ MONOMETHYL HYDRAZINE	9.4 ⁽¹⁵⁾	20.7 ⁽¹⁵⁾	112.7 ⁽¹⁵⁾	248.4 ⁽¹⁵⁾	107.3 ⁽¹²⁾	236.5 ⁽¹²⁾
STA. SET= 19 CAT= MH ⁽¹⁴⁾ MONOMETHYL HYDRAZINE	9.4 ⁽¹⁵⁾	20.7 ⁽¹⁵⁾	112.7 ⁽¹⁵⁾	248.4 ⁽¹⁵⁾	148.3 ⁽¹²⁾	327.0 ⁽¹²⁾
STA. SET= 19 CAT= MH ⁽¹⁴⁾ MONOMETHYL HYDRAZINE	6.7 ⁽¹⁵⁾	14.7 ⁽¹⁵⁾	80.0 ⁽¹⁵⁾	176.4 ⁽¹⁵⁾	182.8 ⁽¹²⁾	403.0 ⁽¹²⁾
STA. SET= 19 CAT= MH ⁽¹⁴⁾ MONOMETHYL HYDRAZINE	20.8 ⁽¹⁵⁾	45.9 ⁽¹⁵⁾	249.8 ⁽¹⁵⁾	550.8 ⁽¹⁵⁾	.0	.0
STA. SET= 19 CAT= NH WASTEWATER WITH AMMONIA	18.1 ⁽¹⁵⁾	40.0 ⁽¹⁵⁾	217.7 ⁽¹⁵⁾	480.0 ⁽¹⁵⁾	.0	.0
STA. SET= 19 CAT= NO NITROGEN TETROXIDE	2.7	6.0	32.7	72.0	.0	.0
STA. SET= 19 CAT= NO NITROGEN TETROXIDE	4.9	10.8	58.8	29.6	.0	.0
STA. SET= 19 CAT= NO NITROGEN TETROXIDE	17.1 ⁽¹⁵⁾	37.8 ⁽¹⁵⁾	205.7 ⁽¹⁵⁾	453.6 ⁽¹⁵⁾	163.1 ⁽¹²⁾	359.5 ⁽¹²⁾

HAZARDOUS WASTE GENERATION FOR 1986

TABLE 10 (CONT.)

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	BASELINE MONTHLY POUNDS	BASELINE YEARLY KILOGRAMS	BASELINE YEARLY POUNDS	CONTINGENCY PER YEAR KILOGRAMS	CONTINGENCY PER YEAR POUNDS
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	17.1 ⁽¹⁵⁾	37.8 ⁽¹⁵⁾	205.7 ⁽¹⁵⁾	453.6 ⁽¹⁵⁾	232.9 ⁽¹²⁾	513.5 ⁽¹²⁾
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	11.9 ⁽¹⁵⁾	26.3 ⁽¹⁵⁾	143.2 ⁽¹⁵⁾	315.6 ⁽¹⁵⁾	286.2 ⁽¹²⁾	631.0 ⁽¹²⁾
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	39.7 ⁽¹⁵⁾	87.6 ⁽¹⁵⁾	476.8 ⁽¹⁵⁾	1051.2 ⁽¹⁵⁾	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	4082.3 ⁽¹²⁾	9000.0 ⁽¹²⁾
STA.SET= 19 CAT= OS DECONTAMINATE FROM PAYLOAD/ORB N204	145.1 1.4	320.0 3.0	1741.8 16.3	3840.0 36.0	.0	.0
STA.SET= 19 CAT= OS BASIC EXHAUSTER AND PRIMER 355.1 N204	18.6 1.4	41.0 3.0	223.2 16.3	492.0 36.0	.0	.0
STA.SET= 19 CAT= PA KORFON PAPER CONT PAINT BRUSH BUTYL ACETATE POLYMER M9 STYRENE EPOXY RESIN	9.1 ⁽¹⁶⁾	20.0 ⁽¹⁶⁾	108.9 ⁽¹⁶⁾	240.0 ⁽¹⁶⁾	.0	.0
STA.SET= 19 CAT= PA LACQUER #626486	.3 ⁽¹⁷⁾	.6 ⁽¹⁷⁾	3.5 ⁽¹⁷⁾	7.8 ⁽¹⁷⁾	.0	.0
STA.SET= 19 CAT= A CONTAMINATED BRUSHES ORGANIC ZINC PRIMER ZINC CHROMATE PRIMER	.9 ⁽¹⁶⁾	2.0 ⁽¹⁶⁾	10.9 ⁽¹⁶⁾	24.0 ⁽¹⁶⁾	.0	.0
STA.SET= 19 CAT= PA ORGANIC ZINC PRIMER ZINC DUST BARYTES MOLYBDATE ORANGE SILICA HIGH MOLECULAR WEIGHT EPOXY CELLOSOLVE ACETATE TOLUENE METHYL ETHYL KETONE	2.8 ⁽¹⁸⁾	6.3 ⁽¹⁸⁾	34.0 ⁽¹⁸⁾	75.0 ⁽¹⁸⁾	.0	.0
STA.SET= 19 CAT= PA CONTAMINATED PAINT BRUSHES EA 911 EPOXY (CONT.)	.9 ⁽¹⁶⁾	2.0 ⁽¹⁶⁾	10.9 ⁽¹⁶⁾	24.0 ⁽¹⁶⁾	.0	.0

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EA 934 EPOXY						
EA 9309 EPOXY						
STA.SET= 19 CAT= SO DOPE & LACQUER THINNER	.4	.9	4.9	10.8	.0	.0
ALIPHATIC NAPHTHA ESTER OR KETONE	.1	.2	.8	1.8		
ISO- OR n-BUTYL ACETATE	.2	.4	2.2	4.8		
ISO- OR n-BUTYL ALCOHOL	.1	.3	1.4	3.0		
	<.1	.1	.5	1.2		
STA.SET= 19 CAT= SW WASHWATER WITH MEK	21.2	46.8	254.5	561.0	.0	.0
METHYL ETHYL KETONE	3.1	6.8	36.7	81.0		
SUBTOTAL FOR SET 19	3509.3	7736.7	42111.5	92840.4	7731.7	17045.5
STA.SET= 21 CAT= EW WASTEWATER FROM EEMAS	1362.7 ⁽⁴⁾	3004.2 ⁽⁴⁾	15352.1 ⁽⁴⁾	36050.4 ⁽⁴⁾		
STA.SET= 21 CAT= FS WASTEWATER WITH MMH	54.0	119.0	647.7	1428.0	.0	.0
	5.0	11.0	59.9	132.0		
STA.SET= 21 CAT= HS FUEL SCRUBBER	181.4	400.0	2177.2	4800.0	.0	.0
MMH	3.3	7.3	39.7	87.6		
STA.SET= 21 CAT= IN TILE REPAIR FOAM	2.3	5.0	27.2	60.0	.0	.0
POLYURETHANE	2.3	5.0	27.2	60.0		
STA.SET= 21 CAT= MH MONOMETHYL HYDRAZINE	.0	.0	.0	.0		
STA.SET= 21 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	9797.5 ⁽¹⁹⁾	21600.0 ⁽¹⁹⁾
STA.SET= 21 CAT= NO NITROGEN TETROXIDE	7.5	16.5	89.8	198.0	.0	.0
STA.SET= 21 CAT= NO NITROGEN TETROXIDE	25.6	56.5	307.5	678.0	.0	.0
STA.SET= 21 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	4898.8 ⁽²⁰⁾	10800.0 ⁽²⁰⁾
STA.SET= 21 CAT= OS WASTEWATER WITH OXIDIZER	36.4	80.2	436.5	962.4	.0	.0

(CONT.)

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

PAGE 8

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
N204	.3	.6	2.3	7.2		
STA.SET= 21 CAT= SW WASTEWATER WITH MEK METHYL ETHYL KETONE	21.2 3.0	46.7 6.7	254.2 36.5	560.4 80.4	.0	.0
STA.SET= 21 CAT= UP WASTE SEALS, FILTERS, ETC.	2.3 ⁽²¹⁾	5.0 ⁽²¹⁾	27.2 ⁽²¹⁾	60.0 ⁽²¹⁾	.0	.0
SUBTOTAL FOR SET 21	1693.3	3733.1	20319.6	44797.2	14696.3	32400.0
STA.SET= 23 CAT= EW WASTEWATER FROM EEW&S	1514.1	3338.0	18169.0	40056.0		
STA.SET= 23 CAT= FS HYDRAZINE-CONTAM. WASTEWATER HYDRAZINE	283.9 14.1	626.0 31.0	3407.4 168.7	7512.0 372.0		
STA.SET= 23 CAT= FS HYDRAZINE-CONTAM. CLNUP WATER HYDRAZINE	94.6 1.0	208.5 2.3	1134.9 12.5	2502.0 27.6		
STA.SET= 23 CAT= FS WASTEWATER FROM PPR HYDRAZINE	1135.6	2503.5	13626.8	30042.0		
STA.SET= 23 CAT= FS PRIMOL 355 ⁽¹¹⁾ HYDRAZINE MMH	170.3	375.5	2043.9	4506.0		
STA.SET= 23 CAT= HF HYDRAULIC FLUIDS TETRAORTHOCRESOL PHOSPHATE	196.9 196.9	434.0 434.0	2362.3 2362.3	5208.0 5208.0	.0	.0
STA.SET= 23 CAT= HS HYDRAZINE & MMH SCRUBBER HYDRAZINE MMH	378.5 ⁽¹⁸⁾ 8.4 6.6	834.5 ⁽¹⁸⁾ 18.5 14.5	4542.3 ⁽¹⁸⁾ 100.7 78.9	10014.0 ⁽¹⁸⁾ 222.0 174.0	.0	.0
STA.SET= 23 CAT= HY HYDRAZINE	104.1	229.5	1249.2	2754.0	.0	.0
STA.SET= 23 CAT= HY LBM PROPELLANT PARAHYDRAZINE (CONT.)	.0 .0	.0 .0	.0 .0	.0 .0	39689.1 ⁽²²⁾	87500.0 ⁽²²⁾

HAZARDOUS WASTE GENERATION FOR 1986

TABLE 10 (CONT.)

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
UNSYM DIMETHYLHYDRAZINE	.0	.0	.0	.0		
STA.SET= 23 CAT= MY HYDRAZINE	.0	.0	.0	.0	2712.7 ⁽²²⁾	5980.5 ⁽²²⁾
STA.SET= 23 CAT= IN K5NA INSULATION BUTYL GLYCIDYL ETHER EPOXY RESINS, UNCURED	5.2	11.5	62.6	138.0	.0	.0
STA.SET= 23 CAT= MH MONOMETHYL HYDRAZINE	165.3	364.5	1984.0	4374.0	.0	.0
STA.SET= 23 CAT= MH MONOMETHYL HYDRAZINE	.0	.0	.0	.0	6026.2 ⁽²²⁾	13285.5 ⁽²²⁾
STA.SET= 23 CAT= NH AMMONIA	.0	.0	.0	.0	47.2 ⁽²²⁾	104.0 ⁽²²⁾
STA.SET= 23 CAT= NO NITROGEN TETROXIDE	91.7	202.1	1100.3	2425.8	.0	.0
STA.SET= 23 CAT= NO LBN OXIDIZER NITROGEN TETROXIDE	.0	.0	.0	.0	39689.1 ⁽²²⁾	87500.0 ⁽²²⁾
STA.SET= 23 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	14064.9 ⁽²²⁾	31008.0 ⁽²²⁾
STA.SET= 23 CAT= OS N204 COLIAM. CLEANUP WATER NITROGEN TETROXIDE	56.7	125.0	680.4	1500.0		
	.6	1.3	6.8	15.0		
STA.SET= 23 CAT= OS N204 CONTAM. WASTEWATER NITROGEN TETROXIDE	189.1	417.0	2269.8	5004.0		
	14.1	31.0	168.7	372.0		
STA.SET= 23 CAT= OS PRINOL 355 ⁽¹¹⁾ N204	170.3	375.5	2043.9	4506.0		
STA.SET= 23 CAT= PS SRB PROPELLANT SPILL ⁽²³⁾ AMMONIUM PERCHLORATE ALUMINIUM POWDER PBAN BINDER HTPB BINDER IRON OXIDE	.0	.0	.0	.0	504301.3 ⁽²⁴⁾	111800.0 ⁽²⁴⁾
STA.SET= 23 CAT= QU BASELINE WATER	283947.3	626000.0	3407368.0	7512000.0	.0	.0

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

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WASTE MATERIAL	BASELINE MONTHLY		BASELINE YEARLY		CONTINGENCY PER YEAR	
	KILOGRAMS	POUNDS	KILOGRAMS	POUNDS	KILOGRAMS	POUNDS
ALUMINUM OXIDE	1.7	3.7	20.1	44.4		
AMMONIA	.1	.3	1.4	3.0		
HYDROCHLORIC ACID	181.2	399.5	2174.5	4794.0		
ORGANIC CARBON	1.7	3.8	20.4	45.0		
STA.SET= 23 CAT= SO SOLVENT MIXTURE FREON TMC/MF/TF SYM. TETRACHLOROETHANE	145.7 ⁽²⁵⁾	321.3 ⁽²⁵⁾	1748.9 ⁽²⁵⁾	3855.6 ⁽²⁵⁾	.0	.0
STA.SET= 23 CAT= SO CONTAMINATED SOLVENTS	132.4 ⁽²⁶⁾	292.0 ⁽²⁶⁾	1589.4 ⁽²⁶⁾	3504.0 ⁽²⁶⁾	.0	.0
STA.SET= 23 CAT= SW SOLVENT WASTEWATER UNSPEC.	208.2 ⁽¹⁸⁾⁽²⁵⁾	459.0 ⁽¹⁸⁾⁽²⁵⁾	2498.4 ⁽¹⁸⁾⁽²⁵⁾	5508.0 ⁽¹⁸⁾⁽²⁵⁾	.0	.0
STA.SET= 23 CAT= SW CONTAMINATED WASTEWATER SOLVENTS CHLORINATED RUBBER ZINC PRIMER	473.1 ⁽¹⁸⁾	1043.0 ⁽¹⁶⁾	5677.1 ⁽¹⁸⁾	12516.0 ⁽¹⁸⁾	.0	.0
SUBTOTAL FOR SET 23	289463.2	638160.5	3473558.5	7657926.0	102229.2	225378.0
STA.SET= 31 CAT= AL SURFACTANT NaOH SODIUM TRIPOLYPHOSPHATE					.0	.0
STA.SET= 31 CAT= AW EA 934 EPOXY ADHESIVE EPOXY RESIN ASBESTOS FILLERS POLYAMIDE DIETHYLENETRIAMINE	7.9 ⁽²⁶⁾⁽²⁷⁾ 3.4 .9 1.6 1.8 .2	17.5 ⁽²⁶⁾⁽²⁷⁾ 7.5 2.0 3.5 4.0 .5	95.3 ⁽²⁶⁾⁽²⁷⁾ 40.8 10.9 19.1 21.8 2.7	210.0 ⁽²⁶⁾⁽²⁷⁾ 90.0 24.0 42.0 48.0 6.0	.0	.0
STA.SET= 31 CAT= CA CONTAMINATED AIR FILTERS	11.3	25.0	136.1	300.0	.0	.0
STA.SET= 31 CAT= CA CHARCOAL FILTER WASTES					.0	.0
STA.SET= 31 CAT= CA CONTAMINATED AIR FILTERS	11.3	25.0	136.1	300.0	.0	.0
STA.SET= 31 CAT= CN BOSTIK PRIMER PAINT CANS	3.4 ⁽⁶⁾	7.5 ⁽⁶⁾	40.8 ⁽⁶⁾	90.0 ⁽⁶⁾	.0	.0

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 31 CAT= CN BOSTIK TOPCOAT PAINT CANS	10.2 ⁽⁶⁾	22.5 ⁽⁶⁾	122.5 ⁽⁶⁾	270.0 ⁽⁶⁾	.0	.0
STA.SET= 31 CAT= CN RUSTOLEUM PRIMER PAINT CANS	.5 ⁽⁶⁾	1.0 ⁽⁶⁾	5.4 ⁽⁶⁾	12.0 ⁽⁶⁾	.0	.0
STA.SET= 31 CAT= CN RUSTOLEUM TOPCOAT PAINT CANS	.5 ⁽⁶⁾	1.0 ⁽⁶⁾	5.4 ⁽⁶⁾	12.0 ⁽⁶⁾	.0	.0
STA.SET= 31 CAT= CN MSA-1 EMPTY CONTAINERS	226.8 ⁽²⁸⁾	500.0 ⁽²⁸⁾	2721.5 ⁽²⁸⁾	6000.0 ⁽²⁸⁾	.0	.0
STA.SET= 31 CAT= CN KSHA CONTAINERS	1.7	3.8	20.4	45.0	.0	.0
STA.SET= 31 CAT= CN KSHA & MTA-2 PACKING MATERIALS	1134.0 ⁽²⁸⁾	2500.0 ⁽²⁸⁾	13607.7 ⁽²⁸⁾	30000.0 ⁽²⁸⁾	.0	.0
STA.SET= 31 CAT= CR SOLVENT CONTAMINATED RACS	2.3 ⁽⁹⁾	5.0 ⁽⁹⁾	27.2 ⁽⁹⁾	60.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= CR ALODINE CONTAMINATED RACS	1.1 ⁽⁹⁾	2.5 ⁽⁹⁾	13.6 ⁽⁹⁾	30.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= CR RYMPLE CLOTHS	2.3 ⁽⁹⁾	5.0 ⁽⁹⁾	27.2 ⁽⁹⁾	60.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= CR PAINT DROP CLOTHS	3.4 ⁽⁹⁾	7.5 ⁽⁹⁾	40.8 ⁽⁹⁾	90.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= EW WASTEWATER FROM EEW&S	605.6 ⁽⁴⁾	1335.2 ⁽⁴⁾	7267.6 ⁽⁴⁾	16022.4 ⁽⁴⁾	.0	.0
STA.SET= 31 CAT= FO FUEL AND OIL SPILLS	.0	.0	.0	.0	.0	.0
STA.SET= 31 CAT= FO FUEL & OIL WASTES	19.1	42.0	228.6	504.0	.0	.0
STA.SET= 31 CAT= FS PRINOL 355 ⁽¹¹⁾	.0	.0	.0	.0	.0	.0
STA.SET= 31 CAT= HS SCRUBBER EFFLUENT	18.8 ⁽¹⁸⁾	41.5 ⁽¹⁸⁾	225.9 ⁽¹⁸⁾	498.0 ⁽¹⁸⁾	.0	.0
STA.SET= 31 CAT= HY HYDRAZINE	54.7	120.7	656.7	1447.8	.0	.0
STA.SET= 31 CAT= IN MSA-1 (CURED) ⁽²⁹⁾	45.4 ⁽²⁵⁾	100.0 ⁽²⁵⁾	544.3 ⁽²⁵⁾	1200.0 ⁽²⁵⁾	.0	.0

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EPICHLORHYDRIN/BGE	18.2	40.1	218.0	480.6		
GLASS ECOSPHERES	5.4	11.8	64.2	141.6		
PHENOLIC MICROSPHERES	16.1	35.4	193.0	425.4		
GLASS FIBERS	2.0	4.4	23.9	52.8		
BENTONE 27	1.5	3.3	18.2	40.2		
METHYLENE DIANILINE	1.6	3.5	19.1	42.0		
m-PHENYLENE DIANILINE	.7	1.5	7.9	17.4		
STA.SET= 31 CAT= IN						
MSA-1, PART A (UNMIXED) ⁽³⁰⁾					.0	.0
METHYLENE CHLORIDE						
EPICHLORHYDRIN/BGE						
STA.SET= 31 CAT= IN						
MSA-1, PART B (UNMIXED) ⁽³⁰⁾					.0	.0
METHYLENE CHLORIDE						
PERCHLOROETHYLENE						
METHYLENE DIANILINE						
m-PHENYLENE DIANILINE						
ETHYL ALCOHOL						
PHENOLIC MICROSPHERES						
GLASS ECOSPHERES						
GLASS FIBERS						
BENTONE 27						
STA.SET= 31 CAT= IN						
MTA-2 (CURED) ⁽²⁹⁾	22.7	50.0	272.2	600.0	.0	.0
EPICHLORHYDRIN/BGE	7.0	15.5	34.1	75.4		
LP-3, POLYSULFIDE LIQ POLYMER	7.0	15.5	84.1	185.4		
MDA & MPDA	2.8	6.2	33.5	73.8		
STANNOUS OCTOATE	.3	.6	3.3	7.2		
PHENOLIC MICROSPHERES	5.6	12.4	67.2	148.2		
STA.SET= 31 CAT= IN						
MTA-2 (UNMIXED) ⁽³⁰⁾	6.8	15.0	81.6	180.0	.0	.0
EPICHLORHYDRIN/BGE	2.1	4.6	25.3	55.8		
LP-3, POLYSULFIDE LIQ POLYMER	2.1	4.6	25.3	55.8		
MDA & MPDA	.8	1.9	10.1	22.2		
STANNOUS OCTOATE	.1	.2	1.1	2.4		
PHENOLIC MICROSPHERES	1.7	3.7	20.1	44.4		
METHYLENE CHLORIDE						
PERCHLOROETHYLENE						
STA.SET= 31 CAT= IN						
KSNA	3.6	8.0	43.5	96.0	.0	.0
BUTYL GLYCIDYL ETHER						
EPOXY RESINS						
STA.SET= 31 CAT= IN						
INSULATION AND PAPER					.0	.0

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

PAGE 13

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 31 CAT= PA						
BOSTIK EPOXY PRIMER	6.1	13.5	73.5	162.0	.0	.0
EPOXY RESIN	.8	1.8	9.5	21.0		
AMINE CURING AGENT	.1	.3	1.6	3.6		
TITANIUM DIOXIDE	.1	.3	1.6	3.6		
CHROMATE PIGMENTS	.3	.6	3.3	7.2		
INERT PIGMENTS	.9	1.9	10.3	22.8		
SUSPENSION & FLOW CONTROL ADDI	<.1	.1	.3	.6		
SOLVENTS	3.7	8.1	44.1	97.2		
STA.SET= 31 CAT= PA						
BOSTIK EPOXY TOPCOAT	8.4	18.5	100.7	222.0	.0	.0
EPICHLORHYDRIN/BISPHENOL A	2.0	4.5	24.5	54.0		
AMINE CURING AGENT	.3	.7	3.8	8.4		
COLOR PIGMENT	1.7	3.8	20.4	45.0		
SUSPENSION & FLOW CONTROL ADDI	.1	.3	1.4	3.0		
SOLVENTS PHOTOCHEM REACTIVE	.8	1.8	9.5	21.0		
SOLVENTS NONPHOTOCHEM REACTIVE	3.4	7.5	40.8	90.0		
STA.SET= 31 CAT= PA						
RUSTOLEUM PRIMER	1.8	4.0	21.8	48.0	.0	.0
SILICATES	.3	.6	3.5	7.8		
YELLOW IRON OXIDE	.1	.3	1.6	3.6		
TITANIUM DIOXIDE	<.1	.1	.5	1.2		
CALCIUM BOROSILICATE	.3	.8	4.1	9.0		
BENTONITE	<.1	<.1	.1	.2		
LINSEED PHENOLIC ALKYL RESIN	.4	.8	4.4	9.6		
ALIPHATIC HYDROCARBONS	.6	1.3	7.1	15.6		
DRIERS AND ADDITIVES	<.1	.1	.5	1.2		
STA.SET= 31 CAT= PA						
RUSTOLEUM TOPCOAT	1.8	4.0	21.8	48.0	.0	.0
SILICATES	.6	1.3	7.1	15.6		
TITANIUM DIOXIDE	.3	.7	3.8	8.4		
BENTONITE CLAY	<.1	<.1	.1	.2		
TINTING COLORS	<.1	.1	.5	1.2		
ALKYL RESIN	.3	.7	3.8	8.4		
ALIPHATIC HYDROCARBONS	.5	1.2	6.5	14.4		
DRIERS & ADDITIVES	<.1	.1	.3	.6		
STA.SET= 31 CAT= PA						
GACOFLEX	8.8	19.5	106.1	234.0	.0	.0
TITANIUM DIOXIDE	.6	1.4	7.3	16.2		
CLAY	.7	1.5	8.4	18.6		
HYPALON	.9	2.0	10.6	23.4		
HYDROCARBON RESIN	.2	.4	2.2	4.8		
PERCHLOROETHYLENE	4.2	9.1	49.8	109.8		
1,1,1-TRICHLOROETHANE	2.2	4.9	26.7	58.8		

(CONT.)

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EPoxidized SOYBEAN OIL	.1	.2	1.1	2.4		
STA.SET= 31 CAT= PA PAINT-SPILL ABSORBANT	.0	.0	.0	.6		
STA.SET= 31 CAT= PW ALODINE CONTAMINATED WASTEWATR	75.7 ⁽¹⁸⁾	167.0 ⁽¹⁸⁾	909.0 ⁽¹⁸⁾	2004.0 ⁽¹⁸⁾	.0	.0
CHROMIC ACID	1.3 ⁽³¹⁾	3.0 ⁽³¹⁾	16.1 ⁽³¹⁾	35.4 ⁽³¹⁾		
FERRICYANIDE SALT	.7	1.7	9.0	19.8		
COMPLEX FLUORIDE SALT	<.1	.1	.3	.6		
STA.SET= 31 CAT= S0 PERCHLOROETHYLENE	.3	.7	3.8	8.4	.0	.0
STA.SET= 31 CAT= S0 TRICHLOROETHANE	.2	.5	3.0	6.6	.0	.0
STA.SET= 31 CAT= S0 FREON 113	.3	.6	3.5	7.8	.0	.0
STA.SET= 31 CAT= S0 MSA-1 CONTAMINATED MECI	752.7	1659.5	9032.8	19914.0	.0	.0
STA.SET= 31 CAT= S0 MSA-1 CONTAM PERCHLOROETHYLENE	926.0	2041.5	11112.0	24498.0	.0	.0
STA.SET= 31 CAT= S0 PERCHLOROETHYLENE	138.8	306.0	1665.6	3672.0	.0	.0
STA.SET= 31 CAT= S0 TRICHLOROETHANE	40.8	90.0	489.9	1080.0	.0	.0
STA.SET= 31 CAT= S0 METHYLENE CHLORIDE	127.9	282.0	1534.9	3384.0	.0	.0
STA.SET= 31 CAT= S0 MTA-2 CONTAMINATED SOLVENTS	264.9 ⁽²⁶⁾	584.0 ⁽²⁶⁾	3178.8 ⁽²⁶⁾	7008.0 ⁽²⁶⁾	.0	.0
STA.SET= 31 CAT= S0 BOSTIK CONTAMINATED SOLVENTS	132.4 ⁽²⁶⁾	292.0 ⁽²⁶⁾	1589.4 ⁽²⁶⁾	3504.0 ⁽²⁶⁾	.0	.0
STA.SET= 31 CAT= S0 RUSTOLEUM CONTAMINATED SOLVENT	132.4 ⁽²⁶⁾	292.0 ⁽²⁶⁾	1589.4 ⁽²⁶⁾	3504.0 ⁽²⁶⁾	.0	.0
SUBTOTAL FOR SET 31	4813.0	10611.0	57756.5	127332.0	.0	.0
STA.SET= 32 CAT= BA LITHIUM STORAGE BATTERIES	12.2	27.0	147.0	324.0	.0	.0

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 32 CAT= BA SILVER-ZINC STORAGE BATTERIES	20.4	45.0	244.9	540.0	.0	.0
STA.SET= 32 CAT= BA POTASSIUM HYDROXIDE SOLUTION	4.4 ⁽¹⁸⁾	9.6 ⁽¹⁸⁾	52.3 ⁽¹⁸⁾	115.2 ⁽¹⁸⁾	.0	.0
STA.SET= 32 CAT= CB HYDRAZINE-CONTAMINATED WATER	54.4 ⁽¹⁸⁾	120.0 ⁽¹⁸⁾	653.2 ⁽¹⁸⁾	1440.0 ⁽¹⁸⁾	.0	.0
STA.SET= 32 CAT= CS ⁽³²⁾ CONTAMINATED SEAWATER	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= CS ⁽³²⁾ CONTAMINATED SEAWATER	7257.4	16000.0	87099.3	192000.0	.0	.0
STA.SET= 32 CAT= CW SRB FWD SKT CLEANING WASTES					.0	.0
STA.SET= 32 CAT= EW WASTEWATER FROM EEW&S	302.8 ⁽⁴⁾	667.6 ⁽⁴⁾	3633.8 ⁽⁴⁾	8011.2 ⁽⁴⁾	.0	.0
STA.SET= 32 CAT= FO BILGE WASTES					.0	.0
STA.SET= 32 CAT= FO DIESEL FUEL & OIL SPILLS	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= FS ⁽¹¹⁾ WASTE FUEL & PRIMOL 35- HYDRAZINE	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= HS HYDRAZINE SCRUBBER EFFLUENT HYDRAZINE	90.7 ⁽¹⁸⁾ .8	200.0 ⁽¹⁸⁾ 1.8	1088.6 ⁽¹⁸⁾ 9.8	2400.0 ⁽¹⁸⁾ 21.6	.0	.0
STA.SET= 32 CAT= HY HYDRAZINE	20.5	45.3	246.3	543.0	.0	.0
STA.SET= 32 CAT= IN ⁽³³⁾ INSULATION WASTES, SOLID MSA-1 INSULATION MTA-2 INSULATION KSHA INSULATION PR-855 INSULATION	362.9 ⁽³⁴⁾	800.0 ⁽³⁴⁾	4354.5 ⁽³⁴⁾	9600.0 ⁽³⁴⁾	.0	.0
STA.SET= 32 CAT= IN INSULATION CONTAM FILTERS	2.3 ⁽²¹⁾	5.0 ⁽²¹⁾	27.2 ⁽²¹⁾	60.0 ⁽²¹⁾	.0	.0
STA.SET= 32 CAT= IW ⁽³³⁾ INSULATION-CONTAMINATED WATER	92645.9 ⁽¹⁸⁾	204250.0 ⁽¹⁸⁾	111749.0 ⁽¹⁸⁾	2451000.0 ⁽¹⁸⁾	.0	.0

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
MSA-1 INSULATION						
MTA-2 INSULATION						
K5HA INSULATION						
PR-855 INSULATION						
STA.SET= 32 CAT= PR PRESERVATIVE CHEMICALS PROTECTIVE LUBRICANTS					.0	.0
STA.SET= 32 CAT= PS SRB SOLID PROPELLANT	.0	.0	.0	.0	78.5 ⁽²⁴⁾	173.0 ⁽²⁴⁾
AMMONIUM PERCHLORATE	.0	.0	.0	.0		
ALUMINUM POWDER	.0	.0	.0	.0		
FERRIC OXIDE	.0	.0	.0	.0		
POLYMER & EPOXY RESIN	.0	.0	.0	.0		
STA.SET= 32 CAT= SB DETERGENT WASHWATER ⁽³⁵⁾	17417.9	38400.0	209014.3	460800.0	.0	.0
STA.SET= 32 CAT= SB POTABLE RINSE WATER	60236.8	132800.0	722841.0	1593600.0	.0	.0
STA.SET= 32 CAT= SB DEIONIZED RINSE WATER	28195.2	62160.0	338341.8	745920.0	.0	.0
STA.SET= 32 CAT= SI SRB RINSE WATER	10886.2	24000.0	130633.9	288000.0	.0	.0
STA.SET= 32 CAT= SO SOLVENTS FREDON TMC/TM SOLVENTS, UNSPECIFIED	5.3 ⁽²⁶⁾	11.7 ⁽²⁶⁾	63.7 ⁽²⁶⁾	140.4 ⁽²⁶⁾	.0	.0
SUBTOTAL FOR SET 32	217515.1	479541.2	2610181.0	5754494.0	.0	.0
STA.SET= 33 CAT= CA AIR FILTERS	2.3 ⁽²¹⁾	5.0 ⁽²¹⁾	27.2 ⁽²¹⁾	60.0 ⁽²¹⁾	.0	.0
STA.SET= 33 CAT= EW WASTEWATER FROM EEW&S	94.6	208.5	1134.9	2502.0		
STA.SET= 33 CAT= HF HYDRAULIC FLUIDS					.0	.0
SUBTOTAL FOR SET 33	96.8	213.5	1162.1	2562.0	.0	.0

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

PAGE 17

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 99 CAT= AU GX-6300 ABLATOR ADHESIVE	2.9	6.5	35.4	78.0	.0	.0
RESIN STM L 663	.3	.6	3.5	7.8		
RESIN STM L 664	1.1	2.4	13.1	28.8		
SILICA POWDER	.1	.2	1.1	2.4		
CARBON POWDER	.1	.2	1.1	2.4		
CURING AGENT L 663	.1	.3	1.4	3.0		
CURING AGENT L 664	<.1	.1	.3	.6		
HEPTANE	1.2	2.6	14.2	31.2		
XYLENE	.1	.2	.8	1.8		
STA.SET= 99 CAT= AU ISOCHEM POLYESTER RESIN ADHESY STYRENE	2.9	6.5	35.4	78.0	.0	.0
NEK PEROXIDE CATALYST DIMETHYL PHTHALATE						
STA.SET= 99 CAT= CA FILTER					.0	.0
STA.SET= 99 CAT= CH SOLVENT CONTAMINATED CONTAINER SOLVENTS(36)	1.1 ⁽²⁸⁾	2.5 ⁽²⁸⁾	13.6 ⁽²⁸⁾	30.0 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CH PRIMER CONTAMINATED CONTAINERS	.2 ⁽²⁹⁾	.4 ⁽²⁸⁾	1.9 ⁽²⁸⁾	4.2 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CH ADHESIVE CONTAMINATED CONTAINER	.2 ⁽²⁸⁾	.4 ⁽²⁸⁾	1.9 ⁽²⁸⁾	4.2 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CH SOLVENT CONTAINERS					.0	.0
STA.SET= 99 CAT= CH POUR FOAM CONTAINERS	11.3 ⁽²⁸⁾	25.0 ⁽²⁸⁾	136.1 ⁽²⁸⁾	300.9 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CH ABLATOR CONTAMINATED CONTAINER	.2 ⁽²⁸⁾	.4 ⁽²⁸⁾	1.9 ⁽²⁸⁾	4.2 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CR SOLVENT CONTAMINATED RAGS	2.3 ⁽⁹⁾	5.0 ⁽⁹⁾	27.2 ⁽⁹⁾	60.0 ⁽⁹⁾	.0	.0
STA.SET= 99 CAT= CR ADHESIVE CONTAMINATED RAGS	2.3 ⁽⁹⁾	5.0 ⁽⁹⁾	27.2 ⁽⁹⁾	60.0 ⁽⁹⁾	.0	.0
STA.SET= 99 CAT= CR EPOXY PRIMER-CONTAMINATED RAGS	1.1 ⁽⁹⁾	2.5 ⁽⁹⁾	13.6 ⁽⁹⁾	30.0 ⁽⁹⁾	.0	.0
STA.SET= 99 CAT= IN BX-250 FOAM (SOFI)	59.0	130.0	707.6	1560.0	.0	.0

(CONT.)

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

PAGE 18

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
DIPHENYL METHANE DIISOCYANATE	14.7	32.5	176.9	390.0		
FREON 11	9.5	21.0	114.3	252.0		
AMINES	5.2	11.5	62.6	138.0		
POLYOLS						
SUPER MEK PEROXIDE						
POLYESTER RESIN						
DIMETHYL FTHALATE						
STA.SET= 99 CAT= IN						
POUR FOAM (MIXED)(29)	62.4(37)	137.5(37)	748.4(37)	1650.0(37)	.0	.0
POLYURETHANE						
STA.SET= 99 CAT= IN						
POUR FOAM PART A (UNMIXED)(30)	3.2	7.0	38.1	84.0	.0	.0
DIPHENYL METHANE DIISOCYANATE	1.6	3.5	19.1	42.0		
FREON 11	1.0	2.3	12.2	27.0		
POLYOLS, AMINES	.6	1.3	6.8	15.0		
STA.SET= 99 CAT= IN						
POUR FOAM PART B (UNMIXED)(30)	3.2	7.0	38.1	84.0	.0	.0
FREON 11	.6	1.4	7.6	16.8		
AMINE CATALYST	.1	.2	.8	1.8		
POLYETHER POLYOL BLEND	2.5	5.4	29.7	65.4		
STA.SET= 99 CAT= IN						
POUR FOAM CONTAMINATED PAPER	.7(28)	1.7(28)	9.0(28)	19.8(28)	.0	.0
STA.SET= 99 CAT= IN						
SUPER LIGHT ABLATOR (1)	2.3	5.0	27.2	60.0	.0	.0
RESIN L664, PT A	1.3	3.0	16.1	35.4		
SILICA FIBERS	.1	.3	1.6	3.6		
CORK	.3	.6	3.3	7.2		
PHENOLIC MICROSPHERES	.1	.2	.8	1.8		
SILICA MICROSPHERES	.3	.7	3.8	8.4		
CURING AGENT	.1	.3	1.6	3.6		
STA.SET= 99 CAT= IN						
SUPER LIGHT ABLATOR (11)	2.3	5.0	27.2	60.0	.0	.0
RESIN STM L664, PT A	.7	1.5	8.2	18.0		
CARBON POWDER						
SILICA FIBERS						
CORK						
SILICA MICROSPHERES						
PHENOLIC MICROSPHERES		.9	4.6	10.2		
CURING AGENT STM L664, PT B	.4					
STA.SET= 99 CAT= IN						
POUR FOAM "TRIMMINGS"	2.3	5.0	27.2	60.0	.0	.0
POLYURETHANE						

TABLE 10 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1986

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 99 CAT= PA EPOXY PRIMER METHYLENE ISOBUTYL KETONE XYLENE CYCLOHEXANONE CHROMATES INORGANIC PIGMENTS N-BUTANOL TOLUENE AMINO SILANE METHYL ETHYL KETONE	<.1 ⁽²⁷⁾	.1 ⁽²⁷⁾	.3 ⁽²⁷⁾	.6 ⁽²⁷⁾	.0	.0
STA.SET= 99 CAT= PA D.C. 1200 VM AND P NAPHTHA ORGANOMETALLIC SALTS	<.1 ⁽²⁷⁾	.1 ⁽²⁷⁾	.3 ⁽²⁷⁾	.6 ⁽²⁷⁾	.0	.0
STA.SET= 99 CAT= SO FREON TMC	.1 ⁽²⁷⁾	.2 ⁽²⁷⁾	.8 ⁽²⁷⁾	1.8 ⁽²⁷⁾	.0	.0
STA.SET= 99 CAT= SO 1,1,1-TRICHLOROETHANE	.1 ⁽²⁷⁾	.2 ⁽²⁷⁾	.8 ⁽²⁷⁾	1.8 ⁽²⁷⁾	.0	.0
STA.SET= 99 CAT= SO MEK & CELLOSOLVE	6.1	13.5	73.2	161.4	.0	.0
STA.SET= 99 CAT= SO HEPTANE	37.5	82.8	450.4	993.6	.0	.0
STA.SET= 99 CAT= SO CELLOSOLVE ACETATE	53.5	118.0	642.3	1416.0	.0	.0
STA.SET= 99 CAT= SO METHYL ETHYL KETONE	44.2	97.4	530.4	1169.4	.0	.0
STA.SET= 99 CAT= SR SOLVENT REDUCER METHYL ETHYL KETONE CYCLOHEXANONE	.3 .2 .1	.6 .4 .2	3.3 2.2 1.1	7.2 4.8 2.4	.0	.0
STA.SET= 99 CAT= SW SOLVENT CONTAMINATED WATER	40.5	89.3	486.1	1071.6	.0	.0
SUBTOTAL FOR SET 99	342.1	754.2	4104.9	9049.8	.0	.0
TOTAL FOR ALL SETS	519986.1	1146379.3	6239833.0	13756550.0	124657.2	274823.5

HAZARDOUS WASTE GENERATION FOR 1986

TABLE 10 (CONT.)
SUMMARY BY CATEGORY
CATEGORY

CATEGORY	BASELINE MONTHLY		BASELINE YEARLY		CONTINGENCY PER YEAR	
	KILOGRAMS	POUNDS	KILOGRAMS	POUNDS	KILOGRAMS	POUNDS
SO	4130.7	9106.8	49568.8	109281.0	.0	.0
EW	6756.5	14895.7	81078.5	178748.4	.0	.0
FO	19.1	42.0	228.6	504.0	.0	.0
FS	2028.7	4472.5	24344.2	53670.0	.0	.0
OS	616.3	1358.7	7395.5	16304.4	.0	.0
HF	201.3	443.8	2415.4	5325.0	.0	.0
AW	14.4	31.8	172.8	381.0	.0	.0
CN	1400.3	3087.3	16804.2	37047.0	.0	.0
CR	19.3	42.5	231.3	510.0	.0	.0
KS	1939.6	4276.0	23274.6	51312.0	.0	.0
HY	213.4	470.4	2560.4	5644.8	44330.6	99055.5
IN	589.8	1300.3	7077.6	15603.6	.0	.0
MH	233.8	515.5	2805.9	6186.0	6464.6	14252.0
NH	18.1	40.0	217.7	480.0	47.2	104.0
NO	218.4	481.5	2620.6	5777.4	65050.2	143412.0
PA	41.0	90.5	492.6	1086.0	.0	.0
SW	764.2	1684.8	9170.2	20217.0	.0	.0
WP	2.3	5.0	27.2	60.0	.0	.0
PS	.0	.0	.0	.0	504379.8	1111973.0
QW	283947.3	626000.0	3407368.0	7512000.0	.0	.0
AL	.0	.0	.0	.0	.0	.0
CA	24.9	55.0	299.4	660.0	.0	.0
PW	75.7	167.0	909.0	2004.0	.0	.0
BA	37.0	81.6	444.2	979.2	.0	.0
CB	54.4	120.0	653.2	1440.0	.0	.0
CS	7257.4	16000.0	87089.3	92000.0	.0	.0
CU	.0	.0	.0	.0	.0	.0
IW	92645.8	204250.0	1111749.0	2451000.0	.0	.0
PR	.0	.0	.0	.0	.0	.0
SB	105849.8	233360.0	1270197.0	2800320.0	.0	.0
SI	10886.2	24000.0	130633.9	288000.0	.0	.0
SR	.3	.6	3.3	7.2	.0	.0

* For footnotes, see Table 8.

TABLE 11. HAZARDOUS WASTE GENERATION FOR 1987 *

PAGE 1

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 0 ⁽²⁾ CAT= S0 CONTAMINATED FREON	1980.7 ⁽³⁾	4366.7 ⁽³⁾	23768.1 ⁽³⁾	52400.0 ⁽³⁾	.0	.0
SUBTOTAL FOR SET 0	1980.7	4366.7	23768.1	52400.0	.0	.0
STA.SET= 17 CAT= EW WASTEWATER FROM EEW&S	2271.1 ⁽⁴⁾	5007.0 ⁽⁴⁾	27253.5 ⁽⁴⁾	60084.0 ⁽⁴⁾		
STA.SET= 17 CAT= F0 DIESEL FUEL					.0	.0
STA.SET= 17 CAT= F0 DIESEL FUEL & OIL					.0	.0
STA.SET= 17 CAT= FS CONTAMINATED DILUTION WATER MMH	.0	.0	.0	.0		.0
STA.SET= 17 CAT= OS CONTAMINATED DILUTION WATER M204	.0	.0	.0	.0		.0
SUBTOTAL FOR SET 17	2271.1	5007.0	27253.5	60084.0	.0	.0
STA.SET= 18 CAT= HF HYDRAULIC FLUIDS	3.6 ⁽⁵⁾	7.9 ⁽⁵⁾	43.1 ⁽⁵⁾	95.0 ⁽⁵⁾	.0	.0
SUBTOTAL FOR SET 18	3.6	7.9	43.1	95.0	.0	.0
STA.SET= 19 CAT= AW TPS ADHESIVE, RTV 566/577 PHENYL METHYL POLYSILOXANE TIN OXIDE IRON OXIDE SILICON HARDENER	.9	2.1	11.3	25.0	.0	.0
STA.SET= 19 CAT= AW EA 911 EPOXY (CONT.)					.0	.0

HAZARDOUS WASTE GENERATION FOR 1987

TABLE 11 (CONT.)

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EPOXY					
ZINC CHROMATE					
ASBESTOS					
MERCAPTAN					
DIMETHYLAMINE					
STA.SET= 19 CAT= AW					
EA 934 EPOXY				.0	.0
EPOXY RESIN					
ASBESTOS					
STA.SET= 19 CAT= AW					
EA 9309 EPOXY				.0	.0
EPOXY RESIN					
GLASS FIBERS					
ACRYLONITRILE/BUTADIEN/STYRENE					
ASBESTOS					
POLYGLYCOL DIAMINE					
SILANE					
STA.SET= 19 CAT= CN					
SPRAYCANS OF TPS SEALER				.0	.0
FLUORINATED SOLVENT					
FREON 113					
STA.SET= 19 CAT= CN					
KOROPON PRIMER CONTAM CANS	5.7 ⁽⁶⁾	68.0 ⁽⁶⁾	150.0 ⁽⁶⁾	.0	.0
BUTYL ACETATE					
METHYL ETHYL KETONE					
TOLUENE					
TALC - Mg SILICATES					
EPOXY RESIN					
STA.SET= 19 CAT= CN					
LACQUER SPRAY CANS	2.3 ⁽⁷⁾	27.2 ⁽⁷⁾	60.0 ⁽⁷⁾	.0	.0
PIGMENT SOLIDS					
VEHICLE SOLIDS					
TOLUENE					
XYLENE					
HYDROCARBON PROPELLANT					
PETROLEUM DISTILLATES					
STA.SET= 19 CAT= CN					
ISP CONTAM CUPS & WOOD STICKS	.6 ⁽⁸⁾	6.8 ⁽⁸⁾	15.0 ⁽⁸⁾	.0	.0
INSTANT SET POLYMER					
STA.SET= 19 CAT= CN					
MARSHALL STENCIL INK SPRAYCANS	.2 ⁽⁷⁾	2.7 ⁽⁷⁾	6.0 ⁽⁷⁾	.0	.0
XYLENE					
(CONT.)					

HAZARDOUS WASTE GENERATION FOR 1987

TABLE 11 (CONT.)

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	BASELINE MONTHLY POUNDS	BASELINE YEARLY KILOGRAMS	BASELINE YEARLY POUNDS	CONTINGENCY PER YEAR KILOGRAMS	CONTINGENCY PER YEAR POUNDS
NAPHTHA OTHER MATERIALS						
STA.SET= 19 CAT= CN LACQUER SPRAYCANS	1.8 ⁽⁷⁾	4.0 ⁽⁷⁾	21.8 ⁽⁷⁾	48.0 ⁽⁷⁾	.0	.0
PICMENT SOLIDS						
VEHICLE SOLIDS						
TOLUENE						
XYLENE						
HYDROCARBON PROPELLANT						
PETROLEUM DISTILLATES						
STA.SET= 19 CAT= CN ENAMEL SPRAYCANS	3.4 ⁽⁷⁾	7.5 ⁽⁷⁾	40.8 ⁽⁷⁾	90.0 ⁽⁷⁾	.0	.0
STA.SET= 19 CAT= CN ZINC CHROMATE PRIMER CANS	3.4 ⁽⁷⁾	7.5 ⁽⁷⁾	40.8 ⁽⁷⁾	90.0 ⁽⁷⁾	.0	.0
STA.SET= 19 CAT= CN CONTAMINATED TARE CUPS					.0	.0
EA 911 EPOXY						
EA 934 EPOXY						
EA 9309 EPOXY						
STA.SET= 19 CAT= CR RAGS WITH SOLVENTS, GREASES	3.8 ⁽⁹⁾	8.3 ⁽⁹⁾	45.4 ⁽⁹⁾	100.0 ⁽⁹⁾	.0	.0
STA.SET= 19 CAT= CR SOLVENT-CONTAM CHEESEECLOTH					.0	.0
ISOPROPYL ALCOHOL						
METHYL ETHYL KETONE						
1,1,1-TRICHLOROETHANE						
STA.SET= 19 CAT= CR MEK & IPA CONTAM CHEESEECLOTH					.0	.0
METHYL ETHYL KETONE						
ISOPROPYL ALCOHOL						
STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESEECLOTH					.0	.0
ISOPROPYL ALCOHOL						
STA.SET= 19 CAT= CR TCE CONTAMINATED CHEESEECLOTH					.0	.0
1,1,1-TRICHLOROETHANE						
STA.SET= 19 CAT= CR MEK CONTAMINATED CHEESEECLOTH					.0	.0
METHYL ETHYL KETONE						

HAZARDOUS WASTE GENERATION FOR 1987

TABLE 11 (CONT.)

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESEECLOTH ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR SOLID FILM LUBRIC CONT CHSCLTH					.0	.0
STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESEECLOTH ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR DICHLOROMETHANE CONT CHSECLTH					.0	.0
STA.SET= 19 CAT= CR CONTAM CLOTHES, CLOTH & DEBRIS KOROPON BASE PRIMER KOROPON ACTIVATOR BERYLLIUM DUST	3.8 ⁽¹⁰⁾	8.3 ⁽¹⁰⁾	45.4 ⁽¹⁰⁾	100.0 ⁽¹⁰⁾	.0	.0
STA.SET= 19 CAT= EW WASTEWATER FROM EEW&S	2523.5 ⁽⁴⁾	5563.3 ⁽⁴⁾	30281.7 ⁽⁴⁾	66760.0 ⁽⁴⁾		
STA.SET= 19 CAT= F8 WASTEWATER FROM PAYLOAD/ORB MMH	453.6 45.4	1000.0 100.0	5443.1 544.3	12000.0 1200.0	.0	.0
STA.SET= 19 CAT= F8 WASTE FUEL AND PRIMOL 355 ⁽¹¹⁾ HYDRAZINE & MMH	30.2 1.5	66.7 3.3	362.9 18.1	800.0 40.0		
STA.SET= 19 CAT= HF VACUUM PUMP OIL TEXACO REGAL OIL 068	3.8	8.3	45.4	100.0	.0	.0
STA.SET= 19 CAT= HS FUEL SCRUBBER HYDRAZINE & MMH	2116.8 42.3	4666.7 93.3	25401.0 508.0	56000.0 1120.0	.0	.0
STA.SET= 19 CAT= HY HYDRAZINE	.0	.0	.0	.0	2494.7 ⁽¹²⁾	5500.0 ⁽¹²⁾
STA.SET= 19 CAT= HY HYDRAZINE	56.7	125.0	680.4	1500.0	34.0 ⁽¹²⁾	75.0 ⁽¹²⁾
STA.SET= 19 CAT= IN POLYURETHANE FOAM	3.8	8.3	45.4	100.0	.0	.0

TABLE 11 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1987

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 19 CAT= IN ALUMACAST A/B MIXTURE POLYPROPYLENE PENTAERYTHRITOL AROMATIC WHITE OIL INERT ALUMINIZED PARTICLES DIPHENYLMETHANE DIISOCYANATE POLYMERS OF DPM DIISOCYANATE	.1	.3	1.4	3.0	.0	.0
STA.SET= 19 CAT= IN INSTANT SET POLYMER SCRAPS DIPHENYL METHANE DIISOCYANATE POLY(OXALKYLENE)POLYETHER AROMATIC HYDROCARBONS	1.5 ⁽¹³⁾	3.3 ⁽¹³⁾	18.1 ⁽¹³⁾	40.0 ⁽¹³⁾	.0	.0
STA.SET= 19 CAT= IN SILANE/ACETIC ACID RESIDUE METHYL TRIMETHOXSILANE ACETIC ACID	.4	.8	4.5	10.0	.0	.0
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE	29.5	65.0	353.8	780.0	.0	.0
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE	7.6	16.7	90.7	200.0	.0	.0
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE ⁽¹⁴⁾	15.6 ⁽¹⁵⁾	34.5 ⁽¹⁵⁾	187.8 ⁽¹⁵⁾	414.0 ⁽¹⁵⁾	107.3 ⁽¹²⁾	236.5 ⁽¹²⁾
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE ⁽¹⁴⁾	15.6 ⁽¹⁵⁾	34.5 ⁽¹⁵⁾	187.8 ⁽¹⁵⁾	414.0 ⁽¹⁵⁾	148.3 ⁽¹²⁾	327.0 ⁽¹²⁾
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE ⁽¹⁴⁾	11.1 ⁽¹⁵⁾	24.5 ⁽¹⁵⁾	133.4 ⁽¹⁵⁾	294.0 ⁽¹⁵⁾	182.8 ⁽¹²⁾	403.0 ⁽¹²⁾
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE ⁽¹⁴⁾	34.7 ⁽¹⁵⁾	76.5 ⁽¹⁵⁾	416.4 ⁽¹⁵⁾	918.0 ⁽¹⁵⁾	.0	.0
STA.SET= 19 CAT= MH WASTEWATER WITH AMMONIA	30.2 ⁽¹⁵⁾	66.7 ⁽¹⁵⁾	362.9 ⁽¹⁵⁾	800.0 ⁽¹⁵⁾	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	4.5	10.0	54.4	120.0	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	8.2	18.0	98.0	216.0	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	28.6 ⁽¹⁵⁾	63.0 ⁽¹⁵⁾	342.9 ⁽¹⁵⁾	756.0 ⁽¹⁵⁾	163.1 ⁽¹²⁾	359.5 ⁽¹²⁾

TABLE 11 (CONT.) HAZARDOUS WASTE GENERATION FOR 1987

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA. SET= 19 CAT= NO NITROGEN TETROXIDE	28.6 ⁽¹⁵⁾	63.0 ⁽¹⁵⁾	342.9 ⁽¹⁵⁾	756.0 ⁽¹⁵⁾	232.9 ⁽¹²⁾	513.5 ⁽¹²⁾
STA. SET= 19 CAT= NO NITROGEN TETROXIDE	19.9 ⁽¹⁵⁾	43.8 ⁽¹⁵⁾	238.6 ⁽¹⁵⁾	526.0 ⁽¹⁵⁾	286.2 ⁽¹²⁾	631.0 ⁽¹²⁾
STA. SET= 19 CAT= NO NITROGEN TETROXIDE	66.2 ⁽¹⁵⁾	146.0 ⁽¹⁵⁾	794.7 ⁽¹⁵⁾	1752.0 ⁽¹⁵⁾	.0	.0
STA. SET= 19 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	4082.3 ⁽¹²⁾	9000.0 ⁽¹²⁾
STA. SET= 19 CAT= OS DECONTAMINATE FROM PAYLOAD/ORB N204	241.9 2.3	533.3 5.0	2903.0 27.2	6400.0 60.0	.0	.0
STA. SET= 19 CAT= OS WASTE OXIDIZER AND PRIMOL 355 ⁽¹¹⁾ N204	31.0 2.3	68.3 5.0	371.9 27.2	820.0 60.0	.0	.0
STA. SET= 19 CAT= PA KOROPON PRIMER CONT PNT BRUSHES BUTYL ACETATE TALC - MG SILICATES EPOXY RESIN	15.1 ⁽¹⁶⁾	33.3 ⁽¹⁶⁾	181.4 ⁽¹⁶⁾	400.0 ⁽¹⁶⁾	.0	.0
STA. SET= 19 CAT= PA LACQUER #626486	.5 ⁽¹⁷⁾	1.1 ⁽¹⁷⁾	5.9 ⁽¹⁷⁾	13.0 ⁽¹⁷⁾	.0	.0
STA. SET= 19 CAT= PA CONTAMINATED BRUSHES ORGANIC ZINC PRIMER ZINC CHROMATE PRIMER	1.5 ⁽¹⁶⁾	3.3 ⁽¹⁶⁾	18.1 ⁽¹⁶⁾	40.0 ⁽¹⁶⁾	.0	.0
STA. SET= 19 CAT= PA ORGANIC ZINC PRIMER ZINC DUST BARYTES MOLYBDATE ORANGE SILICA HIGH MOLECULAR WEIGHT EPOXY CELLOSOLVE ACETATE TOLUENE METHYL ETHYL KETONE	4.7 ⁽¹⁸⁾	10.4 ⁽¹⁸⁾	56.7 ⁽¹⁸⁾	125.0 ⁽¹⁸⁾	.0	.0
STA. SET= 19 CAT= PA CONTAMINATED PAINT BRUSHES EA 911 EPOXY (CONT.)	1.5 ⁽¹⁶⁾	3.3 ⁽¹⁵⁾	18.1 ⁽¹⁶⁾	40.0 ⁽¹⁶⁾	.0	.0

TABLE 11 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1987

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WASTE MATERIAL

	BASELINE MONTHLY		BASELINE YEARLY		CONTINGENCY PER YEAR	
	KILOGRAMS	POUNDS	KILOGRAMS	POUNDS	KILOGRAMS	POUNDS
EA 934 EPOXY						
EA 9309 EPOXY						
STA.SET= 19 CAT= SO						
DOPE & LACQUER THINNER	.7	1.5	8.2	18.0	.0	.0
ALIPHATIC NAPHTHA	.1	.3	1.4	3.0		
ESTER OR KETONE	.3	.7	3.6	8.0		
ISO- OR n-BUTYL ACETATE	.2	.4	2.3	5.0		
ISO- OR n-BUTYL ALCOHOL	.1	.2	.9	2.0		
STA.SET= 19 CAT= SW						
WASHWATER WITH MEK	35.3	77.9	424.1	935.0	.0	.0
METHYL ETHYL KETONE	5.1	11.3	61.2	135.0		
SUBTOTAL FOR SET 19	5848.8	12894.5	70185.8	154734.0	7731.7	17045.5
STA.SET= 21 CAT= EW						
WASTEWATER FROM EE&S	2271.1 ⁽⁴⁾	5007.0 ⁽⁴⁾	27253.5 ⁽⁴⁾	60084.0 ⁽⁴⁾		
STA.SET= 21 CAT= FS						
WASTEWATER WITH MMH	90.0	198.3	1079.5	2380.0	.0	.0
MMH	8.3	18.3	99.8	220.0		
STA.SET= 21 CAT= HS						
FUEL SCRUBBER	302.4	666.7	3628.7	8000.0	.0	.0
MMH	5.5	12.2	66.2	146.0		
STA.SET= 21 CAT= IN						
TILE REPAIR FOAM	3.8	8.3	45.4	100.0	.0	.0
POLYURETHANE			45.4	100.0		
STA.SET= 21 CAT= MH						
MONOMETHYL HYDRAZINE	.0	.0	.0	.0		
STA.SET= 21 CAT= NO						
NITROGEN TETROXIDE	.0	.0	.0	.0	16329.2 ⁽¹⁹⁾	36000.0 ⁽¹⁹⁾
STA.SET= 21 CAT= NO						
NITROGEN TETROXIDE	12.5	27.5	149.7	330.0	.0	.0
STA.SET= 21 CAT= NO						
NITROGEN TETROXIDE	42.7	94.2	512.6	1130.0	.0	.0
STA.SET= 21 CAT= NO						
NITROGEN TETROXIDE	.0	.0	.0	.0	4898.8 ⁽²⁰⁾	10800.0 ⁽²⁰⁾
STA.SET= 21 CAT= OS						
WASTEWATER WITH OXIDIZER	60.6	133.7	727.6	1604.0	.0	.0
(CONT.)						

TABLE 11 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1987

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
N204	.5	1.0	5.4	12.0		
STA.SET= 21 CAT= SW WASTEWATER WITH MEK METHYL ETHYL KETONE	35.3 5.1	77.8 11.2	423.7 60.8	934.0 134.0	.0	.0
STA.SET= 21 CAT= WP WASTE SEALS, FILTERS, ETC.	3.8 ⁽²¹⁾	8.3 ⁽²¹⁾	45.4 ⁽²¹⁾	100.0 ⁽²¹⁾	.0	.0
SUBTOTAL FOR SET 21	2822.2	6221.8	33865.9	74662.0	21228.0	46800.0
STA.SET= 23 CAT= EW WASTEWATER FROM EEW'S	2523.5	5563.3	30281.7	66760.0		
STA.SET= 23 CAT= FS HYDRAZINE-CONTAM. WASTEWATER HYDRAZINE	473.2 23.4	1043.3 51.7	5678.9 281.2	12520.0 620.0		
STA.SET= 23 CAT= FS HYDRAZINE-CONTAM. CLNUP WATER HYDRAZINE	157.6 1.7	347.5 3.8	1891.5 20.9	4170.0 46.0		
STA.SET= 23 CAT= FS WASTEWATER FROM PPR HYDRAZINE	1892.6	4172.5	22711.3	50070.0		
STA.SET= 23 CAT= FS PRIMOL 355 ⁽¹¹⁾ HYDRAZINE MMH	283.9	625.8	3406.5	7510.0		
STA.SET= 23 CAT= HF HYDRAULIC FLUIDS TETRAOORTHOCRESOL PHOSPHATE	328.1 328.1	723.3 723.3	3937.2 3937.2	8680.0 8680.0	.0	.0
STA.SET= 23 CAT= HS HYDRAZINE & MMH SCRUBBER HYDRAZINE MMH	630.9 ⁽¹⁸⁾ 14.0 11.0	1390.8 ⁽¹⁸⁾ 30.8 24.2	7570.4 ⁽¹⁸⁾ 167.8 131.5	16690.0 ⁽¹⁸⁾ 370.0 290.0	.0	.0
STA.SET= 23 CAT= HY HYDRAZINE	173.5	382.5	2082.0	4590.0	.0	.0
STA.SET= 23 CAT= HY LBN PROPELLANT PARAHYDRAZINE (CONT.)	.0 .0	.0 .0	.0 .0	.0 .0	39689.1 ⁽²²⁾	87500.0 ⁽²²⁾

TABLE 11 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1987

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
UNSYM DIMETHYLHYDRAZINE	.0	.0	.0	.0		
STA.SET= 23 CAT= HY HYDRAZINE	.0	.0	.0	.0	2712.7 ⁽²²⁾	5980.5 ⁽²²⁾
STA.SET= 23 CAT= IN K5NA INSULATION BUTYL GLYCIDYL ETHER EPOXY RESINS, UNCURED	8.7	19.2	104.3	230.0	.0	.0
STA.SET= 23 CAT= MH MONOMETHYL HYDRAZINE	275.6	607.5	3306.7	7290.0	.0	.0
STA.SET= 23 CAT= MH MONOMETHYL HYDRAZINE	.0	.0	.0	.0	6026.2 ⁽²²⁾	13285.5 ⁽²²⁾
STA.SET= 23 CAT= NH AMMONIA	.0	.0	.0	.0	47.2 ⁽²²⁾	104.0 ⁽²²⁾
STA.SET= 23 CAT= NO NITROGEN TETROXIDE	152.8	336.9	1833.9	4043.0	.0	.0
STA.SET= 23 CAT= NO LBM OXIDIZER NITROGEN TETROXIDE	.0	.0	.0	.0	39689.1 ⁽²²⁾	87500.0 ⁽²²⁾
STA.SET= 23 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	14064.9 ⁽²²⁾	31008.0 ⁽²²⁾
STA.SET= 23 CAT= OS N204 CONTAM. CLEANUP WATER NITROGEN TETROXIDE	27.5	208.3	1134.0	2500.0		
	.9	2.1	11.3	25.0		
STA.SET= 23 CAT= OS N204 CONTAM. WASTEWATER NITROGEN TETROXIDE	315.2	695.0	3782.9	8340.0		
	23.4	51.7	281.2	620.0		
STA.SET= 23 CAT= OS PRINOL 355 ⁽¹¹⁾ N204	283.9	625.8	3406.5	7510.0		
STA.SET= 23 CAT= PS SRB PROPELLANT SPILL ⁽²³⁾ AMMONIUM PERCHLORATE ALUMINUM POWDER PBAN BINDER HTPB BINDER IRON OXIDE	.0	.0	.0	.0	504301.3 ⁽²⁴⁾	1111800.0 ⁽²⁴⁾
STA.SET= 23 CAT= QU DELUGE WATER (CONT.)	473245.6	1043333.4	5678946.0	12520000.0	.0	.0

TABLE 11 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1987

PAGE 10

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
ALUMINUM OXIDE	2.8	6.2	33.6	74.0		
AMMONIA	.2	.4	2.3	5.0		
HYDROCHLORIC ACID	302.0	665.8	3624.2	7990.0		
ORGANIC CARBON	2.8	6.3	34.0	75.0		
STA.SET= 23 CAT= SO SOLVENT MIXTURE FREON TMC/MF/TF SYM. TETRACHLOROETHANE	242.9 ⁽²⁵⁾	535.5 ⁽²⁵⁾	2914.8 ⁽²⁵⁾	6426.0 ⁽²⁵⁾	.0	.0
STA.SET= 23 CAT= SO CONTAMINATED SOLVENTS	220.7 ⁽²⁶⁾	486.7 ⁽²⁶⁾	2649.0 ⁽²⁶⁾	5840.0 ⁽²⁶⁾	.0	.0
STA.SET= 23 CAT= SW SOLVENT WASTEWATER UNSPEC.	347.0 ^(18X25)	765.0 ^(18X25)	4164.0 ^(18X25)	9180.0 ^(18X25)	.0	.0
STA.SET= 23 CAT= SW CONTAMINATED WASTEWATER SOLVENTS CHLORINATED RUBBER ZINC PRIMER	789.5 ⁽¹⁸⁾	1738.3 ⁽¹⁸⁾	9461.9 ⁽¹⁸⁾	20960.0 ⁽¹⁸⁾	.0	.0
SUBTOTAL FOR SET 23	482438.6	1063600.8	5789264.0	12763210.0	102229.2	225378.0
STA.SET= 31 CAT= AL SURFACTANT NaOH SODIUM TRIPOLYPHOSPHATE					.0	.0
STA.SET= 31 CAT= AW EA 934 EPOXY ADHESIVE EPOXY RESIN ASBESTOS FILLERS POLYAMIDE DIETHYLENETRIAMINE	13.2 ^(26X27) 5.7 1.5 2.6 3.0 .4	29.2 ^(26X27) 12.5 3.3 5.8 6.7 .8	158.8 ^(26X27) 68.9 18.1 31.8 36.3 4.5	350.0 ^(26X27) 150.0 40.0 70.0 80.0 10.0	.0	.0
STA.SET= 31 CAT= CA CONTAMINATED AIR FILTERS	18.9	41.7	226.8	500.0	.0	.0
STA.SET= 31 CAT= CA CHARCOAL FILTER WASTES					.0	.0
STA.SET= 31 CAT= CA CONTAMINATED AIR FILTERS	18.9	41.7	226.8	500.0	.0	.0
STA.SET= 31 CAT= CN BOSTIK PRIMER PAINT CANS	5.7 ⁽⁶⁾	12.5 ⁽⁶⁾	68.0 ⁽⁶⁾	150.0 ⁽⁶⁾	.0	.0

TABLE 11 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1987

PAGE 11

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	BASELINE MONTHLY POUNDS	BASELINE YEARLY KILOGRAMS	BASELINE YEARLY POUNDS	CONTINGENCY PER YEAR KILOGRAMS	CONTINGENCY PER YEAR POUNDS
STA.SET= 31 CAT= CN BOSTIK TOPCOAT PAINT CANS	17.0 ⁽⁶⁾	37.5 ⁽⁶⁾	204.1 ⁽⁶⁾	450.0 ⁽⁶⁾	.0	.0
STA.SET= 31 CAT= CN RUSTOLEUM PRIMER PAINT CANS	.8 ⁽⁶⁾	1.7 ⁽⁶⁾	9.1 ⁽⁶⁾	20.0 ⁽⁶⁾	.0	.0
STA.SET= 31 CAT= CN RUSTOLEUM TOPCOAT PAINT CANS	.8 ⁽⁶⁾	1.7 ⁽⁶⁾	9.1 ⁽⁶⁾	20.0 ⁽⁶⁾	.0	.0
STA.SET= 31 CAT= CN MSA-1 EMPTY CONTAINERS	378.0 ⁽²⁸⁾	833.3 ⁽²⁸⁾	4535.9 ⁽²⁸⁾	10000.0 ⁽²⁸⁾	.0	.0
STA.SET= 31 CAT= CN K5NA CONTAINERS	2.8	6.3	34.0	75.0	.0	.0
STA.SET= 31 CAT= CN K5NA & NTA-2 PACKING MATERIALS	1890.0 ⁽²⁸⁾	4166.7 ⁽²⁸⁾	22679.5 ⁽²⁸⁾	50000.0 ⁽²⁸⁾	.0	.0
STA.SET= 31 CAT= CR SOLVENT CONTAMINATED RAGS	3.8 ⁽⁹⁾	8.3 ⁽⁹⁾	45.4 ⁽⁹⁾	100.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= CR ALODINE CONTAMINATED RAGS	1.9 ⁽⁹⁾	4.2 ⁽⁹⁾	22.7 ⁽⁹⁾	50.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= CR RYMPLE CLOTHS	3.8 ⁽⁹⁾	8.3 ⁽⁹⁾	45.4 ⁽⁹⁾	100.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= CR PAINT DROP CLOTHS	5.7 ⁽⁹⁾	12.5 ⁽⁹⁾	68.0 ⁽⁹⁾	150.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= EW WASTEWATER FROM EEWs	1009.4 ⁽⁴⁾	2225.3 ⁽⁴⁾	12112.7 ⁽⁴⁾	26704.0 ⁽⁴⁾	.0	.0
STA.SET= 31 CAT= FO FUEL AND OIL SPILLS	.0	.0	.0	.0	.0	.0
STA.SET= 31 CAT= FO FUEL & OIL WASTES	31.8	70.0	381.0	840.0	.0	.0
STA.SET= 31 CAT= FS PRIMOL 355 ⁽¹¹⁾	.0	.0	.0	.0	.0	.0
STA.SET= 31 CAT= HS SCRUBBER EFFLUENT	31.4 ⁽¹⁸⁾	69.2 ⁽¹⁸⁾	376.5 ⁽¹⁸⁾	830.0 ⁽¹⁸⁾	.0	.0
STA.SET= 31 CAT= HY HYDRAZINE	91.2	201.1	1094.5	2413.0	.0	.0
STA.SET= 31 CAT= IN MSA-1 (CURED) ⁽²⁵⁾	75.6 ⁽²⁵⁾	166.7 ⁽²⁵⁾	907.2 ⁽²⁵⁾	2000.0 ⁽²⁵⁾	.0	.0

TABLE 11 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1987

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EPICHLORHYDRIN/BGE	30.3	66.8	363.3	801.0		
GLASS ECOSPHERES	8.9	19.7	107.0	236.0		
PHENOLIC MICROSPHERES	26.8	59.1	321.6	709.0		
GLASS FIBERS	3.3	7.3	39.9	88.0		
BENTONE 27	2.5	5.6	30.4	67.0		
METHYLENE DIANILINE	2.6	5.8	31.8	70.0		
m-PHENYLENE DIAMINE	1.1	2.4	13.2	29.0		
STA.SET= 31 CAT= IN ⁽³⁰⁾					.0	.0
MSA-1, PART A (UNMIXED)						
METHYLENE CHLORIDE						
EPICHLORHYDRIN/BGE					.0	.0
STA.SET= 31 CAT= IN ⁽³⁰⁾						
MSA-1, PART B (UNMIXED)						
METHYLENE CHLORIDE						
PERCHLOROETHYLENE						
METHYLENE DIANILINE						
m-PHENYLENE DIAMINE						
ETHYL ALCOHOL						
PHENOLIC MICROSPHERES						
GLASS ECOSPHERES						
GLASS FIBERS						
BENTONE 27						
STA.SET= 31 CAT= IN ⁽²⁹⁾					.0	.0
MTA-2 (CURED)	37.8	83.3	453.6	1000.0		
EPICHLORHYDRIN/BGE	11.7	25.8	140.2	309.0		
LP-3, POLYSULFIDE LIQ POLYMER	11.7	25.8	140.2	309.0		
MDA & MPDA	4.6	10.3	55.8	123.0		
STANNOUS OCTOATE	.5	1.0	5.4	12.0		
PHENOLIC MICROSPHERES	9.3	20.6	112.0	247.0		
STA.SET= 31 CAT= IN ⁽³⁰⁾					.0	.0
MTA-2 (UNMIXED)	11.3	25.0	136.1	300.0		
EPICHLORHYDRIN/BGE	3.5	7.8	42.2	93.0		
LP-3, POLYSULFIDE LIQ POLYMER	3.5	7.8	42.2	93.0		
MDA & MPDA	1.4	3.1	16.8	37.0		
STANNOUS OCTOATE	.2	.3	1.8	4.0		
PHENOLIC MICROSPHERES	2.8	6.2	33.6	74.0		
METHYLENE CHLORIDE						
PERCHLOROETHYLENE						
STA.SET= 31 CAT= IN ⁽³⁰⁾					.0	.0
K5NA	6.0	13.3	72.6	160.0		
BUTYL GLYCIDYL ETHER						
EPOXY RESINS						
STA.SET= 31 CAT= IN ⁽³⁰⁾					.0	.0
INSULATION AND PAPER						

TABLE 11 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1987

PAGE 13

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 31 CAT= PA						
BOSTIK EPOXY PRIMER	10.2	22.5	122.5	270.0	.0	.0
EPOXY RESIN	1.3	2.9	15.9	35.0		
AMINE CURING AGENT	.2	.5	2.7	6.0		
TITANIUM DIOXIDE	.2	.5	2.7	6.0		
CHROMATE PIGMENTS	.5	1.0	5.4	12.0		
INERT PIGMENTS	1.4	3.2	17.2	38.0		
SUSPENSION & FLOW CONTROL ADDI	<.1	.1	.5	1.0		
SOLVENTS	6.1	13.5	73.5	162.0		
STA.SET= 31 CAT= PA						
BOSTIK EPOXY TOPCOAT	14.0	30.8	167.8	370.0	.0	.0
EPICHLORHYDRIN/BISPHENOL A	3.4	7.5	40.8	90.0		
AMINE CURING AGENT	.5	1.2	6.4	14.0		
COLOR PIGMENT	2.8	6.3	34.0	75.0		
SUSPENSION & FLOW CONTROL ADDI	.2	.4	2.3	5.0		
SOLVENTS PHOTOCHROM REACTIVE	1.3	2.9	15.9	35.0		
SOLVENTS NONPHOTOCHROM REACTIVE	5.7	12.5	68.0	150.0		
STA.SET= 31 CAT= PA						
RUSTOLEUM PRIMER	3.0	6.7	36.3	80.0	.0	.0
SILICATES	.5	1.1	5.9	13.0		
YELLOW IRON OXIDE	.2	.5	2.7	6.0		
TITANIUM DIOXIDE	.1	.2	.9	2.0		
CALCIUM BOROSILICATE	.6	1.3	6.8	15.0		
BENTONITE	<.1	<.1	.2	.4		
LINSEED PHENOLIC ALKYL RESIN	.6	1.3	7.3	16.0		
ALIPHATIC HYDROCARBONS	1.0	2.2	11.8	26.0		
DRIERS AND ADDITIVES	.1	.2	.9	2.0		
STA.SET= 31 CAT= PA						
RUSTOLEUM TOPCOAT	3.0	6.7	36.3	80.0	.0	.0
SILICATES	1.0	2.2	11.8	26.0		
TITANIUM DIOXIDE	.5	1.2	6.4	14.0		
BENTONITE CLAY	<.1	<.1	.2	.4		
TINTING COLORS	.1	.2	.9	2.0		
ALKYL RESIN	.5	1.2	6.4	14.0		
ALIPHATIC HYDROCARBONS	.9	2.0	10.9	24.0		
DRIERS & ADDITIVES	<.1	.1	.5	1.0		
STA.SET= 31 CAT= PA						
GACOFLEX	14.7	32.5	176.9	390.0	.0	.0
TITANIUM DIOXIDE	1.0	2.3	12.2	27.0		
CLAY	1.2	2.6	14.1	31.0		
HYPALON	1.5	3.3	17.7	39.0		
HYDROCARBON RESIN	.3	.7	3.6	8.0		
PERCHLOROETHYLENE	6.9	15.3	83.0	183.0		
1,1,1-TRICHLOROETHANE	3.7	8.2	44.5	98.0		
(CONT.)						

TABLE 11 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1987

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EPOXIDIZED SOYBEAN OIL	.2	.3	1.8	4.0		
STA.SET= 31 CAT= PA PAINT-SPILL ABSORBANT	.0	.0	.0	.0		
STA.SET= 31 CAT= PW ALODINE CONTAMINATED WASTEWATR	126.2 ⁽¹⁸⁾	278.3 ⁽¹⁸⁾	1515.0 ⁽¹⁸⁾	3340.0 ⁽¹⁸⁾	.0	.0
CHROMIC ACID	2.2 ⁽³¹⁾	4.9 ⁽³¹⁾	26.8 ⁽³¹⁾	59.0 ⁽³¹⁾		
FERRICYANIDE SALT	1.2	2.8	15.0	33.0		
COMPLEX FLUORIDE SALT	<.1	.1	.5	1.0		
STA.SET= 31 CAT= S0 PERCHLOROETHYLENE	.5	1.2	6.4	14.0	.0	.0
STA.SET= 31 CAT= S0 TRICHLOROETHANE	.4	.9	5.0	11.0	.0	.0
STA.SET= 31 CAT= S0 FREON 113	.5	1.1	5.9	13.0	.0	.0
STA.SET= 31 CAT= S0 MSA-1 CONTAMINATED MEC1	1254.6	2765.8	15054.7	33190.0	.0	.0
STA.SET= 31 CAT= S0 MSA-1 CONTAM PERCHLOROETHYLENE	1543.3	3402.5	18520.1	40830.0	.0	.0
STA.SET= 31 CAT= S0 PERCHLOROETHYLENE	231.3	510.0	2776.0	6120.0	.0	.0
STA.SET= 31 CAT= S0 TRICHLOROETHANE	68.0	150.0	816.5	1800.0	.0	.0
STA.SET= 31 CAT= S0 METHYLENE CHLORIDE	213.2	470.0	2558.2	5640.0	.0	.0
STA.SET= 31 CAT= S0 MTA-2 CONTAMINATED SOLVENTS	441.5 ⁽²⁶⁾	973.3 ⁽²⁶⁾	5297.9 ⁽²⁶⁾	11680.0 ⁽²⁶⁾	.0	.0
STA.SET= 31 CAT= S0 BOSTIK CONTAMINATED SOLVENTS	220.7 ⁽²⁶⁾	486.7 ⁽²⁶⁾	2649.0 ⁽²⁶⁾	5840.0 ⁽²⁶⁾	.0	.0
STA.SET= 31 CAT= S0 RUSTOLEUM CONTAMINATED SOLVENT	220.7 ⁽²⁶⁾	486.7 ⁽²⁶⁾	2649.0 ⁽²⁶⁾	5840.0 ⁽²⁶⁾	.0	.0
SUBTOTAL FOR SET 31	8021.7	17685.0	96260.9	212220.0	.0	.0
STA.SET= 32 CAT= BA LITHIUM STORAGE BATTERIES	20.4	45.0	244.9	540.0	.0	.0

TABLE 11 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1987

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WASTE MATERIAL	BASELINE MONTHLY		BASELINE YEARLY		CONTINGENCY PER YEAR	
	KILOGRAMS	POUNDS	KILOGRAMS	POUNDS	KILOGRAMS	POUNDS
STA.SET= 32 CAT= 8A SILVER-ZINC STORAGE BATTERIES	34.0	73.0	409.2	900.0	.0	.0
STA.SET= 32 CAT= 8A POTASSIUM HYDROXIDE SOLUTION	7.3 ⁽¹⁸⁾	16.0 ⁽¹⁸⁾	87.1 ⁽¹⁸⁾	192.0 ⁽¹⁸⁾	.0	.0
STA.SET= 32 CAT= 8B HYDRAZINE-CONTAMINATED WATER	90.7 ⁽¹⁸⁾	200.0 ⁽¹⁸⁾	1088.6 ⁽¹⁸⁾	2400.0 ⁽¹⁸⁾	.0	.0
STA.SET= 32 CAT= 8C CONTAMINATED SEAWATER ⁽³²⁾	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= 8C CONTAMINATED SEAWATER ⁽³²⁾	12095.7	26665.7	145149.8	320000.0	.0	.0
STA.SET= 32 CAT= 8C SRB FWD SKT CLEANING WASTES	504.7 ⁽⁴⁾	1112.7 ⁽⁴⁾	6056.3 ⁽⁴⁾	13352.0 ⁽⁴⁾	.0	.0
STA.SET= 32 CAT= 8C WASTEWATER FROM EEW&S	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= 8C BILGE WASTES	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= 8C DIESEL FUEL & OIL SPILLS	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= 8C WASTE FUEL & PRIMOL 355 ⁽¹¹⁾ HYDRAZINE	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= 8C HYDRAZINE SCRUBBER EFFLUENT HYDRAZINE	151.2 ⁽¹⁸⁾ 1.4	333.3 ⁽¹⁸⁾ 3.0	1814.4 ⁽¹⁸⁾ 16.3	4000.0 ⁽¹⁸⁾ 36.0	.0	.0
STA.SET= 32 CAT= 8C HYDRAZINE	34.2	75.4	410.5	905.0	.0	.0
STA.SET= 32 CAT= 8C INSULATION WASTES, SOLID ⁽³³⁾ MSA-1 INSULATION MTA-2 INSULATION KSHA INSULATION PR-855 INSULATION	604.8 ⁽³⁴⁾	1333.3 ⁽³⁴⁾	7257.4 ⁽³⁴⁾	16000.0 ⁽³⁴⁾	.0	.0
STA.SET= 32 CAT= 8C INSULATION CONTAIN FILTERS	3.8 ⁽²¹⁾	8.3 ⁽²¹⁾	45.4 ⁽²¹⁾	100.0 ⁽²¹⁾	.0	.0
STA.SET= 32 CAT= 8C INSULATION-CONTAMINATED WATER ⁽³³⁾ (CONT.)	154409.6 ⁽¹⁸⁾	340416.7 ⁽¹⁸⁾	1852915.0 ⁽¹⁸⁾	4085000.0 ⁽¹⁸⁾	.0	.0

TABLE 11 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1987

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
MSA-1 INSULATION						
MTA-2 INSULATION						
K5NA INSULATION						
PR-855 INSULATION						
STA.SET= 32 CAT= PR PRESERVATIVE CHEMICALS PROTECTIVE LUBRICANTS					.0	.0
STA.SET= 32 CAT= PS SRB SOLID PROPELLANT	.0	.0	.0	.0	78.5 ⁽²⁴⁾	173.0 ⁽²⁴⁾
AMMONIUM PERCHLORATE	.0	.0	.0	.0		
ALUMINUM POWDER	.0	.0	.0	.0		
FERRIC OXIDE	.0	.0	.0	.0		
POLYMER & EPOXY RESIN	.0	.0	.0	.0		
STA.SET= 32 CAT= SB DETERGENT WASHWATER ⁽³⁵⁾	29029.8	64000.0	348357.1	768000.0	.0	.0
STA.SET= 32 CAT= SB POTABLE RINSE WATER	100394.6	221333.3	1204735.0	2656000.0	.0	.0
STA.SET= 32 CAT= SB DEIONIZED RINSE WATER	46991.9	103600.0	563903.0	1243200.0	.0	.0
STA.SET= 32 CAT= SI SRB RINSE WATER	18143.6	40000.0	217723.2	480000.0	.0	.0
STA.SET= 32 CAT= SO SOLVENTS FREON TMC/TM SOLVENTS, UNSPECIFIED	8.8 ⁽²⁶⁾	19.5 ⁽²⁶⁾	106.1 ⁽²⁶⁾	234.0 ⁽²⁶⁾	.0	.0
SUBTOTAL FOR SET 32	362525.1	799235.4	4350302.0	9590824.0	.0	.0
STA.SET= 33 CAT= CA AIR FILTERS	3.8 ⁽²¹⁾	8.3 ⁽²¹⁾	45.4 ⁽²¹⁾	100.0 ⁽²¹⁾	.0	.0
STA.SET= 33 CAT= EW WASTEWATER FROM EEWs	157.6	347.5	1891.5	4170.0		
STA.SET= 33 CAT= HF HYDRAULIC FLUIDS					.0	.0
SUBTOTAL FOR SET 33	161.4	355.8	1936.8	4270.0	.0	.0

TABLE 11 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1987

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	BASELINE MONTHLY POUNDS	BASELINE YEARLY KILOGRAMS	BASELINE YEARLY POUNDS	CONTINGENCY PER YEAR KILOGRAMS	CONTINGENCY PER YEAR POUNDS
STA.SET= 99 CAT= AU						
CX-6300 ASLATOR ADHESIVE	4.9	10.8	59.0	130.0	.0	.0
RESIN STM L 663	.5	1.1	5.9	13.0		
RESIN STM L 664	1.8	4.0	21.8	48.0		
SILICA POWDER	.2	.3	1.8	4.0		
CARBON POWDER	.2	.3	1.8	4.0		
CURING AGENT L 663	.2	.4	2.3	5.0		
CURING AGENT L 664	<.1	.1	.5	1.0		
HEPTANE	2.0	4.3	23.6	52.0		
XYLENE	.1	.3	1.4	3.0		
STA.SET= 99 CAT= AU						
ISOCHEN POLYESTER RESIN ADHESY	4.9	10.8	59.0	130.0	.0	.0
STYRENE						
MEK PEROXIDE CATALYST						
DIMETHYL PHTHALATE						
STA.SET= 99 CAT= CA						
FILTER					.0	.0
STA.SET= 99 CAT= CN						
SOLVENT CONTAMINATED CONTAINER	1.9 ⁽²⁸⁾	4.2 ⁽²⁸⁾	22.7 ⁽²⁸⁾	50.0 ⁽²⁸⁾	.0	.0
SOLVENTS(36)						
STA.SET= 99 CAT= CN						
PRIMER CONTAMINATED CONTAINERS	.3 ⁽²⁸⁾	.6 ⁽²⁸⁾	3.2 ⁽²⁸⁾	7.0 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CN						
ADHESIVE CONTAMINATED CONTAINER	.3 ⁽²⁸⁾	.6 ⁽²⁸⁾	3.2 ⁽²⁸⁾	7.0 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CN						
SOLVENT CONTAINERS					.0	.0
STA.SET= 99 CAT= CN						
POUR FOAM CONTAINERS	18.9 ⁽²⁸⁾	41.7 ⁽²⁸⁾	226.8 ⁽²⁸⁾	500.0 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CN						
ABLATOR CONTAMINATED CONTAINER	.3 ⁽²⁸⁾	.6 ⁽²⁸⁾	3.2 ⁽²⁸⁾	7.0 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CR						
SOLVENT CONTAMINATED RAGS	3.8 ⁽⁹⁾	8.3 ⁽⁹⁾	45.4 ⁽⁹⁾	100.0 ⁽⁹⁾	.0	.0
STA.SET= 99 CAT= CR						
ADHESIVE CONTAMINATED RAGS	3.8 ⁽⁵⁾	8.3 ⁽⁹⁾	45.4 ⁽⁹⁾	100.0 ⁽⁹⁾	.0	.0
STA.SET= 99 CAT= CR						
EPOXY PRIMER-CONTAMINATED RAGS	1.9 ⁽⁹⁾	4.2 ⁽⁹⁾	22.7 ⁽⁹⁾	50.0 ⁽⁹⁾	.0	.0
STA.SET= 99 CAT= IN						
BX-250 FOAM (SOFI)	98.3	216.7	1179.3	2600.0	.0	.0
(CONT.)						

TABLE 11 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1987

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
DIPHENYL METHANE DIISOCYANATE	24.6	54.2	294.8	650.0		
FREON 11	15.9	35.0	190.5	420.0		
AMINES	8.7	19.2	104.3	230.0		
POLYOLS						
SUPER MEK PEROXIDE						
POLYESTER RESIN						
DIMETHYL PHTHALATE						
STA.SET= 99 CAT= IN POUR FOAM (MIXED) ⁽²⁹⁾ POLYURETHANE	103.9 ⁽³⁷⁾	229.2 ⁽³⁷⁾	1247.4 ⁽³⁷⁾	2750.0 ⁽³⁷⁾	.0	.0
STA.SET= 99 CAT= IN POUR FOAM PART A (UNMIXED) ⁽³⁰⁾ DIPHENYL METHANE DIISOCYANATE	5.3	11.7	63.5	140.0	.0	.0
FREON 11	2.6	5.8	31.8	70.0		
POLYOLS, AMINES	1.7	3.8	20.4	45.0		
	.9	2.1	11.3	25.0		
STA.SET= 99 CAT= IN POUR FOAM PART B (UNMIXED) ⁽³⁰⁾ AMINE CATALYST	5.3	11.7	63.5	140.0	.0	.0
POLYETHER POLYOL BLEND	1.1	2.3	12.7	28.0		
	.1	.3	1.4	3.0		
STA.SET= 99 CAT= IN POUR FOAM CONTAMINATED PAPER	4.1	9.1	49.4	109.0	.0	.0
	1.2 ⁽²⁸⁾	2.8 ⁽²⁸⁾	15.0 ⁽²⁸⁾	33.0 ⁽²⁸⁾		
STA.SET= 99 CAT= IN SUPER LIGHT ABLATOR (I) RESIN L664, PT A	3.8	8.3	45.4	100.0	.0	.0
SILICA FIBERS	2.2	4.9	26.8	59.0		
CORK	.2	.5	2.7	6.0		
PHENOLIC MICROSPHERES	.5	1.0	5.4	12.0		
SILICA MICROSPHERES	.1	.3	1.4	3.0		
CURING AGENT	.5	1.2	6.4	14.0		
	.2	.5	2.7	6.0		
STA.SET= 99 CAT= IN SUPER LIGHT ABLATOR (II) RESIN STM L664, PT A	3.8	8.3	45.4	100.0	.0	.0
CARSON POWDER	1.1	2.5	13.6	30.0		
SILICA FIBERS						
CORK						
SILICA MICROSPHERES						
PHENOLIC MICROSPHERES						
CURING AGENT STM L664, PT B	.6	1.4	7.7	17.0		
STA.SET= 99 CAT= IN POUR FOAM "TRIMMINGS" POLYURETHANE	3.8	8.3	45.4	100.0	.0	.0

TABLE 11 (CONT.)

HAZARDOUS WASTE GENERATION FOR 1987

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 99 CAT= FA EPOXY PRIMER	<.1 ⁽²⁷⁾	.1 ⁽²⁷⁾	.5 ⁽²⁷⁾	1.0 ⁽²⁷⁾	.0	.0
METHYLENE ISOBUTYL KETONE						
XYLENE						
CYCLOHEXANONE						
CHROMATES						
INORGANIC PIGMENTS						
N-BUTANOL						
TOLUENE						
AMINO SILANE						
METHYL ETHYL KETONE						
STA.SET= 99 CAT= PA D.C. 120C	<.1 ⁽²⁷⁾	.1 ⁽²⁷⁾	.5 ⁽²⁷⁾	1.0 ⁽²⁷⁾	.0	.0
VM AND P NAPHTHA ORGANOMETALLIC SALTS						
STA.SET= 99 CAT= SO FRED TMC	.1 ⁽²⁷⁾	.3 ⁽²⁷⁾	1.4 ⁽²⁷⁾	3.0 ⁽²⁷⁾	.0	.0
STA.SET= 99 CAT= SO 1,1,1-TRICHLOROETHANE	.1 ⁽²⁷⁾	.3 ⁽²⁷⁾	1.4 ⁽²⁷⁾	3.0 ⁽²⁷⁾	.0	.0
STA.SET= 99 CAT= SO MEK & CELLOSOLVE	10.2	22.4	122.0	269.0	.0	.0
STA.SET= 99 CAT= SO HEPTANE	62.6	137.9	750.7	1655.0	.0	.0
STA.SET= 99 CAT= SO CELLOSOLVE ACETATE	89.2	196.7	1070.5	2360.0	.0	.0
STA.SET= 99 CAT= SO METHYL ETHYL KETONE	73.7	162.4	884.0	1949.0	.0	.0
STA.SET= 99 CAT= SR SOLVENT REDUCER	.5	1.0	5.4	12.0	.0	.0
METHYL ETHYL KETONE	.3	.7	3.6	8.0		
CYCLOHEXANONE	.2	.3	1.8	4.0		
STA.SET= 99 CAT= SW SOLVENT CONTAMINATED WATER	67.5	148.8	810.1	1786.0	.0	.0
SUBTOTAL FOR SET 99	570.1	1256.9	6841.5	15083.0	.0	.0
TOTAL FOR ALL SETS	866643.6	1910632.3	10399724.0	22927588.0	131188.9	289223.5

HAZARDOUS WASTE GENERATION FOR 1987

TABLE 11 (CONT.)
SUMMARY BY CATEGORY

CATEGORY	BASELINE MONTHLY KILOGRAMS	BASELINE MONTHLY POUNDS	BASELINE YEARLY KILOGRAMS	BASELINE YEARLY POUNDS	CONTINGENCY PER YEAR KILOGRAMS	CONTINGENCY PER YEAR POUNDS
SO	5884.6	15177.9	52614.6	182135.0	.0	.0
EW	11260.9	24826.2	135130.8	297914.1	.0	.0
FO	31.8	70.0	381.0	840.0	.0	.0
FS	3381.1	7454.2	40573.6	89450.0	.0	.0
OS	1027.2	2264.5	12325.9	27174.0	.0	.0
HF	335.5	739.6	4025.6	8875.0	.0	.0
AM	24.0	52.9	288.0	635.0	.0	.0
CN	2333.9	5145.4	28006.9	61745.0	.0	.0
CR	32.1	70.8	385.6	850.0	.0	.0
HS	3232.6	7126.7	38791.0	85520.0	.0	.0
HY	355.6	784.0	4267.4	9408.0	44930.6	99055.5
IN	983.0	2167.2	11796.1	26006.0	.0	.0
MH	389.7	859.2	4676.5	10310.0	6464.6	14252.0
NH	30.2	66.7	362.9	800.0	47.2	104.0
NJ	364.0	802.4	4367.6	9629.0	65050.2	143412.0
PA	68.4	150.8	821.0	1810.0	.0	.0
SW	1273.6	2807.9	15283.7	33695.0	.0	.0
UP	3.8	8.3	45.4	100.0	.0	.0
PS	473245.6	1043333.4	5678946.0	12520000.0	504379.8	1111973.0
AL	.0	.0	.0	.0	.0	.0
CA	41.6	91.7	498.9	1100.0	.0	.0
PV	126.2	278.3	1515.0	3340.0	.0	.0
BA	61.7	136.0	740.3	1632.0	.0	.0
CB	90.7	200.0	1088.6	2400.0	.0	.0
CS	12095.7	26666.7	145148.8	320000.0	.0	.0
CW	.0	.0	.0	.0	.0	.0
IW	154409.6	340416.7	1852915.0	4085000.0	.0	.0
PR	.0	.0	.0	.0	.0	.0
SB	176416.3	388933.3	2116995.0	4667200.0	.0	.0
SI	18143.6	40000.0	217723.2	480000.0	.0	.0
SR	.5	1.0	5.4	12.0	.0	.0

* For footnotes, see Table 8.

TABLE 12. HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994 * PAGE 1

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 0 ⁽²⁾ CAT= 90 CONTAMINATED FREON	2971.0 ⁽³⁾	6550.0 ⁽³⁾	35652.2 ⁽³⁾	78600.0 ⁽³⁾	.0	.0
SUBTOTAL FOR SET 0	2971.0	6550.0	35652.2	78600.0	.0	.0
STA.SET= 17 CAT= EW WASTEWATER FROM EEWAS	3406.7	7510.5	40880.3	90126.0	.0	.0
STA.SET= 17 CAT= F0 DIESEL FUEL					.0	.0
STA.SET= 17 CAT= F0 DIESEL FUEL & OIL					.0	.0
STA.SET= 17 CAT= FS CONTAMINATED DILUTION WATER MMH	.0	.0	.0	.0	.0	.0
STA.SET= 17 CAT= OS CONTAMINATED DILUTION WATER N204	.0	.0	.0	.0	.0	.0
SUBTOTAL FOR SET 17	3406.7	7510.5	40880.3	90126.0	.0	.0
STA.SET= 18 CAT= HF HYDRAULIC FLUIDS	5.4	11.9	64.6	142.5	.0	.0
SUBTOTAL FOR SET 18	5.4	11.9	64.6	142.5	.0	.0
STA.SET= 19 CAT= AM TPS ADHESIVE, RTV 566/577 PHENYL METHYL POLYSILOXANE TIN OXIDE IRON OXIDE SILICON HARDENER	1.4	3.1	17.0	37.5	.0	.0
STA.SET= 19 CAT= AM EA 911 EPOXY (CONT.)					.0	.0

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

PAGE 2

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EPOXY						
ZINC CHROMATE						
ASBESTOS						
MERCAPTAN						
DIMETHYLAMINE						
STA.SET= 19 CAT= AW						
EA 934 EPOXY					.0	.0
EPOXY RESIN						
ASBESTOS						
STA.SET= 19 CAT= AW						
EA 9309 EPOXY						
EPOXY RESIN					.0	.0
GLASS FIBERS						
ACRYLONITRILE/BUTACIEN/STYRENE						
ASBESTOS						
POLYGLYCOL DIAMINE						
SILANE						
STA.SET= 19 CAT= CN						
KOROPON PRIMER CONTAM CANS						
BUTYL ACETATE	8.5 ⁽⁶⁾	18.8 ⁽⁶⁾	102.1 ⁽⁶⁾	225.0 ⁽⁶⁾	.0	.0
METHYL ETHYL KETONE						
TOLUENE						
TALC - Mg SILICATES						
EPOXY RESIN						
STA.SET= 19 CAT= CN						
LACQUER SPRAY CANS						
PIGMENT SOLIDS	3.4 ⁽⁷⁾	7.5 ⁽⁷⁾	40.8 ⁽⁷⁾	90.0 ⁽⁷⁾	.0	.0
VEHICLE SOLIDS						
TOLUENE						
XYLENE						
HYDROCARBON PROPELLANT						
PETROLEUM DISTILLATES						
STA.SET= 19 CAT= CN						
ISP CONTAM CUPS & WOOD STICKS	.9 ⁽⁸⁾	1.9 ⁽⁸⁾	10.2 ⁽⁸⁾	22.5 ⁽⁸⁾	.0	.0
INSTANT SET POLYMER						
STA.SET= 19 CAT= CN						
MARSHALL STENCIL INK SPRAYCANS	.3 ⁽⁷⁾	.8 ⁽⁷⁾	4.1 ⁽⁷⁾	9.0 ⁽⁷⁾	.0	.0
XYLENE						
(CONT.)						

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

PAGE 3

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
NAPHTHA OTHER MATERIALS					
STA.SET= 19 CAT= CN LIQUOR SPRAYCANS PIGMENT SOLIDS VEHICLE SOLIDS TOLUENE XYLENE HYDROCARBON PROPELLANT PETROLEUM DISTILLATES	2.7 ⁽⁷⁾	32.7 ⁽⁷⁾	72.0 ⁽⁷⁾	.0	.0
STA.SET= 19 CAT= CN ENAMEL SPRAYCANS	5.1 ⁽⁷⁾	61.2 ⁽⁷⁾	135.0 ⁽⁷⁾	.0	.0
STA.SET= 19 CAT= CN ZINC CHROMATE PRIMER CANS	5.1 ⁽⁷⁾	61.2 ⁽⁷⁾	135.0 ⁽⁷⁾	.0	.0
STA.SET= 19 CAT= CN CONTAMINATED TARE CUPS EA 911 EPOXY EA 934 EPOXY EA 9309 EPOXY				.0	.0
STA.SET= 19 CAT= CR RAGS WITH SOLVENTS, GREASES	5.7 ⁽⁹⁾	68.0 ⁽⁹⁾	150.0 ⁽⁹⁾	.0	.0
STA.SET= 19 CAT= CR SOLVENT-CONTAM CHEESEECLOTH ISOPROPYL ALCOHOL METHYL ETHYL KETONE 1,1,1-TRICHLOROETHANE				.0	.0
STA.SET= 19 CAT= CR MEK & IPA CONTAM CHEESEECLOTH METHYL ETHYL KETONE ISOPROPYL ALCOHOL				.0	.0
STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESEECLOTH ISOPROPYL ALCOHOL				.0	.0
STA.SET= 19 CAT= CR TCE CONTAMINATED CHEESEECLOTH 1,1,1-TRICHLOROETHANE				.0	.0
STA.SET= 19 CAT= CR MEK CONTAMINATED CHEESEECLOTH METHYL ETHYL KETONE				.0	.0

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

PAGE 4

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESECLOTH ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR SOLID FILM LUBRIC CONT CHSCLTH					.0	.0
STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESECLOTH ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR DICHLORONETHANE CONT CHSCLTH					.0	.0
STA.SET= 19 CAT= CR CONTAM CLOTHES, CLOTH & DEBRIS KOROPON BASE PRIMER KOROPON ACTIVATOR BERYLLIUM DUST	5.7 ⁽¹⁰⁾	12.5 ⁽¹⁰⁾	68.0 ⁽¹⁰⁾	150.0 ⁽¹⁰⁾	.0	.0
STA.SET= 19 CAT= EW WASTEWATER FROM EEW&S	3785.2 ⁽⁴⁾	8345.0 ⁽⁴⁾	45422.5 ⁽⁴⁾	100140.0 ⁽⁴⁾		
STA.SET= 19 CAT= FS WASTEWATER FROM PAYLOAD/ORB MMH	630.4 68.0	1500.0 150.0	8164.6 816.5	18000.0 1800.0	.0	.0
STA.SET= 19 CAT= FS WASTE FUEL AND PRIMOL 355 ⁽¹¹⁾ HYDRAZINE & MMH	45.4 2.3	100.0 5.0	544.3 27.2	1200.0 60.0		
STA.SET= 19 CAT= HF VACUUM PUMP OIL TEXACO REGAL OIL 068	5.7	12.5	68.0	150.0	.0	.0
STA.SET= 19 CAT= HS FUEL SCRUBBER HYDRAZINE & MMH	3175.1 63.5	7000.0 140.0	38101.6 762.0	84000.0 1680.0	.0	.0
STA.SET= 19 CAT= HY HYDRAZINE	.0	.0	.0	.0	2494.7 ⁽¹²⁾	5500.0 ⁽¹²⁾
STA.SET= 19 CAT= HY HYDRAZINE	85.0	187.5	1020.6	2250.0	34.0 ⁽¹²⁾	75.0 ⁽¹²⁾
STA.SET= 19 CAT= IN POLYURETHANE FORM	5.7	12.5	68.0	150.0	.0	.0

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

PAGE 5

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 19 CAT= IN ALUMACAST A/B MIXTURE POLYPROPYLENE PENTAERYTHRITOL AROMATIC WHITE OIL INERT ALUMINIZED PARTICLES DIPHENYLMETHANE DIISOCYANATE POLYMERS OF DPM DIISOCYANATE	.2	.4	2.0	4.5	.0	.0
STA.SET= 19 CAT= IN INSTANT SET POLYMER SCRAPS DIPHENYL METHANE DIISOCYANATE POLY(OXALKYLENE)POLYETHER AROMATIC HYDROCARBONS	2.3 ⁽¹³⁾	5.0 ⁽¹³⁾	27.2 ⁽¹³⁾	60.0 ⁽¹³⁾	.0	.0
STA.SET= 19 CAT= IN SILANE/ACETIC ACID RESIDUE METHYL TRIMETHOXY-SILANE ACETIC ACID	.6	1.3	6.8	15.0	.0	.0
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE	44.2	97.5	530.7	1170.0	.0	.0
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE	11.3	25.0	136.1	300.0	.0	.0
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE ⁽¹⁴⁾	23.5 ⁽¹⁵⁾	51.8 ⁽¹⁵⁾	281.7 ⁽¹⁵⁾	621.0 ⁽¹⁵⁾	107.3 ⁽¹²⁾	236.5 ⁽¹²⁾
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE ⁽¹⁴⁾	23.5 ⁽¹⁵⁾	51.0 ⁽¹⁵⁾	281.7 ⁽¹⁵⁾	621.0 ⁽¹⁵⁾	148.3 ⁽¹²⁾	327.0 ⁽¹²⁾
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE ⁽¹⁴⁾	16.7 ⁽¹⁵⁾	36.8 ⁽¹⁵⁾	200.0 ⁽¹⁵⁾	441.0 ⁽¹⁵⁾	182.8 ⁽¹²⁾	403.0 ⁽¹²⁾
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE ⁽¹⁴⁾	52.0 ⁽¹⁵⁾	114.8 ⁽¹⁵⁾	624.6 ⁽¹⁵⁾	1377.0 ⁽¹⁵⁾	.0	.0
STA.SET= 19 CAT= MH WASTEWATER WITH AMMONIA	45.4 ⁽¹⁵⁾	100.0 ⁽¹⁵⁾	544.3 ⁽¹⁵⁾	1200.0 ⁽¹⁵⁾	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	6.8	15.0	81.6	180.0	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	12.2	27.0	147.0	324.0	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	42.9 ⁽¹⁵⁾	94.5 ⁽¹⁵⁾	514.4 ⁽¹⁵⁾	1134.0 ⁽¹⁵⁾	163.1 ⁽¹²⁾	359.5 ⁽¹²⁾

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

PAGE 6

WASTE MATERIAL	BASELINE MONTHLY		BASELINE YEARLY		CONTINGENCY PER YEAR	
	KILOGRAMS	POUNDS	KILOGRAMS	POUNDS	KILOGRAMS	POUNDS
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	42.9 ⁽¹⁵⁾	94.5 ⁽¹⁵⁾	514.4 ⁽¹⁵⁾	1134.0 ⁽¹⁵⁾	232.9 ⁽¹²⁾	513.5 ⁽¹²⁾
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	29.8 ⁽¹⁵⁾	65.8 ⁽¹⁵⁾	357.9 ⁽¹⁵⁾	789.0 ⁽¹⁵⁾	286.2 ⁽¹²⁾	631.0 ⁽¹²⁾
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	99.3 ⁽¹⁵⁾	219.0 ⁽¹⁵⁾	1192.0 ⁽¹⁵⁾	2628.0 ⁽¹⁵⁾	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	4082.3 ⁽¹²⁾	9000.0 ⁽¹²⁾
STA.SET= 19 CAT= OS DECONTAMINATE FROM PAYLOAD/ORB N204	362.9 3.4	800.0 7.5	4354.5 40.8	9600.0 90.0	.0	.0
STA.SET= 19 CAT= OS WASTE OXIDIZER AND PRINOL 355 ⁽¹¹⁾ N204	46.5 3.4	102.5 7.5	557.9 40.8	1230.0 90.0	.0	.0
STA.SET= 19 CAT= PA KOROPON PRIMER CONT PNT BRUSHES BUTYL ACETATE TALC - Mg SILICATES EPOXY RESIN	22.7 ⁽¹⁶⁾	50.0 ⁽¹⁶⁾	272.2 ⁽¹⁶⁾	600.0 ⁽¹⁶⁾	.0	.0
STA.SET= 19 CAT= PA LACQUER #626486	.7 ⁽¹⁷⁾	1.6 ⁽¹⁷⁾	8.8 ⁽¹⁷⁾	19.5 ⁽¹⁷⁾	.0	.0
STA.SET= 19 CAT= PA CONTAMINATED BRUSHES ORGANIC ZINC PRIMER ZINC CHROMATE PRIMER	2.3 ⁽¹⁶⁾	5.0 ⁽¹⁶⁾	27.2 ⁽¹⁶⁾	60.0 ⁽¹⁶⁾	.0	.0
STA.SET= 19 CAT= PA ORGANIC ZINC PRIMER ZINC DUST BARYTES MOLYBDATE ORANGE SILICA HIGH MOLECULAR WEIGHT EPOXY CELLOSOLVE ACETATE TOLUENE METHYL ETHYL KETONE	7.1 ⁽¹⁸⁾	15.6 ⁽¹⁸⁾	85.0 ⁽¹⁸⁾	187.5 ⁽¹⁸⁾	.0	.0
STA.SET= 19 CAT= PA CONTAMINATED PAINT BRUSHES EA 911 EPOXY (CONT.)	2.3 ⁽¹⁶⁾	5.0 ⁽¹⁶⁾	27.2 ⁽¹⁶⁾	60.0 ⁽¹⁶⁾	.0	.0

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

PAGE 7

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EA 934 EPOXY						
EA 9309 EPOXY						
STA.SET= 19 CAT= S0 DOPE & LACQUER THINNER	1.0	2.3	12.2	27.0	.0	.0
ALIPHATIC NAPHTHA	.2	.4	2.0	4.5		
ESTER OR KETONE	.5	1.0	5.4	12.0		
ISO- OR n-BUTYL ACETATE	.3	.6	3.4	7.5		
ISO- OR n-BUTYL ALCOHOL	.1	.3	1.4	3.0		
STA.SET= 19 CAT= SW WASHWATER WITH MEK	53.0	116.9	636.2	1402.5	.0	.0
METHYL ETHYL KETONE	7.7	16.9	91.9	202.5		
SUBTOTAL FOR SET 19	8773.2	19341.8	105278.7	232101.0	7731.7	17045.5
STA.SET= 21 CAT= EW WASTEWATER FROM EEWAS	3406.7 ⁽⁴⁾	7510.5 ⁽⁴⁾	40880.3 ⁽⁴⁾	90126.0 ⁽⁴⁾		
STA.SET= 21 CAT= FS WASTEWATER WITH MMH	134.9	297.5	1619.3	3570.0	.0	.0
	12.5	27.5	149.7	330.0		
STA.SET= 21 CAT= HS FUEL SCRUBBER	453.6	1000.0	5443.1	12000.0	.0	.0
MMH	8.3	18.3	99.3	219.0		
STA.SET= 21 CAT= IN TILE REPAIR FOAM	5.7	12.5	68.0	150.0	.0	.0
POLYURETHANE	5.7	12.5	68.0	150.0		
STA.SET= 21 CAT= MH MONOMETHYL HYDRAZINE	.0	.0	.0	.0	.0	.0
STA.SET= 21 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	24493.9 ⁽¹⁹⁾	54000.0 ⁽¹⁹⁾
STA.SET= 21 CAT= NO NITROGEN TETROXIDE	18.7	41.3	224.5	495.0	.0	.0
STA.SET= 21 CAT= NO NITROGEN TETROXIDE	64.1	141.3	768.8	1695.0	.0	.0
STA.SET= 21 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	4898.8 ⁽²⁰⁾	10800.0 ⁽²⁰⁾
STA.SET= 21 CAT= OS WASTEWATER WITH OXIDIZER	50.9	200.5	1091.3	2406.0	.0	.0

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

PAGE 8

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
N204	.7	1.5	8.2	18.0		
STA.SET= 21 CAT= SW WASTEWATER WITH MEK METHYL ETHYL KETONE	53.0 7.6	116.8 16.8	635.5 91.2	1401.0 201.0	.0	.0
STA.SET= 21 CAT= WP WASTE SEALS, FILTERS, ETC.	5.7(21)	12.5(21)	68.0(21)	150.0(21)	.0	.0
SUBTOTAL FOR SET 21	4233.2	9332.8	50798.9	111993.0	29392.6	64800.0
STA.SET= 23 CAT= EW WASTEWATER FROM EEW&S	3785.2	8345.0	45422.5	100140.0		
STA.SET= 23 CAT= FS HYDRAZINE-CONTAM. WASTEWATER HYDRAZINE	709.9 35.2	1565.0 77.5	8518.4 421.8	18780.0 930.0		
STA.SET= 23 CAT= FS HYDRAZINE-CONTAM. CLNUP WATER HYDRAZINE	236.4 2.6	521.3 5.8	2837.2 31.3	6255.0 69.0		
STA.SET= 23 CAT= FS WASTEWATER FROM PPR HYDRAZINE	2838.9	6258.9	34066.9	75105.0		
STA.SET= 23 CAT= FS PRIMOL 355(11) HYDRAZINE MMH	425.8	938.8	5109.7	11265.0		
STA.SET= 23 CAT= HF HYDRAULIC FLUIDS TETRAORTHOCRESOL PHOSPHATE	492.1 492.1	1085.0 1085.0	5905.7 5905.7	13020.0 13020.0	.0	.0
STA.SET= 23 CAT= HS HYDRAZINE & MMH SCRUBBER HYDRAZINE MMH	946.3(18) 21.0 16.4	2086.3(18) 46.3 36.3	11355.6(18) 251.7 197.3	25035.0(18) 555.0 435.0	.0	.0
STA.SET= 23 CAT= HY HYDRAZINE	260.2	573.8	3123.0	6885.0	.0	.0
STA.SET= 23 CAT= HY LBM PROPELLANT PARAHYDRAZINE (CONT.)	.0 .0	.0 .0	.0 .0	.0 .0	39689.1(22)	87500.0(22)

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

PAGE 9

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
UNSYM DIMETHYLHYDRAZINE	.0	.0	.0	.0	.0	.0
STA.SET= 23 CAT= MY HYDRAZINE	.0	.0	.0	.0	2712.7 ⁽²²⁾	5980.5 ⁽²²⁾
STA.SET= 23 CAT= IN K5NA INSULATION	13.0	28.8	156.5	345.0	.0	.0
BUTYL GLYCIDYL ETHER EPOXY RESINS, UNCURED						
STA.SET= 23 CAT= MH MONOMETHYL HYDRAZINE	413.3	911.3	4960.0	10935.0	.0	.0
STA.SET= 23 CAT= MH MONOMETHYL HYDRAZINE	.0	.0	.0	.0	6026.2 ⁽²²⁾	13285.5 ⁽²²⁾
STA.SET= 23 CAT= MH AMMONIA	.0	.0	.0	.0	47.2 ⁽²²⁾	104.0 ⁽²²⁾
STA.SET= 23 CAT= NO NITROGEN TETROXIDE	229.2	505.4	2750.8	6064.5	.0	.0
STA.SET= 23 CAT= NO LBM OXIDIZER	.0	.0	.0	.0	39689.1 ⁽²²⁾	87500.0 ⁽²²⁾
NITROGEN TETROXIDE	.0	.0	.0	.0	.0	.0
STA.SET= 23 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	14064.9 ⁽²²⁾	31008.0 ⁽²²⁾
STA.SET= 23 CAT= OS N2O4 CONTAM. CLEANUP WATER	141.7	312.5	1701.0	3750.0		
NITROGEN TETROXIDE	1.4	3.1	17.0	37.5		
STA.SET= 23 CAT= OS N2O4 CONTAM. WASTEWATER	472.9	1042.5	5674.4	12510.0		
NITROGEN TETROXIDE	35.2	77.5	421.8	930.0		
STA.SET= 23 CAT= OS PRIMOL 355(11)	425.8	938.8	5109.7	11265.0		
N2O4						
STA.SET= 23 CAT= PS SRB PROPELLANT SPILL(23)	.0	.0	.0	.0	504301.3 ⁽²⁴⁾	1111800.0 ⁽²⁴⁾
AMMONIUM PERCHLORATE	.0	.0	.0	.0		
ALUMINUM POWDER	.0	.0	.0	.0		
PBAN BINDER	.0	.0	.0	.0		
HTPB BINDER	.0	.0	.0	.0		
IRON OXIDE	.0	.0	.0	.0		
STA.SET= 23 CAT= QW DELUGE WATER	709868.3	1565000.0	8518420.0	18780000.0	.0	.0

(CONT.)

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

PAGE 10

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
ALUMINUM OXIDE	4.2	9.3	50.3	111.0		
AMMONIUM CHLORIDE	.3	.6	3.4	7.5		
HYDROCHLORIC ACID	453.0	998.8	5436.3	11985.0		
ORGANIC RUBBER	4.3	9.4	51.0	112.5		
STA. SET= 23 CAT= SO SOLVENT WASTE FREON TRIFLUOROMETHANE	364.3 ⁽²⁵⁾	803.3 ⁽²⁵⁾	4372.2 ⁽²⁵⁾	9639.0 ⁽²⁵⁾	.0	.0
STA. SET= 23 CAT= SO CONTAMINATED SOLVENTS	331.1 ⁽²⁶⁾	730.0 ⁽²⁶⁾	3973.4 ⁽²⁶⁾	8760.0 ⁽²⁶⁾	.0	.0
STA. SET= 23 CAT= SW SOLVENT WASTEWATER UNSPEC.	520.5 ⁽¹⁸⁾⁽²⁵⁾	1147.5 ⁽¹⁸⁾⁽²⁵⁾	6245.9 ⁽¹⁸⁾⁽²⁵⁾	3770.0 ⁽¹⁸⁾⁽²⁵⁾	.0	.0
STA. SET= 23 CAT= SW CONTAMINATED WASTEWATER SOLVENTS CHLORINATED RUBBER ZINC PRIMER	1182.7 ⁽¹⁸⁾	2607.5 ⁽¹⁸⁾	14192.8 ⁽¹⁸⁾	31290.0 ⁽¹⁸⁾	.0	.0
SUBTOTAL FOR SET 23	723659.3	1595401.8	8683898.0	19144820.0	102229.2	225378.0
STA. SET= 31 CAT= AL SURFACTANT NaOH SODIUM TRIPOLYPHOSPHATE					.0	.0
STA. SET= 31 CAT= AM EA 934 EPOXY ADHESIVE EPOXY RESIN	19.8 ⁽²⁶⁾⁽²⁷⁾	43.8 ⁽²⁶⁾⁽²⁷⁾	238.1 ⁽²⁶⁾⁽²⁷⁾	525.0 ⁽²⁶⁾⁽²⁷⁾	.0	.0
ASBESTOS	8.5	18.8	102.1	225.0		
FILLERS	2.3	5.0	27.2	60.0		
POLYAMIDE	4.0	8.8	47.6	105.0		
DIETHYLENETRIAMINE	4.5	10.0	54.4	120.0		
	.6	1.3	6.8	15.0		
STA. SET= 31 CAT= CA CONTAMINATED AIR FILTERS	28.3	62.5	340.2	750.0	.0	.0
STA. SET= 31 CAT= CA CHARCOAL FILTER WASTES					.0	.0
STA. SET= 31 CAT= CA CONTAMINATED AIR FILTERS	28.3	62.5	340.2	750.0	.0	.0
STA. SET= 31 CAT= CH BOSTIK PRIMER PAINT CANS	8.5 ⁽⁶⁾	18.8 ⁽⁶⁾	102.1 ⁽⁶⁾	225.0 ⁽⁶⁾	.0	.0

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

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WASTE MATERIAL	BASLINE MONTHLY KILOGRAMS	POUNDS	BASLINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 31 CAT= CN BOSTIK TOPCOAT PAINT CANS	25.5 ⁽⁶⁾	56.3 ⁽⁶⁾	306.2 ⁽⁶⁾	675.0 ⁽⁶⁾	.0	.0
STA.SET= 31 CAT= CN RUSTOLEUM PRIMER PAINT CANS	1.1 ⁽⁶⁾	2.5 ⁽⁶⁾	13.6 ⁽⁶⁾	30.0 ⁽⁶⁾	.0	.0
STA.SET= 31 CAT= CN RUSTOLEUM TOPCOAT PAINT CANS	1.1 ⁽⁶⁾	2.5 ⁽⁶⁾	13.6 ⁽⁶⁾	30.0 ⁽⁶⁾	.0	.0
STA.SET= 31 CAT= CN MSA-1 EMPTY CONTAINERS	567.0 ⁽²⁸⁾	1250.0 ⁽²⁸⁾	6803.8 ⁽²⁸⁾	15000.0 ⁽²⁸⁾	.0	.0
STA.SET= 31 CAT= CN KSHA CONTAINERS	4.3	9.4	51.0	112.5	.0	.0
STA.SET= 31 CAT= CN KSHA & MTA-2 PACKING MATERIALS	2834.9 ⁽²⁸⁾	6250.0 ⁽²⁸⁾	34019.3 ⁽²⁸⁾	75000.0 ⁽²⁸⁾	.0	.0
STA.SET= 31 CAT= CR SOLVENT CONTAMINATED RAGS	5.7 ⁽⁹⁾	12.5 ⁽⁹⁾	68.0 ⁽⁹⁾	150.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= CR ALODINE CONTAMINATED RAGS	2.8 ⁽⁹⁾	6.3 ⁽⁹⁾	34.0 ⁽⁹⁾	75.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= CR RYMPLE CLOTHS	5.7 ⁽⁹⁾	12.5 ⁽⁹⁾	68.0 ⁽⁹⁾	150.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= CR PAINT DROP CLOTHS	8.5 ⁽⁹⁾	18.8 ⁽⁹⁾	102.1 ⁽⁹⁾	225.0 ⁽⁹⁾	.0	.0
STA.SET= 31 CAT= EW WASTEWATER FROM EEW&S	1514.1 ⁽⁴⁾	3338.0 ⁽⁴⁾	18169.0 ⁽⁴⁾	40056.0 ⁽⁴⁾		
STA.SET= 31 CAT= FO FUEL AND OIL SPILLS	.0	.0	.0	.0		
STA.SET= 31 CAT= FO FUEL & OIL WASTES	47.6	105.0	571.5	1260.0	.0	.0
STA.SET= 31 CAT= FS PRIMOL 355 ⁽¹¹⁾	.0	.0	.0	.0		
STA.SET= 31 CAT= HS SCRUBBER EFFLUENT	47.1 ⁽¹⁸⁾	103.8 ⁽¹⁸⁾	564.7 ⁽¹⁸⁾	1245.0 ⁽¹⁸⁾	.0	.0
STA.SET= 31 CAT= HY HYDRAZINE	136.8	301.6	1641.8	3619.5	.0	.0
STA.SET= 31 CAT= IN MSA-1 (CURED) ⁽²⁹⁾	113.4 ⁽²⁵⁾	250.0 ⁽²⁵⁾	1360.8 ⁽²⁵⁾	3000.0 ⁽²⁵⁾	.0	.0

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EPICHLORHYDRIN/EGE	45.4	100.1	545.0	1201.5		
GLASS ECOSPHERES	13.4	29.5	160.6	354.0		
PHENOLIC MICROSPHERES	40.2	88.6	482.4	1063.5		
GLASS FIBERS	5.0	11.0	59.9	132.0		
BENTONE 27	3.8	8.4	45.6	100.5		
METHYLENE DIAMINE	4.0	8.8	47.6	105.0		
m-PHENYLENE DIAMINE	1.6	3.6	19.7	43.5		
STA.SET= 31 CAT= IN					.0	.0
MSA-1, PART A (UNMIXED)						
METHYLENE CHLORIDE					.0	.0
EPICHLORHYDRIN/BGE						
STA.SET= 31 CAT= IN					.0	.0
MSA-1, PART B (UNMIXED)						
METHYLENE CHLORIDE						
PERCHLOROETHYLENE						
METHYLENE DIAMINE						
m-PHENYLENE DIAMINE						
ETHYL ALCOHOL						
PHENOLIC MICROSPHERES						
GLASS ECOSPHERES						
GLASS FIBERS						
BENTONE 27						
STA.SET= 31 CAT= IN					.0	.0
MTA-2 (CURED)	56.7	125.0	680.4	1500.0		
EPICHLORHYDRIN/BGE	17.5	38.6	210.2	463.5		
LP-3, POLYSULFIDE LIQ POLYMER	17.5	38.6	210.2	463.5		
MDA & MPDA	7.0	15.4	93.7	184.5		
STANNOUS OCTOATE	.7	1.5	8.2	18.0		
PHENOLIC MICROSPHERES	14.0	31.0	168.1	370.5		
STA.SET= 31 CAT= IN					.0	.0
MTA-2 (UNMIXED)	17.0	37.5	204.1	450.0		
EPICHLORHYDRIN/EGE	5.3	11.6	67.3	139.5		
LP-3, POLYSULFIDE LIQ POLYMER	5.3	11.6	67.3	139.5		
MDA & MPDA	2.1	4.6	23.2	55.5		
STANNOUS OCTOATE	.2	.5	2.7	6.0		
PHENOLIC MICROSPHERES	4.2	9.2	50.3	111.0		
METHYLENE CHLORIDE						
PERCHLOROETHYLENE						
STA.SET= 31 CAT= IN					.0	.0
K5NA	9.1	20.0	107.9	240.0		
BUTYL GLYCIDYL ETHER						
EPOXY RESINS						
STA.SET= 31 CAT= IN					.0	.0
INSULATION AND PAPER						

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 31 CAT= PA						
BOSTIK EPOXY PRIMER	15.3	33.8	193.7	405.0	.0	.0
EPOXY RESIN	2.0	4.4	23.8	52.5		
AMINE CURING AGENT	.3	.8	4.1	9.0		
TITANIUM DIOXIDE	.3	.8	4.1	9.0		
CHROMATE PIGMENTS	.7	1.5	8.2	18.0		
INERT PIGMENTS	2.2	4.8	25.9	57.0		
SUSPENSION & FLOW CONTROL ADDI	.1	.1	.7	1.5		
SOLVENTS	9.2	20.3	110.2	243.0		
STA.SET= 31 CAT= PA						
BOSTIK EPOXY TOPCOAT	21.0	46.3	251.7	555.0	.0	.0
EPICHLORHYDRIN/BISPHENOL A	5.1	11.3	61.2	135.0		
AMINE CURING AGENT	.8	1.8	9.5	21.0		
COLOR PIGMENT	4.3	9.4	51.0	112.5		
SUSPENSION & FLOW CONTROL ADDI	.3	.6	3.4	7.5		
SOLVENTS PHOTOCHEN REACTIVE	2.0	4.4	23.8	52.5		
SOLVENTS NONPHOTOCHEN REACTIVE	8.5	18.8	102.1	225.0		
STA.SET= 31 CAT= P						
RUSTOLEUM PRIMER	4.5	10.0	54.4	120.0	.0	.0
SILICATES	.7	1.6	8.8	19.5		
YELLOW IRON OXI.	.3	.8	4.1	9.0		
TITANIUM DIOXIDE	.1	.3	1.4	3.0		
CALCIUM BROSILICATE	.9	1.9	10.2	22.5		
BENTONITE	<.1	.1	.3	.6		
LINSEED PHENOLIC ALKYL RESIN	.9	2.0	10.9	24.0		
ALIPHATIC HYDROCARBONS	1.5	3.3	17.7	39.0		
DRIERS AND ADDITIVES	.1	.3	1.4	3.0		
STA.SET= 31 CAT= PA						
RUSTOLEUM TOPCOAT	4.5	10.0	54.4	120.0	.0	.0
SILICATES	1.5	3.3	17.7	39.0		
TITANIUM DIOXIDE	.8	1.8	9.5	21.0		
BENTONITE CLAY	<.1	.1	.3	.6		
TINTING COLORS	.1	.3	1.4	3.0		
ALKYL RESIN	.8	1.8	9.5	21.0		
ALIPHATIC HYDROCARBONS	1.4	3.0	16.3	36.0		
DRIERS & ADDITIVES	.1	.1	.7	1.5		
STA.SET= 31 CAT= PA						
GACOFLEX	22.1	48.8	265.4	585.0	.0	.0
TITANIUM DIOXIDE	1.5	3.4	18.4	40.5		
CLAY	1.8	3.9	21.1	46.5		
HYPALON	2.2	4.9	26.5	58.5		
HYDROCARBON RESIN	.5	1.0	5.4	12.0		
PERCHLOROETHYLENE	10.4	22.9	124.5	274.5		
1,1,1-TRICHLOROETHANE	5.6	12.3	66.7	147.0		
(CONT.)						

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
EPOXIDIZED SOYBEAN OIL	.2	.5	2.7	6.0		
STA.SET= 31 CAT= PA PAINT-SPILL ABSORBANT	.0	.0	.0	.0		
STA.SET= 31 CAT= PW ALODINE CONTAMINATED WASTEWATER	189.4 ⁽¹⁸⁾	417.5 ⁽¹⁸⁾	2272.5 ⁽¹⁸⁾	5010.0 ⁽¹⁸⁾	.0	.0
CHROMIC ACID	3.3 ⁽³¹⁾	7.4 ⁽³¹⁾	40.1 ⁽³¹⁾	88.5 ⁽³¹⁾		
FERRICYANIDE SALT	1.9	4.1	22.5	49.5		
COMPLEX FLUORIDE SALT	.1	.1	.7	1.5		
STA.SET= 31 CAT= SO PERCHLOROETHYLENE	.8	1.8	9.5	21.0	.0	.0
STA.SET= 31 CAT= SO TRICHLOROETHANE	.6	1.4	7.5	16.5	.0	.0
STA.SET= 31 CAT= SO FREON 113	.7	1.6	8.8	19.5	.0	.0
STA.SET= 31 CAT= SO MSA-1 CONTAMINATED MEC1	1881.8	4148.8	22582.0	49785.0	.0	.0
STA.SET= 31 CAT= SO MSA-1 CONTAM PERCHLOROETHYLENE	2315.0	5103.8	27780.1	61245.0	.0	.0
STA.SET= 31 CAT= SO PERCHLOROETHYLENE	347.0	765.0	4164.0	9180.0	.0	.0
STA.SET= 31 CAT= SO TRICHLOROETHANE	102.1	225.0	1224.7	2700.0	.0	.0
STA.SET= 31 CAT= SO METHYLENE CHLORIDE	319.8	705.0	3837.4	8460.0	.0	.0
STA.SET= 31 CAT= SO MTA-2 CONTAMINATED SOLVENTS	662.2 ⁽²⁶⁾	1460.0 ⁽²⁶⁾	7946.9 ⁽²⁶⁾	17520.0 ⁽²⁶⁾	.0	.0
STA.SET= 31 CAT= SO BOSTIK CONTAMINATED SOLVENTS	331.1 ⁽²⁶⁾	730.0 ⁽²⁶⁾	3973.4 ⁽²⁶⁾	8760.0 ⁽²⁶⁾	.0	.0
STA.SET= 31 CAT= SO RUSTOLEUM CONTAMINATED SOLVENT	331.1 ⁽²⁶⁾	730.0 ⁽²⁶⁾	3973.4 ⁽²⁶⁾	8760.0 ⁽²⁶⁾	.0	.0
SUBTOTAL FOR SET 31	12032.6	26527.5	144391.3	318330.0	.0	.0
STA.SET= 32 CAT= BA LITHIUM STORAGE BATTERIES	30.6	67.5	367.4	810.0	.0	.0

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 32 CAT= BA SILVER-ZINC STORAGE BATTERIES	51.0	112.5	612.3	1350.0	.0	.0
STA.SET= 32 CAT= BA POTASSIUM HYDROXIDE SOLUTION	10.9 ⁽¹⁸⁾	24.0 ⁽¹⁸⁾	130.6 ⁽¹⁸⁾	289.0 ⁽¹⁸⁾	.0	.0
STA.SET= 32 CAT= CB HYDRAZINE-CONTAMINATED WATER	136.1 ⁽¹⁸⁾	300.0 ⁽¹⁸⁾	1632.9 ⁽¹⁸⁾	3600.0 ⁽¹⁸⁾	.0	.0
STA.SET= 32 CAT= CS ⁽³²⁾ CONTAMINATED SEAWATER	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= CS ⁽³²⁾ CONTAMINATED SEAWATER	18143.6	40000.0	217723.2	480000.0	.0	.0
STA.SET= 32 CAT= CW SRB FWD SKT CLEANING WASTES					.0	.0
STA.SET= 32 CAT= EW WASTEWATER FROM EEWSS	757.0 ⁽⁴⁾	1669.0 ⁽⁴⁾	9084.5 ⁽⁴⁾	20028.0 ⁽⁴⁾	.0	.0
STA.SET= 32 CAT= FO BILGE WASTES					.0	.0
STA.SET= 32 CAT= FO DIESEL FUEL & OIL SPILLS	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= FS ⁽¹¹⁾ WASTE FUEL & PRIMOL 355 HYDRAZINE	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= HS HYDRAZINE SCRUBBER EFFLUENT HYDRAZINE	226.0 ⁽¹⁸⁾ 2.0	500.0 ⁽¹⁸⁾ 4.5	2721.5 ⁽¹⁸⁾ 24.5	6000.0 ⁽¹⁸⁾ 54.0	.0	.0
STA.SET= 32 CAT= HY HYDRAZINE	51.3	113.1	615.7	1357.5	.0	.0
STA.SET= 32 CAT= IN ⁽³³⁾ INSULATION WASTES, SOLID MSA-1 INSULATION MTA-2 INSULATION KSHA INSULATION PR-855 INSULATION	907.2 ⁽³⁴⁾	2006.0 ⁽³⁴⁾	10886.2 ⁽³⁴⁾	24000.0 ⁽³⁴⁾	.0	.0
STA.SET= 32 CAT= IN INSULATION CONTAM FILTERS	5.7 ⁽²¹⁾	12.5 ⁽²¹⁾	68.0 ⁽²¹⁾	150.0 ⁽²¹⁾	.0	.0
STA.SET= 32 CAT= IW ⁽³³⁾ INSULATION-CONTAMINATED WATER	231614.4 ⁽¹⁸⁾	510625.0 ⁽¹⁸⁾	2779372.5 ⁽¹⁸⁾	6127500.0 ⁽¹⁸⁾	.0	.0

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

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WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
MSA-1 INSULATION						
MTA-2 INSULATION						
KSHA INSULATION						
PR-855 INSULATION						
STA.SET= 32 CAT= PR PRESERVATIVE CHEMICALS PROTECTIVE LUBRICANTS					.0	.0
STA.SET= 32 CAT= PS SRB SOLID PROPELLANT	.0	.0	.0	.0	78.5 ⁽²⁴⁾	173.0 ⁽²⁴⁾
AMMONIUM PERCHLORATE	.0	.0	.0	.0		
ALUMINUM POWDER	.0	.0	.0	.0		
FERRIC OXIDE	.0	.0	.0	.0		
POLYMER & EPOXY RESIN	.0	.0	.0	.0		
STA.SET= 32 CAT= SB DETERGENT WASHWATER ⁽³⁵⁾	43544.6	96000.0	522535.6	1152000.0	.0	.0
STA.SET= 32 CAT= SB POTABLE RINSE WATER	150591.9	332000.0	1807102.5	3984000.0	.0	.0
STA.SET= 32 CAT= SB DEIONIZED RINSE WATER	70487.9	155400.0	845854.6	1864800.0	.0	.0
STA.SET= 32 CAT= SI SRB RINSE WATER	27215.4	60000.0	326584.8	720000.0	.0	.0
STA.SET= 32 CAT= S0 SOLVENTS FREON TMC/TM SOLVENTS, UNSPECIFIED	13.3 ⁽²⁶⁾	29.3 ⁽²⁶⁾	159.2 ⁽²⁶⁾	351.0 ⁽²⁶⁾	.0	.0
SUBTOTAL FOR SET 32	543787.8	1198853.0	6525452.0	14386236.0	.0	.0
STA.SET= 33 CAT= CA AIR FILTERS	5.7 ⁽²¹⁾	12.5 ⁽²¹⁾	68.0 ⁽²¹⁾	150.0 ⁽²¹⁾	.0	.0
STA.SET= 33 CAT= EW WASTEWATER FROM EWELS	236.4	521.3	2837.2	6255.0		
STA.SET= 33 CAT= HF HYDRAULIC FLUIDS					.0	.0
SUBTOTAL FOR SET 33	242.1	533.8	2905.2	6405.0	.0	.0

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

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WASTE MATERIAL	BASELINE KILOGRAMS	MONTHLY POUNDS	BASELINE KILOGRAMS	YEARLY POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA.SET= 99 CAT= AM GX-6300 ARLATOR ADHESIVE	7.4	16.3	88.5	195.0	.0	.0
RESIN STA L 663	.7	1.6	8.8	19.5		
RESIN STA L 664	2.7	6.0	32.7	72.0		
SILICA POWDER	.2	.5	2.7	6.0		
CARBON POWDER	.2	.5	2.7	6.0		
CURING AGENT L 663	.3	.6	3.4	7.5		
CURING AGENT L 664	.1	.1	.7	1.5		
HEPTANE	2.9	6.5	35.4	78.0		
XYLENE	.2	.4	2.0	4.5		
STA.SET= 99 CAT= AM ISOCHEM POLYESTER RESIN ADHESY	7.4	16.3	88.5	195.0	.0	.0
STYRENE						
MEK PEROXIDE CATALYST						
DIMETHYL PHTHALATE						
STA.SET= 99 CAT= CA FILTER					.0	.0
STA.SET= 99 CAT= CN SOLVENT CONTAMINATED CONTAINER	2.8 ⁽²⁸⁾	6.3 ⁽²⁸⁾	34.0 ⁽²⁸⁾	75.0 ⁽²⁸⁾	.0	.0
SOLVENTS ⁽³⁶⁾						
STA.SET= 99 CAT= CN PRIMER CONTAMINATED CONTAINERS	.4 ⁽²⁸⁾	.9 ⁽²⁸⁾	4.8 ⁽²⁸⁾	10.5 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CN ADHESIVE CONTAMINATED CONTAINERS	.4 ⁽²⁸⁾	.9 ⁽²⁸⁾	4.8 ⁽²⁸⁾	10.5 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CN SOLVENT CONTAINERS					.0	.0
STA.SET= 99 CAT= CN POUR FOAM CONTAINERS	28.3 ⁽²⁸⁾	62.5 ⁽²⁸⁾	340.2 ⁽²⁸⁾	750.0 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CN ABLATOR CONTAMINATED CONTAINER	.4 ⁽²⁸⁾	.9 ⁽²⁸⁾	4.8 ⁽²⁸⁾	10.5 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CR SOLVENT CONTAMINATED RAGS	5.7 ⁽⁹⁾	12.5 ⁽⁹⁾	68.0 ⁽⁹⁾	150.0 ⁽⁹⁾	.0	.0
STA.SET= 99 CAT= CR ADHESIVE CONTAMINATED RAGS	5.7 ⁽⁹⁾	12.5 ⁽⁹⁾	68.0 ⁽⁹⁾	150.0 ⁽⁹⁾	.0	.0
STA.SET= 99 CAT= CR EPOXY PRIMER-CONTAMINATED RAGS	2.8 ⁽⁹⁾	6.3 ⁽⁹⁾	34.0 ⁽⁹⁾	75.0 ⁽⁹⁾	.0	.0
STA.SET= 99 CAT= IN BX-250 FOAM (SOFI)	147.4	325.0	1769.0	3900.0	.0	.0

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

PAGE 18

WASTE MATERIAL	BASELINE KILOGRAMS	MONTHLY POUNDS	BASELINE KILOGRAMS	YEARLY POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
DIPHENYL METHANE DIISOCYANATE	36.9	81.3	442.3	975.0		
FREON 11	23.8	52.5	285.8	630.0		
AMINES	13.0	28.8	156.5	345.0		
POLYOLS						
SUPER MEK PEROXIDE						
POLYESTER RESIN						
DIMETHYL PHTHALATE						
STA.SET= 99 CAT= IN						
POUR FOAM (MIXED)(29)	155.9 ⁽³⁷⁾	343.8 ⁽³⁷⁾	1871.1 ⁽³⁷⁾	4125.0 ⁽³⁷⁾	.0	.0
POLYURETHANE						
STA.SET= 99 CAT= IN						
POUR FOAM PART A (UNMIXED)(30)	7.9	17.5	95.3	210.0	.0	.0
DIPHENYL METHANE DIISOCYANATE	4.0	8.8	47.6	105.0		
FREON 11	2.6	5.6	30.6	67.5		
POLYOLS, AMINES	1.4	3.1	17.0	37.5		
STA.SET= 99 CAT= IN						
POUR FOAM PART 3 (UNMIXED)(30)	7.9	17.5	95.3	210.0	.0	.0
FREON 11	1.6	3.5	19.1	42.0		
AMINE CATALYST	.2	.4	2.0	4.5		
POLYETHER POLYGL BLEND	6.2	13.6	74.2	163.5		
STA.SET= 99 CAT= IN						
POUR FOAM CONTAMINATED PAPER	1.9 ⁽²⁸⁾	4.1 ⁽²⁸⁾	22.5 ⁽²⁸⁾	49.5 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= IN						
SUPER LIGHT ABLATOR (I)	5.7	12.5	68.0	150.0	.0	.0
RESIN L664, PT A	3.3	7.4	40.1	88.5		
SILICA FIBERS	.3	.8	4.1	9.0		
CORK	.7	1.5	8.2	18.0		
PHENOLIC MICROSPHERES	.2	.4	2.0	4.5		
SILICA MICROSPHERES	.8	1.8	9.5	21.0		
CURING AGENT	.3	.8	4.1	9.0		
STA.SET= 99 CAT= IN						
SUPER LIGHT ABLATOR (II)	5.7	12.5	68.0	150.0	.0	.0
RESIN STM L664, PT A	1.7	3.8	20.4	45.0		
CARBON POWDER						
SILICA FIBERS						
CORK						
SILICA MICROSPHERES						
PHENOLIC MICROSPHERES						
CURING AGENT STM L664, PT B	1.0	2.1	11.6	25.5		
STA.SET= 99 CAT= IN						
POUR FOAM "TRIMMINGS"	5.7	12.5	68.0	150.0	.0	.0
POLYURETHANE						

TABLE 12 (CONT.)

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

PAGE 19

WASTE MATERIAL	BASELINE MONTHLY KILOGRAMS	POUNDS	BASELINE YEARLY KILOGRAMS	POUNDS	CONTINGENCY PER YEAR KILOGRAMS	POUNDS
STA. SET= 99 CAT= PA EPOXY PRIMER METHYLENE ISOBUTYL KETONE XYLENE CYCLOHEXANONE CHROMATES INORGANIC PIGMENTS N-BUTANOL TOLUENE AMINO SILANE METHYL ETHYL KETONE	.1 ⁽²⁷⁾	.1 ⁽²⁷⁾	.7 ⁽²⁷⁾	1.5 ⁽²⁷⁾	.0	.0
STA. SET= 99 CAT= PA D.C. 1200 VM AND P HAPTHA ORGANOMETALLIC SALTS	.1 ⁽²⁷⁾	.1 ⁽²⁷⁾	.7 ⁽²⁷⁾	1.5 ⁽²⁷⁾	.0	.0
STA. SET= 99 CAT= SO FREDN TMC	.2 ⁽²⁷⁾	.4 ⁽²⁷⁾	2.0 ⁽²⁷⁾	4.5 ⁽²⁷⁾	.0	.0
STA. SET= 99 CAT= SO 1,1,1-TRICHLOROETHANE	.2 ⁽²⁷⁾	.4 ⁽²⁷⁾	2.0 ⁽²⁷⁾	4.5 ⁽²⁷⁾	.0	.0
STA. SET= 99 CAT= SO MEK & CELLOSOLVE	15.3	33.6	183.0	403.5	.0	.0
STA. SET= 99 CAT= SO HEPTANE	93.8	206.9	1126.0	2482.5	.0	.0
STA. SET= 99 CAT= SO CELLOSOLVE ACETATE	137.8	295.0	1605.7	3540.0	.0	.0
STA. SET= 99 CAT= SO METHYL ETHYL KETONE	110.5	243.6	1326.1	2923.5	.0	.0
STA. SET= 99 CAT= SR SOLVENT REDUCER METHYL ETHYL KETONE CYCLOHEXANONE	.7 .5 .2	1.5 1.0 .5	8.2 5.4 2.7	18.0 12.0 6.0	.0	.0
STA. SET= 99 CAT= SW SOLVENT CONTAMINATED WATER	101.3	223.3	1215.2	2679.0	.0	.0
SUBTOTAL FOR SET 99	855.2	1885.4	10262.2	22624.5	.0	.0
TOTAL FOR ALL SETS	129963.5	2865949.5	15599588.0	34391384.0	139353.5	307223.5

TABLE 12 (CONT.)
SUMMARY BY CATEGORY

HAZARDOUS WASTE GENERATION FOR EACH YEAR 1988-1994

PAGE 20

CATEGORY	BASELINE MONTHLY		BASELINE YEARLY		CONTINGENCY PER YEAR KILOGRAMS	CONTINGENCY PER YEAR POUNDS
	KILOGRAMS	POUNDS	KILOGRAMS	POUNDS		
SO	10326.8	22766.9	123921.9	273202.5	.0	.0
EW	16891.4	37239.3	202696.2	446871.0	.0	.0
FO	47.6	105.0	571.5	1260.0	.0	.0
FS	5071.7	11181.3	60860.4	134175.0	.0	.0
OS	1540.7	3396.8	18488.8	40761.0	.0	.0
HF	503.2	1109.4	6038.4	13312.5	.0	.0
AW	36.0	79.4	432.0	952.5	.0	.0
CN	3500.9	7718.1	42010.4	92617.5	.0	.0
CR	48.2	106.3	578.3	1275.0	.0	.0
HS	4848.9	10690.0	59166.5	128280.0	.0	.0
HY	533.4	1176.0	6401.1	14112.0	44930.6	99055.5
IH	1474.5	3250.8	17694.1	39009.0	.0	.0
MH	584.6	1288.8	7014.8	15465.0	6464.6	14252.0
NH	45.4	100.0	544.3	1200.0	47.2	104.0
NO	546.0	1203.6	6551.4	14443.5	65050.2	143412.0
PA	102.6	226.3	1231.5	2715.0	.0	.0
SW	1910.5	4211.9	22925.6	50542.5	.0	.0
WP	5.7	12.5	68.0	150.0	.0	.0
PS	.0	.0	.0	.0	504379.8	1111973.0
GW	709868.3	1565000.0	8519420.0	18780000.0	.0	.0
AL	.0	.0	.0	.0	.0	.0
CA	62.4	137.5	748.4	1650.0	.0	.0
PW	189.4	417.5	2272.5	5010.0	.0	.0
BA	92.5	204.0	1110.4	2448.0	.0	.0
CB	136.1	300.0	1632.9	3600.0	.0	.0
CS	18143.6	40000.0	217723.2	480000.0	.0	.0
CW	.0	.0	.0	.0	.0	.0
IW	231614.4	510625.0	2779372.5	6127500.0	.0	.0
PR	.0	.0	.0	.0	.0	.0
SB	264624.4	583400.0	3175492.5	7000900.0	.0	.0
SI	27215.4	60000.0	326594.8	720000.0	.0	.0
SR	.7	1.5	8.2	18.0	.0	.0

* For footnotes, see Table 8.

TABLE 13. HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT *

PAGE 1

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
STA.SET= 0 ⁽²⁾ CAT= S0 CONTAMINATED FREON	2475.8 ⁽³⁾	5458.3 ⁽³⁾	297101.4 ⁽³⁾	655000.0 ⁽³⁾	.0	.0
SUBTOTAL FOR SET 0	2475.8	5458.3	297101.4	655000.0	.0	.0
STA.SET= 17 CAT= EW WASTEWATER FROM EEWAS	2838.9 ⁽⁴⁾	6258.6 ⁽⁴⁾	340668.8 ⁽⁴⁾	751050.0 ⁽⁴⁾		
STA.SET= 17 CAT= F0 DIESEL FUEL					.0	.0
STA.SET= 17 CAT= F0 DIESEL FUEL & OIL					.0	.0
STA.SET= 17 CAT= FS CONTAMINATED DILUTION WATER MMH	.0	.0	.0	.0		
STA.SET= 17 CAT= OS CONTAMINATED DILUTION WATER N204	.0	.0	.0	.0		
SUBTOTAL FOR SET 17	2838.9	6258.8	340668.8	751050.0	.0	.0
STA.SET= 18 CAT= HF HYDRAULIC FLUIDS	4.5 ⁽⁵⁾	9.9 ⁽⁵⁾	538.6 ⁽⁵⁾	1187.5 ⁽⁵⁾	.0	.0
SUBTOTAL FOR SET 18	4.5	9.9	538.6	1187.5	.0	.0
STA.SET= 19 CAT= AW TPS ADHESIVE, RTV 566/577 PHENYL METHYL POLYSILOXANE TIN OXIDE IRON OXIDE SILICON HARDENER	1.2	2.6	141.7	312.5	.0	.0

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

PAGE 2

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	BASELINE FOR PROJECT KILOGRAMS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
EPOXY				
ZINC CHROMATE				
ASBESTOS				
MERCAPTAN				
DIMETHYLAMINE				
STA.SET= 19 CAT= AW				
EA 934 EPOXY		.0	.0	.0
EPOXY RESIN				
ASBESTOS				
STA.SET= 19 CAT= AW				
EA 9309 EPOXY		.0	.0	.0
EPOXY RESIN				
GLASS FIBERS				
ACRYLONITRILE/BUTADIEN/STYRENE				
ASBESTOS				
POLYGLYCOL DIAMINE				
SILANE				
STA.SET= 19 CAT= CN				
SPRAYCANS OF TPS SEALER		.0	.0	.0
FLUORINATED SOLVENT				
FREON 113				
STA.SET= 19 CAT= CN				
KOROPON PRIMER CONTAM CANS	7.1 ⁽⁶⁾	15.6 ⁽⁶⁾	950.5 ⁽⁶⁾	1875.0 ⁽⁶⁾
BUTYL ACETATE				
METHYL ETHYL KETONE				
TOLUENE				
TALC - Mg SILICATES				
EPOXY RESIN				
STA.SET= 19 CAT= CN				
LACQUER SPRAY CANS	2.8 ⁽⁷⁾	6.3 ⁽⁷⁾	340.2 ⁽⁷⁾	750.0 ⁽⁷⁾
PIGMENT SOLIDS				
VEHICLE SOLIDS				
TOLUENE				
XYLENE				
HYDROCARBON PROPELLANT				
PETROLEUM DISTILLATES				
STA.SET= 19 CAT= CN				
ISP CONTAM CUPS & WOOD STICKS	.7 ⁽⁸⁾	1.6 ⁽⁸⁾	85.0 ⁽⁸⁾	187.5 ⁽⁸⁾
INSTANT SET POLYMER				
STA.SET= 19 CAT= CN				
MARSHALL STENCIL INK SPRAYCANS	.3 ⁽⁷⁾	.6 ⁽⁷⁾	34.0 ⁽⁷⁾	75.0 ⁽⁷⁾
XYLENE				
(CONT.)				

TABLE 13 (CONT.)		HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT				PAGE 3
WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	BASELINE FOR PROJECT KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
NAPTHA						
OTHER MATERIALS						
STA.SET= 19 CAT= CN LACQUER SPRAYCANS	2.3 ⁽⁷⁾	5.0 ⁽⁷⁾	272.2 ⁽⁷⁾	600.0 ⁽⁷⁾	.0	.0
PIGMENT SOLIDS						
VEHICLE SOLIDS						
TOLUENE						
XYLENE						
HYDROCARBON PROPELLANT						
PETROLEUM DISTILLATES						
STA.SET= 19 CAT= CN ENAMEL SPRAYCANS	4.3 ⁽⁷⁾	9.4 ⁽⁷⁾	510.3 ⁽⁷⁾	1125.0 ⁽⁷⁾	.0	.0
STA.SET= 19 CAT= CN ZINC CHROMATE PRIMER CANS	4.3 ⁽⁷⁾	9.4 ⁽⁷⁾	510.3 ⁽⁷⁾	1125.0 ⁽⁷⁾	.0	.0
STA.SET= 19 CAT= CN CONTAMINATED TARE CUPS EA 911 EPOXY EA 934 EPOXY EA 9309 EPOXY					.0	.0
STA.SET= 19 CAT= CR RAGS WITH SOLVENTS, GREASES	4.7 ⁽⁹⁾	10.4 ⁽⁹⁾	567.0 ⁽⁹⁾	1250.0 ⁽⁹⁾	.0	.0
STA.SET= 19 CAT= CR SOLVENT-CONTAN CHEESEECLOTH ISOPROPYL ALCOHOL METHYL ETHYL KETONE 1,1,1-TRICHLOROETHANE					.0	.0
STA.SET= 19 CAT= CR MEK & IPA CONTAN CHEESEECLOTH METHYL ETHYL KETONE ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESEECLOTH ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR TCE CONTAMINATED CHEESEECLOTH 1,1,1-TRICHLOROETHANE					.0	.0
STA.SET= 19 CAT= CR MEK CONTAMINATED CHEESEECLOTH METHYL ETHYL KETONE					.0	.0

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

PAGE 4

WASTE MATERIAL BASELINE MONTHLY (AVERAGE) BASELINE FOR PROJECT CONTINGENCY FOR PROJECT
KILOGRAMS POUNDS KILOGRAMS POUNDS KILOGRAMS POUNDS

STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESEECLOTH ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR SOLID FILM LUBRIC CONT CHSCLTH					.0	.0
STA.SET= 19 CAT= CR IPA CONTAMINATED CHEESEECLOTH ISOPROPYL ALCOHOL					.0	.0
STA.SET= 19 CAT= CR DICHLOROMETHANE CONT CHSECLTH					.0	.0
STA.SET= 19 CAT= CR CONTAM CLOTHES, CLOTH & DEBRIS KOROPON BASE PRIMER KOROPON ACTIVATOR BERYLLIUM DUST	4.7 ⁽¹⁰⁾	10.4 ⁽¹⁰⁾	567.0 ⁽¹⁰⁾	1250.0 ⁽¹⁰⁾	.0	.0
STA.SET= 19 CAT= EW WASTEWATER FROM EEWAS	3154.3 ⁽⁴⁾	6954.2 ⁽⁴⁾	378520.8 ⁽⁴⁾	834500.0 ⁽⁴⁾		
STA.SET= 19 CAT= FS WASTEWATER FROM PAYLOAD/ORB MMH	567.0 56.7	1250.0 125.0	68038.5 6803.8	150000.0 15000.0	.0	.0
STA.SET= 19 CAT= FS ⁽¹¹⁾ WASTE FUEL AND PRIMOL 355 HYDRAZINE & MMH	37.8 1.9	83.3 4.2	4535.9 226.8	10000.0 500.0		
STA.SET= 19 CAT= HF VACUUM PUMP OIL TEXACO REGAL OIL 068	4.7	10.4	567.0	1250.0	.0	.0
STA.SET= 19 CAT= HS FUEL SCRUBBER HYDRAZINE & MMH	2645.9 52.9	5833.3 116.7	317513.0 6350.3	700000.0 14000.0	.0	.0
STA.SET= 19 CAT= HY HYDRAZINE	.0	.0	.0	.0	(12) 24947.4	(12) 55000.0
STA.SET= 19 CAT= HY HYDRAZINE	70.9	156.3	8504.8	18750.0	(12) 340.2	(12) 750.0
STA.SET= 19 CAT= IN POLYURETHANE FOAM	4.7	10.4	567.0	1250.0	.0	.0

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

PAGE 5

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
STA.SET= 19 CAT= IN ALUMACAST A/B MIXTURE POLYPROPYLENE PENTAERYTHRITOL AROMATIC WHITE OIL INERT ALUMINIZED PARTICLES DIPHENYLMETHANE DIISOCYANATE POLYMERS OF DPM DIISOCYANATE	.1	.3	17.0	37.5	.0	.0
STA.SET= 19 CAT= IN INSTANT SET POLYMER SCRAPS DIPHENYL METHANE DIISOCYANATE POLY(OXALKYLENE)POLYETHER AROMATIC HYDROCARBONS	(13) 1.9	(13) 4.2	(13) 226.8	(13) 500.0	.0	.0
STA.SET= 19 CAT= IN SILANE/ACETIC ACID RESIDUE METHYL TRIMETHOXY-SILANE ACETIC ACID	.5	1.0	56.7	125.0	.0	.0
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE	36.9	81.3	4422.5	9750.0	.0	.0
STA.SET= 19 CAT= MH MONOMETHYL HYDRAZINE	9.4	20.8	1134.0	2500.0	.0	.0
STA.SET= 19 CAT= MH (14) MONOMETHYL HYDRAZINE	(15) 19.6	(15) 43.1	(15) 2347.3	(15) 5175.0	(12) 1072.7	(12) 2365.0
STA.SET= 19 CAT= MH (14) MONOMETHYL HYDRAZINE	(15) 19.6	(15) 43.1	(15) 2347.3	(15) 5175.0	(12) 1483.2	(12) 3270.0
STA.SET= 19 CAT= MH (14) MONOMETHYL HYDRAZINE	(15) 13.9	(15) 30.6	(15) 1666.9	(15) 3675.0	(12) 1828.0	(12) 4030.0
STA.SET= 19 CAT= MH (14) MONOMETHYL HYDRAZINE	(15) 43.4	(15) 95.6	(15) 5204.9	(15) 11475.0	.0	.0
STA.SET= 19 CAT= NH WASTEWATER WITH AMMONIA	(15) 37.8	(15) 83.3	(15) 4535.9	(15) 10000.0	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	5.7	12.5	680.4	1500.0	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	10.2	22.5	1224.7	2700.0	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	(15) 35.7	(15) 78.8	(15) 4286.4	(15) 9450.0	(12) 1630.7	(12) 3595.0

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

PAGE 6

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	(15) 35.7	(15) 78.8	(15) 4286.4	(15) 9450.0	(12) 2329.2	(12) 5135.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	(15) 24.9	(15) 54.8	(15) 2982.4	(15) 6575.0	(12) 2862.2	(12) 6310.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	(15) 82.8	(15) 182.5	(15) 9933.6	(15) 21900.0	.0	.0
STA.SET= 19 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	(12) 40823.1	(12) 90000.0
STA.SET= 19 CAT= OS DECONTAMINATE FROM PAYLOAD/ORB N204	302.4 2.8	666.7 6.3	36287.2 340.2	80000.0 750.0	.0	.0
STA.SET= 19 CAT= OS WASTE OXIDIZER AND PRIMOL 355 N204	38.7 2.8	85.4 6.3	4649.3 340.2	10250.0 750.0	.0	.0
STA.SET= 19 CAT= PA KOROPON PRMER CONT PNT BRUSHES BUTYL ACETATE TALC - Mg SILICATES EPOXY RESIN	(16) 18.9	(16) 41.7	(16) 2267.9	(16) 5000.0	.0	.0
STA.SET= 19 CAT= PA LACQUER #626486	(17) .6	(17) 1.4	(17) 73.7	(17) 162.5	.0	.0
STA.SET= 19 CAT= PA CONTAMINATED BRUSHES ORGANIC ZINC PRIMER ZINC CHROMATE PRIMER	(16) 1.9	(16) 4.2	(16) 226.8	(16) 500.0	.0	.0
STA.SET= 19 CAT= PA ORGANIC ZINC PRIMER ZINC DUST BARYTES MOLYBDATE ORANGE SILICA HIGH MOLECULAR WEIGHT EPOXY CELLOSOLVE ACETATE TOLUENE METHYL ETHYL KETONE	(18) 5.9	(18) 13.0	(18) 708.7	(18) 1562.5	.0	.0
STA.SET= 19 CAT= PA CONTAMINATED PAINT BRUSHES EA 911 EPOXY (CONT.)	(16) 1.9	(16) 4.2	(16) 226.8	(16) 500.0	.0	.0

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

PAGE 7

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
EA 934 EPOXY						
EA 9309 EPOXY						
STA.SET= 19 CAT= SO DOPE & LACQUER THINNER	.9	1.9	102.1	225.0	.0	.0
ALIPHATIC NAPHTHA	.1	.3	17.0	37.5		
ESTER OR KETONE	.4	.8	45.4	100.0		
ISO- OR n-BUTYL ACETATE	.2	.5	28.3	62.5		
ISO- OR n-BUTYL ALCOHOL	.1	.2	11.3	25.0		
STA.SET= 19 CAT= SW WASHWATER WITH MEK	44.2	97.4	5301.3	11687.5	.0	.0
METHYL ETHYL KETONE	6.4	14.1	765.4	1687.5		
SUBTOTAL FOR SET 19	7311.0	16118.1	877322.4	1934175.0	77316.7	170455.0
STA.SET= 21 CAT= FS WASTEWATER FR EEW&S	2838.9 ⁽⁴⁾	6258.8 ⁽⁴⁾	340668.8 ⁽⁴⁾	751050.0 ⁽⁴⁾		
STA.SET= 21 CAT= FS WASTEWATER WITH MMH	112.5 10.4	247.9 22.9	13494.3 1247.4	29750.0 2750.0	.0	.0
STA.SET= 21 CAT= HS FUEL SCRUBBER MMH	378.0 6.9	833.3 15.2	45359.0 827.8	100000.0 1825.0	.0	.0
STA.SET= 21 CAT= IN TILE REPAIR FOAM POLYURETHANE	4.7 4.7	10.4 10.4	567.0 567.0	1250.0 1250.0	.0	.0
STA.SET= 21 CAT= MH MONOMETHYL HYDRAZINE	.0	.0	.0	.0		
STA.SET= 21 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	(19) 2041154.8	(19) 4500000.0
STA.SET= 21 CAT= NO NITROGEN TETROXIDE	15.6	34.4	1871.1	4125.0	.0	.0
STA.SET= 21 CAT= NO NITROGEN TETROXIDE	53.4	117.7	6407.0	14125.0	.0	.0
STA.SET= 21 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	(20) 48987.7	(20) 108000.0
STA.SET= 21 CAT= OS WASTEWATER WITH OXIDIZER (CONT.)	75.8	167.1	9094.5	20050.0	.0	.0

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

TABLE 13 (CONT.)

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	BASELINE FOR PROJECT KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
N2O4	.6	1.3	68.0	150.0		
STA.SET= 21 CAT= SW WASTEWATER WITH MEK METHYL ETHYL KETONE	44.1 6.3	97.3 14.0	5295.7 759.8	11675.0 1675.0	.0	.0
STA.SET= 21 CAT= WP WASTE SEALS, FILTERS, ETC.	(21) 4.7	(21) 10.4	(21) 567.0	(21) 1250.0	.0	.0
SUBTOTAL FOR SET 21	3527.7	7777.3	423324.2	933275.0	2090142.5	4608000.0
STA.SET= 23 CAT= EW WASTEWATER FROM EEW&S	3154.3	6954.2	378520.8	834500.0		
STA.SET= 23 CAT= FS HYDRAZINE-CONTAM. WASTEWATER HYDRAZINE	591.6 29.3	1304.2 64.6	70986.8 3515.3	156500.0 7750.0		
STA.SET= 23 CAT= FS HYDRAZINE-CONTAM. CLNUP WATER HYDRAZINE	197.0 2.2	434.4 4.8	23643.4 260.8	52125.0 575.0		
STA.SET= 23 CAT= FS WASTEWATER FROM PPR HYDRAZINE	2365.8	5215.6	283890.6	625875.0		
STA.SET= 23 CAT= FS PRIMOL 395(11) HYDRAZINE MMH	354.8	782.3	42580.8	93875.0		
STA.SET= 23 CAT= HF HYDRAULIC FLUIDS TETRAORTHOCRESOL PHOSPHATE	410.1 410.1	904.2 904.2	49214.5 49214.5	108500.0 108500.0	.0	.0
STA.SET= 23 CAT= HS HYDRAZINE & MMH SCRUBBER HYDRAZINE MMH	(18) 788.6 17.5 13.7	(18) 1738.5 38.5 30.2	(18) 94530.2 2097.9 1644.3	(18) 208625.0 4625.0 3625.0	.0	.0
STA.SET= 23 CAT= HY HYDRAZINE	216.9	478.1	26024.7	57375.0	.0	.0
STA.SET= 23 CAT= HY LBM PROPELLANT PARAHYDRAZINE (CONT.)	.0 .0	.0 .0	.0 .0	.0 .0	(22) 396891.3	(22) 875000.0

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

TABLE 13 (CONT.)

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	BASELINE FOR PROJECT KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
UNSYM DIMETHYLHYDRAZINE	.0	.0	.0	.0		
STA.SET= 23 CAT= HY HYDRAZINE	.0	.0	.0	.0	(22) 27126.9	(22) 59805.0
STA.SET= 23 CAT= IN K5NA INSULATION	10.9	24.0	1304.1	2875.0	.0	.0
BUTYL GLYCIDYL ETHER EPOXY RESINS, UNCURED						
STA.SET= 23 CAT= MH MONOMETHYL HYDRAZINE	344.4	759.4	41333.4	91125.0	.0	.0
STA.SET= 23 CAT= MH MONOMETHYL HYDRAZINE	.0	.0	.0	.0	(22) 60261.7	(22) 132855.0
STA.SET= 23 CAT= NH AMMONIA	.0	.0	.0	.0	(22) 471.7	(22) 1040.0
STA.SET= 23 CAT= NO NITROGEN TETROXIDE	191.0	421.1	22923.3	50537.5	.0	.0
STA.SET= 23 CAT= NO LBM OXIDIZER	.0	.0	.0	.0	(22) 396891.3	(22) 875000.0
NITROGEN TETROXIDE	.0	.0	.0	.0		
STA.SET= 23 CAT= NO NITROGEN TETROXIDE	.0	.0	.0	.0	(22) 140649.2	(22) 310080.0
STA.SET= 23 CAT= OS N204 CONTAM. CLEANUP WATER	118.1	260.4	14174.7	31250.0	.0	.0
NITROGEN TETROXIDE	1.2	2.6	141.7	312.5		
STA.SET= 23 CAT= OS N204 CONTAM. WASTEWATER	394.1	868.8	47286.8	104250.0	.0	.0
NITROGEN TETROXIDE	29.3	64.6	3515.3	7750.0		
STA.SET= 23 CAT= OS PRIMOL 355(11)	354.8	782.3	42380.8	93875.0	.0	.0
N204						
STA.SET= 23 CAT= PS SRB PROPELLANT SPILL(23)	.0	.0	.0	.0	(24) 5043013.0	(24) 11118000.0
AMMONIUM PERCHLORATE	.0	.0	.0	.0		
ALUMINUM POWDER	.0	.0	.0	.0		
PBAN BINDER	.0	.0	.0	.0		
HTPB BINDER	.0	.0	.0	.0		
IRON OXIDE	.0	.0	.0	.0		

STA.SET= 23 CAT= QU

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

PAGE 10

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
ALUMINUM OXIDE	3.5	7.7	419.6	925.0		
AMMONIA	.2	.5	28.3	62.5		
HYDROCHLORIC ACID	377.5	832.3	45302.3	99875.0		
ORGANIC CARBON	3.5	7.8	425.2	937.5		
STA.SET= 23 CAT= SO SOLVENT MIXTURE FREON TMC/PF/TF SYM, TETRACHLOROETHANE	(25) 363.6	(25) 669.4	(25) 36434.6	(25) 80325.0	.0	.0
STA.SET= 23 CAT= SO CONTAMINATED SOLVENTS	(26) 275.9	(26) 608.3	(26) 33112.1	(26) 73000.0	.0	.0
STA.SET= 23 CAT= SW SOLVENT WASTEWATER UNSPEC.	(18X25) 433.7	(18X25) 956.3	(18X25) 52049.5	(18X25) 114750.0	.0	.0
STA.SET= 23 CAT= SW CONTAMINATED WASTEWATER SOLVENTS CHLORINATED RUBBER ZINC PRIMER	(18) 985.6	(18) 2172.9	(18) 118273.6	(18) 260750.0	.0	.0
SUSTOTAL FOR SET 23	603042.3	1329500.8	72365792.0	159540096.0	1022292.0	2253780.0
STA.SET= 31 CAT= AL SURFACTANT NaOH SODIUM TRIPHOSPHATE					.0	.0
STA.SET= 31 CAT= AW EA 934 EPOXY ADHESIVE EPOXY RESIN ASBESTOS FILLERS POLYAMIDE DIETHYLENETRIAMINE	(26X27) 16.5	(26X27) 36.5	(26X27) 1984.5	(26X27) 4375.0	.0	.0
	7.1	15.6	850.5	1875.0		
	1.9	4.2	226.8	500.0		
	3.3	7.3	396.9	875.0		
	3.8	8.3	453.6	1000.0		
	.5	1.0	56.7	125.0		
STA.SET= 31 CAT= CA CONTAMINATED AIR FILTERS	23.6	52.1	2834.9	6250.0	.0	.0
STA.SET= 31 CAT= CA CHARCOAL FILTER WASTES					.0	.0
STA.SET= 31 CAT= CA CONTAMINATED AIR FILTERS	23.6	52.1	2834.9	6250.0	.0	.0
STA.SET= 31 CAT= CM BOSTIK PRIMER PAINT CANS	(6) 7.1	(6) 15.6	(6) 850.5	(6) 1875.0	.0	.0

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

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WASTE MATERIAL BASELINE MONTHLY (AVERAGE) BASELINE FOR PROJECT CONTINGENCY FOR PROJECT
 KILOGRAMS POUNDS KILOGRAMS POUNDS KILOGRAMS POUNDS

STA.SET= 31 CAT= CN BOSTIK TOPCOAT PAINT CANS	(6) 21.3	(6) 46.9	(6) 2551.4	(6) 5625.0	.0	.0
STA.SET= 31 CAT= CN RUSTOLEUM PRIMER PAINT CANS	(6) .9	(6) 2.1	(6) 113.4	(6) 250.0	.0	.0
STA.SET= 31 CAT= CN RUSTOLEUM TOPCOAT PAINT CANS	(6) .9	(6) 2.1	(6) 113.4	(6) 250.0	.0	.0
STA.SET= 31 CAT= CN MSA-1 EMPTY CONTAINERS	(28) 472.5	(28) 1041.7	(28) 56699.8	(28) 125000.0	.0	.0
STA.SET= 31 CAT= CN KSHA CONTAINERS	3.5	7.8	425.2	937.5	.0	.0
STA.SET= 31 CAT= CN KSHA & MTA-2 PACKING MATERIALS	(28) 2362.4	(28) 5208.3	(28) 283493.8	(28) 625000.0	.0	.0
STA.SET= 31 CAT= CR SOLVENT CONTAMINATED RAGS	(9) 4.7	(9) 10.4	(9) 567.0	(9) 1250.0	.0	.0
STA.SET= 31 CAT= CR ALODINE CONTAMINATED RAGS	(9) 2.4	(9) 5.2	(9) 283.5	(9) 625.0	.0	.0
STA.SET= 31 CAT= CR RYMPLE CLOTHS	(9) 4.7	(9) 10.4	(9) 567.0	(9) 1250.0	.0	.0
STA.SET= 31 CAT= CR PAINT DROP CLOTHS	(9) 7.1	(9) 15.6	(9) 850.5	(9) 1875.0	.0	.0
STA.SET= 31 CAT= EW WASTEWATER FROM EEWs	(4) 1261.7	(4) 2781.7	(4) 151408.3	(4) 333800.0		
STA.SET= 31 CAT= FO FUEL AND OIL SPILLS	.0	.0	.0	.0	.0	.0
STA.SET= 31 CAT= FO FUEL & OIL WASTES	39.7	87.5	4762.7	10500.0	.0	.0
STA.SET= 31 CAT= FS PRIMOL 355(11)	.0	.0	.0	.0		
STA.SET= 31 CAT= HS SCRUBBER EFFLUENT	(18) 39.2	(18) 86.5	(18) 4706.0	(18) 10375.0	.0	.0
STA.SET= 31 CAT= HY HYDRAZINE	114.0	251.4	13681.4	30162.5	.0	.0
STA.SET= 31 CAT= IN MSA-1 (CURED)(29) (CONT.)	(25) 94.5	(25) 208.3	(25) 11339.8	(25) 25000.0	.0	.0

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

PAGE 12

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	BASELINE FOR PROJECT KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
EPICHLORHYDRIN/BGE	37.8	83.4	4541.6	10012.5		
GLASS ECOSPHERES	11.2	24.6	1338.1	2950.0		
PHENOLIC MICROSPHERES	33.5	73.9	4019.9	8862.5		
GLASS FIBERS	4.2	9.2	498.9	1100.0		
BENTONE 27	3.2	7.0	379.9	837.5		
METHYLENE DIANILINE	3.3	7.3	396.9	875.0		
m-PHENYLENE DIAMINE	1.4	3.0	164.4	362.5		
STA.SET= 31 CAT= IN (30)					.0	.0
MSA-1, PART A (UNMIXED)						
METHYLENE CHLORIDE						
EPICHLORHYDRIN/BGE					.0	.0
STA.SET= 31 CAT= IN (30)						
MSA-1, PART B (UNMIXED)						
METHYLENE CHLORIDE						
PERCHLOROETHYLENE						
METHYLENE DIANILINE						
m-PHENYLENE DIAMINE						
ETHYL ALCOHOL						
PHENOLIC MICROSPHERES						
GLASS ECOSPHERES						
GLASS FIBERS						
BENTONE 27						
STA.SET= 31 CAT= IN	47.2	104.2	5669.9	12500.0	.0	.0
MTA-2 (CURED)(29)	14.6	32.2	1752.0	3862.5		
EPICHLORHYDRIN/BGE	14.6	32.2	1752.0	3862.5		
LP-3, POLYSULFIDE LIQ POLYMER	5.8	12.8	697.4	1537.5		
NDA & MPDA	.6	1.3	68.0	150.0		
STANNOUS OCTOATE	11.7	25.7	1400.5	3087.5		
PHENOLIC MICROSPHERES						
STA.SET= 31 CAT= IN	14.2	31.3	1701.0	3750.0	.0	.0
MTA-2 (UNMIXED)(30)	4.4	9.7	527.3	1162.5		
EPICHLORHYDRIN/BGE	4.4	9.7	527.3	1162.5		
LP-3, POLYSULFIDE LIQ POLYMER	1.7	3.9	209.8	462.5		
NDA & MPDA	.2	.4	22.7	50.0		
STANNOUS OCTOATE	3.5	7.7	419.6	925.0		
PHENOLIC MICROSPHERES						
METHYLENE CHLORIDE						
PERCHLOROETHYLENE						
STA.SET= 31 CAT= IN	7.6	16.7	907.2	2000.0	.0	.0
KSHA						
BUTYL GLYCIDYL ETHER						
EPOXY RESINS						
STA.SET= 31 CAT= IN					.0	.0
INSULATION AND PAPER						

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

PAGE 13

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	BASELINE FOR PROJECT KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
STA.SET= 31 CAT= PA						
BOSTIK EPOXY PRIMER	12.8	28.1	1530.9	3375.0	.0	.0
EPOXY RESIN	1.7	3.6	198.4	437.5		
AMINE CURING AGENT	.3	.6	34.0	75.0		
TITANIUM DIOXIDE	.3	.6	34.0	75.0		
CHROMATE PIGMENTS	.6	1.3	68.0	150.0		
INERT PIGMENTS	1.8	4.0	215.5	475.0		
SUSPENSION & FLOW CONTROL ADDI	<.1	.1	5.7	12.5		
SOLVENTS	7.7	16.9	918.5	2025.0		
STA.SET= 31 CAT= PA						
BOSTIK EPOXY TOPCOAT	17.5	38.5	2097.9	4625.0	.0	.0
EPICHLORHYDRIN/BISPHENOL A	4.3	9.4	510.3	1125.0		
AMINE CURING AGENT	.7	1.5	79.4	175.0		
COLOR PIGMENT	3.5	7.8	425.2	937.5		
SUSPENSION & FLOW CONTROL ADDI	.2	.5	28.3	62.5		
SOLVENTS PHOTOCHEN REACTIVE	1.7	3.6	198.4	437.5		
SOLVENTS NONPHOTOCHEN REACTIVE	7.1	15.6	850.5	1875.0		
STA.SET= 31 CAT= PA						
RUSTOLEUM PRIMER	3.8	8.3	453.6	1000.0	.0	.0
SILICATES	.6	1.4	73.7	162.5		
YELLOW IRON OXIDE	.3	.6	34.0	75.0		
TITANIUM DIOXIDE	.1	.2	11.3	25.0		
CALCIUM BOROSILICATE	.7	1.6	85.0	187.5		
BENTONITE	<.1	<.1	2.3	5.0		
LINESEED PHENOLIC ALKYL RESIN	.8	1.7	90.7	200.0		
ALIPHATIC HYDROCARBONS	1.2	2.7	147.4	325.0		
DRIERS AND ADDITIVES	.1	.2	11.3	25.0		
STA.SET= 31 CAT= PA						
RUSTOLEUM TOPCOAT	3.8	8.3	453.6	1000.0	.0	.0
SILICATES	1.2	2.7	147.4	325.0		
TITANIUM DIOXIDE	.7	1.5	79.4	175.0		
BENTONITE CLAY	<.1	<.1	2.3	5.0		
TINTING COLORS	.1	.2	11.3	25.0		
ALKYL RESIN	.7	1.5	79.4	175.0		
ALIPHATIC HYDROCARBONS	1.1	2.5	136.1	300.0		
DRIERS & ADDITIVES	<.1	.1	5.7	12.5		
STA.SET= 31 CAT= PA						
GACOFLEX	18.4	40.6	2211.3	4875.0	.0	.0
TITANIUM DIOXIDE	1.3	2.8	153.1	337.5		
CLAY	1.5	3.2	175.8	387.5		
HYPALON	1.8	4.1	221.1	487.5		
HYDROCARBON RESIN	.4	.8	45.4	100.0		
PERCHLOROETHYLENE	8.6	19.1	1037.6	2287.5		
1,1,1-TRICHLOROETHANE	4.6	10.2	555.6	1225.0		
(CONT.)						

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

PAGE 14

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
EPOXIDIZED SOYBEAN OIL	.2	.4	22.7	50.0		
STA.SET= 31 CAT= PA PAINT-SPILL ABSORBANT	.0	.0	.0	.0		
STA.SET= 31 CAT= PW ALODINE CONTAMINATED WASTEWATR	(18) 157.8 (31)	(18) 347.9 (31)	(18) 18937.4 (31)	(18) 41750.0 (31)	.0	.0
CHROMIC ACID	2.8	6.1	334.5	737.5		
FERRICYANIDE SALT	1.6	3.4	187.1	412.5		
COMPLEX FLUORIDE SALT	<.1	.1	5.7	12.5		
STA.SET= 31 CAT= SO PERCHLOROETHYLENE	.7	1.5	79.4	175.0	.0	.0
STA.SET= 31 CAT= SO TRICHLOROETHANE	.5	1.1	62.4	137.5	.0	.0
STA.SET= 31 CAT= SO FREON 113	.6	1.4	73.7	162.5	.0	.0
STA.SET= 31 CAT= SO MSA-1 CONTAMINATED MECI	1568.2	3457.3	188183.2	414875.0	.0	.0
STA.SET= 31 CAT= SO MSA-1 CONTAM PERCHLOROETHYLENE	1929.2	4253.1	231501.0	510375.0	.0	.0
STA.SET= 31 CAT= SO PERCHLOROETHYLENE	289.2	637.5	34699.6	76500.0	.0	.0
STA.SET= 31 CAT= SO TRICHLOROETHANE	85.0	187.5	10205.8	22500.0	.0	.0
STA.SET= 31 CAT= SO METHYLENE CHLORIDE	266.5	587.5	31978.1	70500.0	.0	.0
STA.SET= 31 CAT= SO NTA-2 CONTAMINATED SOLVENTS	(26) 551.9	(26) 1216.7	(26) 66224.1	(26) 146000.0	.0	.0
STA.SET= 31 CAT= SO BOSTIK CONTAMINATED SOLVENTS	(26) 275.9	(26) 608.3	(26) 33112.1	(26) 73000.0	.0	.0
STA.SET= 31 CAT= SO RUSTOLEUM CONTAMINATED SOLVENT	(26) 275.9	(26) 608.3	(26) 33112.1	(26) 73000.0	.0	.0
SUBTOTAL FOR SET 31	10027.2	22106.3	1203260.8	2652750.0	.0	.0
STA.SET= 32 CAT= BA LITHIUM STORAGE BATTERIES	25.5	56.3	3061.7	6750.0	.0	.0

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

PAGE 15

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	BASELINE FOR PROJECT KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
STA.SET= 32 CAT= BA SILVER-ZINC STORAGE BATTERIES	42.5	93.8	5102.9	11250.0	.0	.0
STA.SET= 32 CAT= BA POTASSIUM HYDROXIDE SOLUTION	9.1 ⁽¹⁸⁾	20.0 ⁽¹⁸⁾	1082.6 ⁽¹⁸⁾	2400.0 ⁽¹⁸⁾	.0	.0
STA.SET= 32 CAT= CB HYDRAZINE-CONTAMINATED WATER	113.4 ⁽¹⁸⁾	250.0 ⁽¹⁸⁾	13607.7 ⁽¹⁸⁾	30000.0 ⁽¹⁸⁾	.0	.0
STA.SET= 32 CAT= CS ⁽³²⁾ CONTAMINATED SEAWATER	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= CS ⁽³²⁾ CONTAMINATED SEAWATER	15119.7	33333.3	1814360.0	4000000.0	.0	.0
STA.SET= 32 CAT= CW SRB FWD SKT CLEANING WASTES					.0	.0
STA.SET= 32 CAT= EW WASTEWATER FROM EEWLS	630.9 ⁽⁴⁾	1390.8 ⁽⁴⁾	75704.2 ⁽⁴⁾	166900.0 ⁽⁴⁾	.0	.0
STA.SET= 32 CAT= FO BILGE WASTES					.0	.0
STA.SET= 32 CAT= FO DIESEL FUEL & OIL SPILLS	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= FS ⁽¹¹⁾ WASTE FUEL & PRIMOL 355 HYDRAZINE	.0	.0	.0	.0	.0	.0
STA.SET= 32 CAT= HS HYDRAZINE SCRUBBER EFFLUENT HYDRAZINE	189.0 ⁽¹⁸⁾ 1.7	416.7 ⁽¹⁸⁾ 3.8	22679.5 ⁽¹⁸⁾ 204.1	50000.0 ⁽¹⁸⁾ 450.0	.0	.0
STA.SET= 32 CAT= HY HYDRAZINE	42.8	94.3	5131.2	11312.5	.0	.0
STA.SET= 32 CAT= IN ⁽³³⁾ INSULATION WASTES, SOLID MSA-1 INSULATION MTA-2 INSULATION KSHA INSULATION PR-855 INSULATION	756.0 ⁽³⁴⁾	1666.7 ⁽³⁴⁾	90718.0 ⁽³⁴⁾	200000.0 ⁽³⁴⁾	.0	.0
STA.SET= 32 CAT= IN INSULATION CONTAM FILTERS	4.7 ⁽²¹⁾	10.4 ⁽²¹⁾	567.0 ⁽²¹⁾	1250.0 ⁽²¹⁾	.0	.0
STA.SET= 32 CAT= IU ⁽³³⁾ INSULATION-CONTAMINATED WATER	193012.0 ⁽¹⁸⁾	425520.9 ⁽¹⁸⁾	23161440.0 ⁽¹⁸⁾	51062504.0 ⁽¹⁸⁾	.0	.0

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

PAGE 16

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	BASELINE FOR PROJECT KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
MSA-1 INSULATION						
MTA-2 INSULATION						
KSA INSULATION						
PR-855 INSULATION						
STA.SET= 32 CAT= PR					.0	.0
PRESERVATIVE CHEMICALS						
PROTECTIVE LUBRICANTS						
STA.SET= 32 CAT= PS					784.7 ⁽²⁴⁾	1730.0 ⁽²⁴⁾
SRB SOLID PROPELLANT	.0	.0	.0	.0		
AMMONIUM PERCHLORATE	.0	.0	.0	.0		
ALUMINUM POWDER	.0	.0	.0	.0		
FERRIC OXIDE	.0	.0	.0	.0		
POLYMER & EPOXY RESIN	.0	.0	.0	.0		
STA.SET= 32 CAT= SB						
DETERGENT WASHWATER ⁽³⁵⁾	36287.2	80000.0	4354464.0	9600000.0	.0	.0
STA.SET= 32 CAT= SB						
POTABLE RINSE WATER	125493.2	276666.6	15059188.0	33200000.0	.0	.0
STA.SET= 32 CAT= SB						
DEIONIZED RINSE WATER	58739.9	129500.0	7048788.0	15540000.0	.0	.0
STA.SET= 32 CAT= S1						
SRB RINSE WATER	22679.5	50000.0	2721540.0	6000000.0	.0	.0
STA.SET= 32 CAT= S0						
SOLVENTS FREON TMC/TH SOLVENTS, UNSPECIFIED	11.1 ⁽²⁶⁾	24.4 ⁽²⁶⁾	1326.8 ⁽²⁶⁾	2925.0 ⁽²⁶⁾	.0	.0
SUBTOTAL FOR SET 32	453156.4	999044.3	54378768.0	119885296.0	.0	.0
STA.SET= 33 CAT= CA						
AIR FILTERS	4.7 ⁽²¹⁾	10.4 ⁽²¹⁾	567.0 ⁽²¹⁾	1250.0 ⁽²¹⁾	.0	.0
STA.SET= 33 CAT= EW						
WASTEWATER FROM EEW&S	197.0	434.4	23643.4	52125.0		
STA.SET= 33 CAT= HF						
HYDRAULIC FLUIDS					.0	.0
SUBTOTAL FOR SET 33	201.8	444.8	24210.4	53375.0	.0	.0

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

PAGE 17

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	BASELINE FOR PROJECT KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
STA.SET= 99 CAT= AW GX-6300 ABLATOR ADHESIVE	6.1	13.5	737.1	1625.0	.0	.0
RESIN STM L 663	.6	1.4	73.7	162.5		
RESIN STM L 664	2.3	5.0	272.2	600.0		
SILICA POWDER	.2	.4	22.7	50.0		
CARBON POWDER	.2	.4	22.7	50.0		
CURING AGENT L 663	.2	.5	28.3	62.5		
CURING AGENT L 664	<.1	.1	5.7	12.5		
HEPTANE	2.5	5.4	294.8	650.0		
XYLENE	.1	.3	17.0	37.5		
STA.SET= 99 CAT= AW ISOCHEN POLYESTER RESIN ADHESV	6.1	13.5	737.1	1625.0	.0	.0
STYRENE						
MEK PEROXIDE CATALYST						
DIMETHYL PHTHALATE						
STA.SET= 99 CAT= CA FILTER					.0	.0
STA.SET= 99 CAT= CN SOLVENT CONTAMINATED CONTAINER	2.4 ⁽²⁸⁾	5.2 ⁽²⁸⁾	283.5 ⁽²⁸⁾	625.0 ⁽²⁸⁾	.0	.0
SOLVENTS(36)						
STA.SET= 99 CAT= CH PRIMER CONTAMINATED CONTAINERS	.3 ⁽²⁸⁾	.7 ⁽²⁸⁾	39.7 ⁽²⁸⁾	87.5 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CN ADHESIVE CONTAMINATED CONTAINR	.3 ⁽²⁸⁾	.7 ⁽²⁸⁾	39.7 ⁽²⁸⁾	87.5 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CN SOLVENT CONTAINERS					.0	.0
STA.SET= 99 CAT= CN POUR FOAM CONTAINERS	23.6 ⁽²⁸⁾	52.1 ⁽²⁸⁾	2834.9 ⁽²⁸⁾	6250.0 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CN ABLATOR CONTAMINATED CONTAINER	.3 ⁽²⁸⁾	.7 ⁽²⁸⁾	39.7 ⁽²⁸⁾	87.5 ⁽²⁸⁾	.0	.0
STA.SET= 99 CAT= CR SOLVENT CONTAMINATED RAGS	4.7 ⁽⁹⁾	10.4 ⁽⁹⁾	567.0 ⁽⁹⁾	1250.0 ⁽⁹⁾	.0	.0
STA.SET= 99 CAT= CR ADHESIVE CONTAMINATED RAGS	4.7 ⁽⁹⁾	10.4 ⁽⁹⁾	567.0 ⁽⁹⁾	1250.0 ⁽⁹⁾	.0	.0
STA.SET= 99 CAT= CR EPOXY PRIMER-CONTAMINATED RAGS	2.4 ⁽⁹⁾	5.2 ⁽⁹⁾	283.5 ⁽⁹⁾	625.0 ⁽⁹⁾	.0	.0
STA.SET= 99 CAT= IN BX-250 FOAM (90FI)	122.8	270.8	14741.7	32500.0	.0	.0
(CONT.)						

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

PAGE 18

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	BASELINE FOR PROJECT KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
DIPHENYL METHANE DIISOCYANATE	30.7	67.7	3685.4	8125.0		
FREON 11	19.8	43.8	2381.3	5250.0		
AMINES	10.9	24.0	1304.1	2875.0		
POLYOLS						
SUPER MEK PEROXIDE						
POLYESTER RESIN						
DINETHYL PHTHALATE						
STA.SET= 99 CAT= IN						
POUR FOAM (MIXED)(29)	129.9 (37)	286.5 (37)	15592.2 (37)	34375.0 (37)	.0	.0
POLYURETHANE						
STA.SET= 99 CAT= IN						
POUR FOAM PART A (UNMIXED)(30)	6.6	14.6	793.8	1750.0	.0	.0
DIPHENYL METHANE DIISOCYANATE	3.3	7.3	396.9	875.0		
FREON 11	2.1	4.7	255.1	562.5		
POLYOLS, AMINES	1.2	2.6	141.7	312.5		
STA.SET= 99 CAT= IN						
POUR FOAM PART B (UNMIXED)(30)	6.6	14.6	793.8	1750.0	.0	.0
FREON 11	1.3	2.9	158.8	350.0		
AMINE CATALYST	.1	.3	17.0	37.5		
POLYETHER POLYOL BLEND	5.2	11.4	618.0	1362.5		
STA.SET= 99 CAT= IN						
POUR FOAM CONTAMINATED PAPER	1.6 (28)	3.4 (28)	187.1 (28)	412.5 (28)	.0	.0
STA.SET= 99 CAT= IN						
SUPER LIGHT ABLATOR (I)	4.7	10.4	567.0	1250.0	.0	.0
RESIN L664, PT A	2.8	6.1	334.5	737.5		
SILICA FIBERS	.3	.6	34.0	75.0		
CORK	.6	1.3	68.0	150.0		
PHENOLIC MICROSPHERES	.1	.3	17.0	37.5		
SILICA MICROSPHERES	.7	1.5	79.4	175.0		
CURING AGENT	.3	.6	34.0	75.0		
STA.SET= 99 CAT= IN						
SUPER LIGHT ABLATOR (II)	4.7	10.4	567.0	1250.0	.0	.0
RESIN STM L664, PT A	1.4	3.1	170.1	375.0		
CARBON POWDER						
SILICA FIBERS						
CORK						
SILICA MICROSPHERES						
PHENOLIC MICROSPHERES						
CURING AGENT STM L664, PT B	.8	1.8	96.4	212.5		
STA.SET= 99 CAT= IN						
POUR FOAM "TRIMMINGS"	4.7	10.4	567.0	1250.0	.0	.0
POLYURETHANE						

TABLE 13 (CONT.)

HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT

PAGE 19

WASTE MATERIAL	BASELINE MONTHLY (AVERAGE) KILOGRAMS	POUNDS	KILOGRAMS	POUNDS	CONTINGENCY FOR PROJECT KILOGRAMS	POUNDS
STA. SET= 99 CAT= PA EPOXY PRIMER METHYLENE ISOBUTYL KETONE XYLENE CYCLOHEXANONE CHROMATES INORGANIC PIGMENTS N-BUTANOL TOLUENE AMINO SILANE METHYL ETHYL KETONE	<.1 ⁽²⁷⁾	.1 ⁽²⁷⁾	5.7 ⁽²⁷⁾	12.5 ⁽²⁷⁾	.0	.0
STA. SET= 99 CAT= PA D.C. 1200 VM AND P NAPHTHA ORGANOMETALLIC SALTS	<.1 ⁽²⁷⁾	.1 ⁽²⁷⁾	5.7 ⁽²⁷⁾	12.5 ⁽²⁷⁾	.0	.0
STA. SET= 99 CAT= SO FREON TMC	.1 ⁽²⁷⁾	.3 ⁽²⁷⁾	17.0 ⁽²⁷⁾	37.5 ⁽²⁷⁾	.0	.0
STA. SET= 99 CAT= SO 1,1,1-TRICHLOROETHANE	.1 ⁽²⁷⁾	.3 ⁽²⁷⁾	17.0 ⁽²⁷⁾	37.5 ⁽²⁷⁾	.0	.0
STA. SET= 99 CAT= SO MEK & CELLOSOLVE	12.7	28.0	1525.2	3362.5	.0	.0
STA. SET= 99 CAT= SO HEPTANE	78.2	172.4	9383.6	20687.5	.0	.0
STA. SET= 99 CAT= SO CELLOSOLVE ACETATE	111.5	245.8	13380.9	29500.0	.0	.0
STA. SET= 99 CAT= SO METHYL ETHYL KETONE	92.1	203.0	11050.6	24362.5	.0	.0
STA. SET= 99 CAT= SR SOLVENT REDUCER METHYL ETHYL KETONE CYCLOHEXANONE	.6 .4 .2	1.3 .8 .4	68.0 45.4 22.7	150.0 100.0 50.0	.0	.0
STA. SET= 99 CAT= SW SOLVENT CONTAMINATED WATER	84.4	186.0	10126.4	22325.0	.0	.0
SUBTOTAL FOR SET 99	712.7	1571.1	85518.7	188537.5	.0	.0
TOTAL FOR ALL SETS	1087704.3	2388289.5	129996512.0	286594752.0	3189751.5	7032235.0

TABLE 13 (CONT.)		HAZARDOUS WASTE GENERATION FOR TOTAL PROJECT				PAGE 20	
SUMMARY BY CATEGORY		BASELINE MONTHLY (AVERAGE)		BASELINE FOR PROJECT		CONTINGENCY FOR PROJECT	
CATEGORY	KILOGRAMS	POUNDS	KILOGRAMS	POUNDS	KILOGRAMS	POUNDS	
SD	8605.7	18972.4	1032682.6	2276687.5	.0	.0	.0
EW	14076.1	31032.7	1689135.0	3723925.0	.0	.0	.0
FO	39.7	87.5	4762.7	10500.0	.0	.0	.0
FS	4226.4	9317.7	507170.3	1118125.0	.0	.0	.0
OS	1283.9	2830.6	154073.2	338675.0	.0	.0	.0
HF	419.3	924.5	50320.1	110937.5	.0	.0	.0
AW	30.0	66.1	3600.4	7937.5	.0	.0	.0
CH	2917.4	6431.8	350086.4	771812.5	.0	.0	.0
CR	40.2	88.5	4819.4	10625.0	.0	.0	.0
HS	4040.7	8908.3	484887.7	1069000.0	.0	.0	.0
HY	444.5	980.0	53342.2	117600.0	449305.8	990555.0	.0
IN	1228.8	2709.0	147450.8	325075.0	.0	.0	.0
NH	487.1	1074.0	58456.4	128875.0	64645.6	142520.0	1040.0
NH	37.8	83.3	4535.9	10000.0	471.7	1040.0	.0
NO	455.0	1003.0	54595.2	120362.5	650502.5	1434120.0	.0
PA	85.5	188.5	10262.5	22625.0	.0	.0	.0
SW	1592.1	3509.9	191046.4	421187.5	.0	.0	.0
WP	4.7	10.4	567.0	1250.0	.0	.0	.0
PS	.0	.0	.0	.0	5043797.7	11119730.0	.0
QW	591556.9	1304166.5	70986832.0	156500000.0	.0	.0	.0
AL	.0	.0	.0	.0	.0	.0	.0
CA	52.0	114.6	6236.9	13750.0	.0	.0	.0
PW	157.8	347.9	18937.4	41750.0	.0	.0	.0
BA	77.1	170.0	9253.2	20400.0	.0	.0	.0
CB	113.4	250.0	13607.7	30000.0	.0	.0	.0
CS	15119.7	33333.3	1814360.0	4000000.0	.0	.0	.0
CW	.0	.0	.0	.0	.0	.0	.0
IW	193012.0	425520.9	23161440.0	51062504.0	.0	.0	.0
PR	.0	.0	.0	.0	.0	.0	.0
SB	220520.3	486166.7	26462440.0	58340000.0	.0	.0	.0
SI	22679.5	50000.0	2721540.0	6000000.0	.0	.0	.0
SR	.6	1.3	68.0	150.0	.0	.0	.0

* For footnotes, see Table 8.

SECTION 5

SUMMARY OF HAZARDOUS WASTE GENERATION

1. INTRODUCTION

The space shuttle program at Vandenberg Air Force Base is expected to generate a variety of hazardous wastes during its years of operation, from 1985 to 1994. The purpose of this report is to present an inventory of the expected types and quantities of waste to be generated by shuttle-related ground operations. The inventory provides estimates for:

- Types of wastes generated.
- Chemical constituents in each waste stream.
- Mass and/or volume of waste generated during scheduled ground operations (per launch cycle, per month per year, and project total).
- Mass and/or volume of waste generated under contingency conditions (per contingency event, per year, and project total).
- EPA and California hazardous waste numbers for each waste.
- EPA and California hazardous properties for each waste.
- California compatibility class for each waste.

The inventory will be used to assess waste management options (Volume II of this report), to complete EPA hazardous waste forms, and for preparing the supplement to the Environmental Impact Statement required for the Space Transportation System (STS) project.

2. SOURCES OF WASTE

A summary of the hazardous wastes generated over the duration of the STS project at VAFB is given in Tables 14, 15, and 16; monthly, yearly, and total project quantities are reported, respectively, for normal operations and contingency conditions.

TABLE 14. SUMMARY OF BASELINE MONTHLY HAZARDOUS WASTE GENERATION, 1985-1994, BY STATION SET

Station Set	Monthly for 1985		Monthly for 1986		Monthly for 1987		Monthly for 1988-1994	
	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds
17	908.5	2,002.8	1,362.7	3,004.2	2,271.1	5,007.0	3,406.7	7,510.5
18	1.4	3.2	2.2	4.8	3.6	7.9	5.4	11.9
19	2,339.5	5,157.8	3,509.3	7,736.7	5,848.8	12,894.5	8,773.2	19,341.8
21	1,128.9	2,488.7	1,693.3	3,733.1	4,222.2	9,307.9	4,233.2	9,332.8
23	192,975.4	425,440.3	239,463.2	538,160.5	482,438.6	1,063,600.8	723,658.3	1,595,451.8
31	3,208.7	7,074.0	4,813.0	10,611.0	8,021.7	17,685.0	12,042.6	26,527.5
32	145,010.0	319,694.1	217,515.1	479,541.2	362,525.1	799,235.4	443,787.8	1,198,653.0
33	64.6	142.3	96.8	213.5	161.4	355.8	242.1	533.8
99	227.6	501.7	341.3	752.5	568.9	1,254.2	853.3	1,881.3
Other	792.3	1,746.7	1,188.4	2,620.0	1,980.7	4,366.7	2,971.0	5,550.0
TOTAL	346,656.8	764,251.5	519,985.3	1,146,377.5	866,642.5	1,910,629.8	1,299,963.8	2,865,244.5

TABLE 15. SUMMARY OF BASELINE YEARLY HAZARDOUS WASTE
GENERATION, 1985-1994, BY STATION SET

Station Set	1985		1986		1987		Yearly for 1988-1994		Project Total	
	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds
17	10,901.4	24,033.6	16,352.1	36,050.4	27,253.5	60,084.0	40,880.3	90,126.0	340,668.8	751,050.0
18	17.2	38.0	25.9	57.0	43.1	95.0	64.6	142.5	538.6	1,187.5
19	28,074.3	61,893.6	42,111.5	92,840.4	70,185.8	154,734.0	105,278.7	232,101.0	877,322.5	1,934,175.0
21	13,546.4	29,864.8	20,319.6	44,797.2	33,865.9	74,662.0	50,798.9	111,993.0	423,324.2	933,275.0
23	2,315,705.0	5,105,283.0	3,473,558.5	7,657,926.0	5,789,264.0	12,763,210.0	8,683,898.0	19,144,620.0	72,365,810.0	159,540,148.0
31	38,504.4	84,888.0	57,756.5	127,332.0	96,260.9	212,220.0	144,391.3	318,330.0	1,203,260.8	2,652,750.0
32	1,740,120.5	3,836,329.0	2,610,181.0	5,754,494.0	4,350,302.0	9,590,824.0	6,525,452.0	14,386,236.0	54,378,764.0	119,885,292.0
33	774.7	1,708.0	1,162.1	2,562.0	1,936.8	4,270.0	2,905.2	6,405.0	24,210.3	53,375.0
99	2,730.6	6,020.0	4,095.9	9,030.0	6,826.5	15,050.0	10,239.8	22,575.0	85,331.6	188,125.0
Other	9,507.2	20,960.0	14,260.9	31,440.0	23,768.1	52,400.0	35,652.2	78,602.0	297,101.5	655,000.0
TOTAL	4,159,882.0	9,171,018.0	6,239,824.0	13,756,530.0	10,399,710.0	22,927,556.0	15,599,566.0	34,391,336.0	129,996,350.0	286,594,408.0

TABLE 16. SUMMARY OF CONTINGENCY HAZARDOUS WASTE
GENERATION, 1985-1994, BY STATION SET

Station Set	1985			1986			1987			1988-1994 (per year)			Project Total	
	Kilograms	Pounds		Kilograms	Pounds		Kilograms	Pounds		Kilograms	Pounds		Kilograms	Pounds
17	0	0		0	0		0	0		0	0		0	0
18	0	0		0	0		0	0		0	0		0	0
19	7,731.6	17,045.5		7,731.6	17,045.5		7,731.6	17,045.5		7,731.6	17,045.5		77,316.0	170,455.0
21	11,430.5	25,200.0		14,696.3	32,400.0		21,228.0	46,800.0		29,392.6	64,800.0		253,103.0	558,000.0
23	102,205.6	225,326.0		102,205.6	225,326.0		102,205.6	225,326.0		102,205.6	225,326.0		1,022,056.0	2,253,260.0
31	0	0		0	0		0	0		0	0		0	0
32	0	0		0	0		0	0		0	0		0	0
33	0	0		0	0		0	0		0	0		0	0
99	0	0		0	0		0	0		0	0		0	0
Other	0	0		0	0		0	0		0	0		0	0
TOTAL	121,367.7	267,571.5		124,633.5	274,771.5		131,165.2	289,171.5		139,329.6	307,171.5		1,352,475.0	2,981,715.0

As shown in Table 15, total baseline waste generation for the STS project is anticipated to be 130 million kg (287 million lbs). Annual waste generation is estimated to range from 4.2 million kg/yr (9.2 million lbs/yr) for 1985, to 15.6 million kg/yr (34.5 million lbs/yr) for each of the years 1988 through 1994. This increase reflects changes in the number of launches per year from 4 to 15. Baseline waste generation for each year of the project is graphically represented in Figure 10.

The greatest quantities of wastes are expected to be generated by V23 (72 million kg; 160 million lbs for total project), followed by Station Set V32 (54 million kg; 120 million lbs for total project). This accounts for 97.5 percent by weight of all baseline hazardous waste generation. The combined waste generated by all other Station Sets is projected to be 2.5 orders of magnitude less by weight than waste generation at V23 and V32.

Expressed as percentages by weight (Figure 11), Station Set V23 is projected to generate 55.7 percent of the total under normal operating conditions; V32 approximately 41.8 percent; and V19 and V31, less than 1 percent each. The balance of these wastes (i.e., 0.9 percent) will be generated mainly by Station Sets V17 and V21.

According to Table 16, estimated total project waste generated under contingency conditions is 1.4 million kg (3.0 million lbs). The only station sets identified to date as potential generators of contingency wastes are V19, V21, and V23 (Figure 12). Station set V23 will produce approximately 84 percent by weight of all contingency waste.

Investigations into the physical state of the hazardous wastes generated during normal operations indicate that the majority of wastes are in a liquid state (Figure 13a). Major sources of liquid hazardous wastes, as shown in Figure 13c, are expected to be produced during normal ground operations at Station Sets V23 (55.9 percent) and V32 (41.9 percent). Other station sets each produce less than 1 percent of total liquid wastes. In summary, 99.6 percent by weight (1.0 million kg; 2.3 million lbs) of all the hazardous wastes will be in a liquid form (Figure 13a). This translates to 92.7 percent on a volumetric basis.

Only 0.4 percent by weight (7.3 percent by volume) of all hazardous wastes are expected to be in a solid state (Figure 13a). Most solid waste will be produced by Station Set V31 (71.5 percent) and Station Set V32 (19.1 percent) as shown in Figure 13b. Solid waste generation by all other station sets is less than 10 percent of total solids.

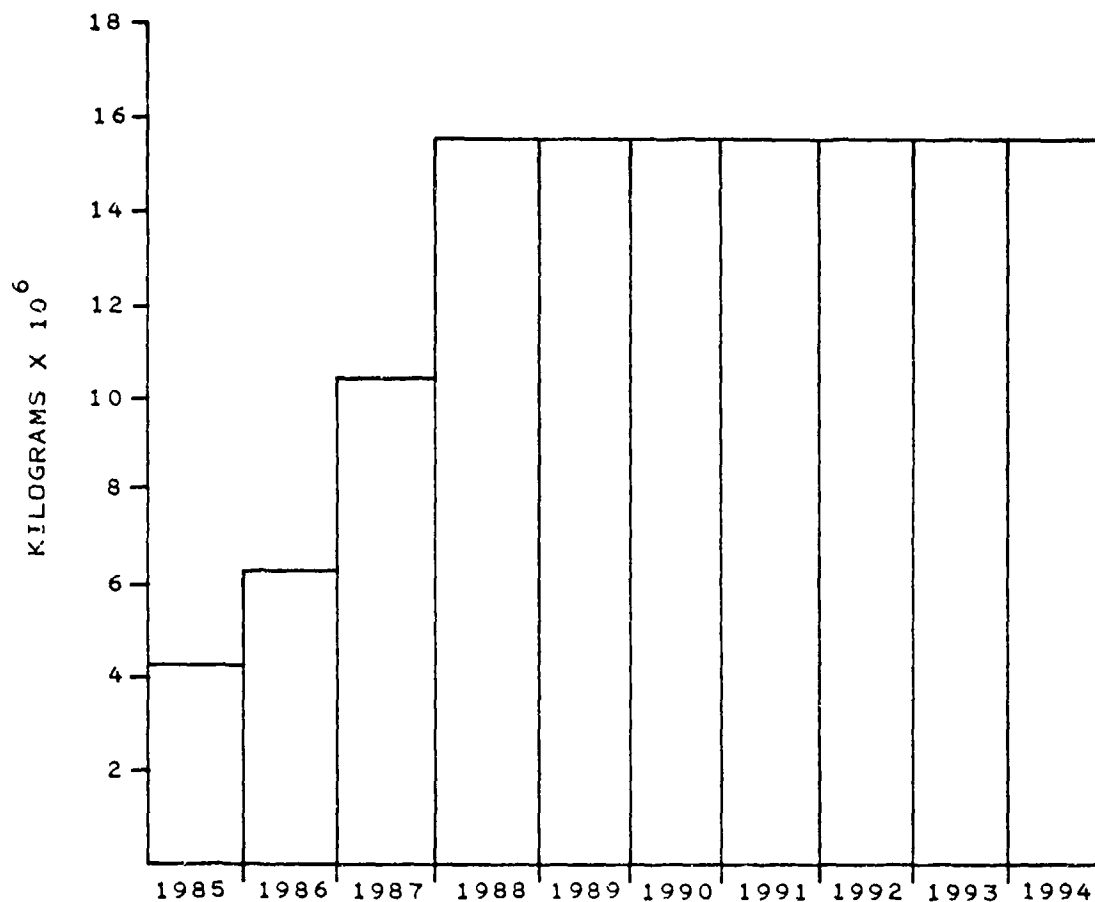


Figure 10. Baseline quantities of hazardous waste generated by STS ground operations at VAFB (reported for each year for the period 1985 through 1994).

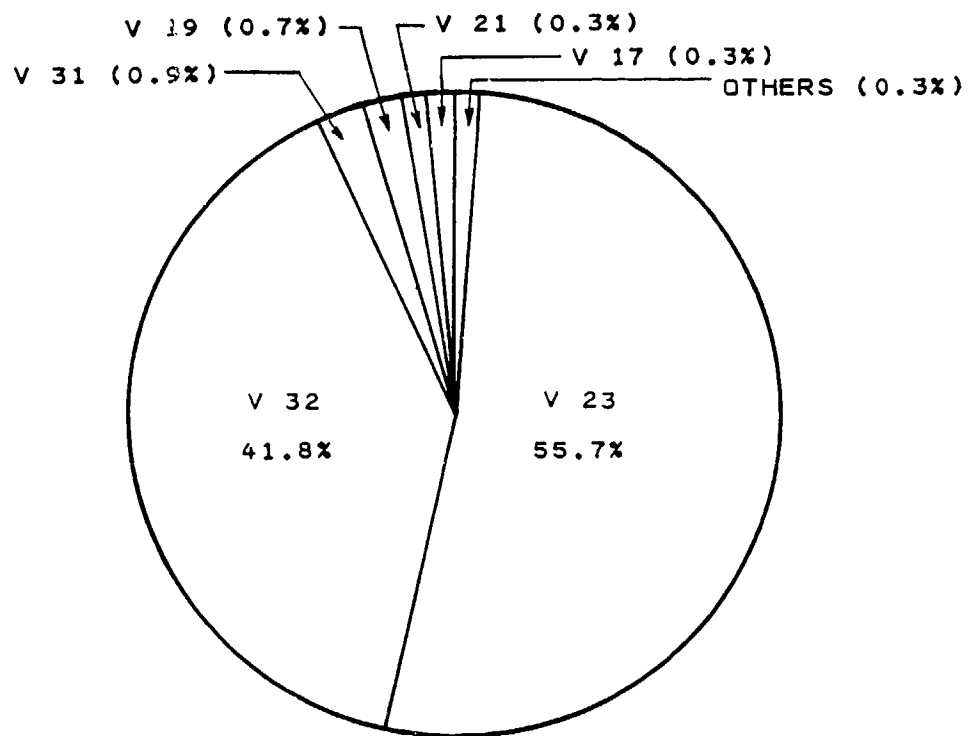


Figure 11. Baseline quantities of hazardous waste generated by STS ground operations at VAFB (reported by station set).

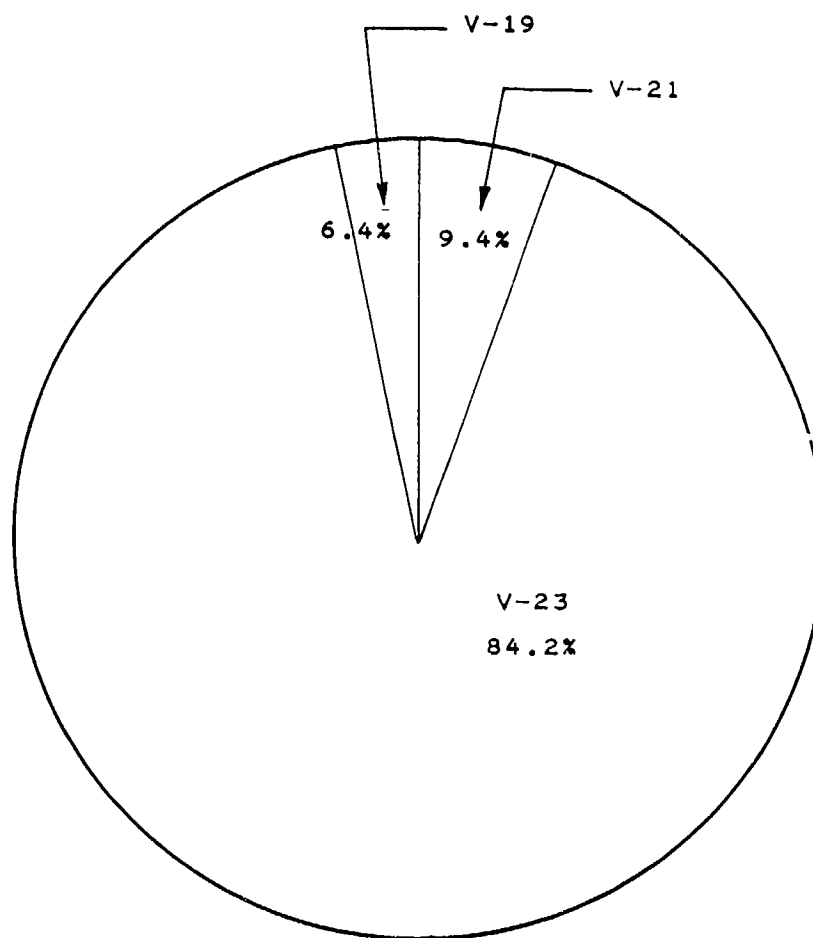


Figure 12. Contingency waste generated by STS ground operations at VAFB (Station Sets V19, V21, and V23).

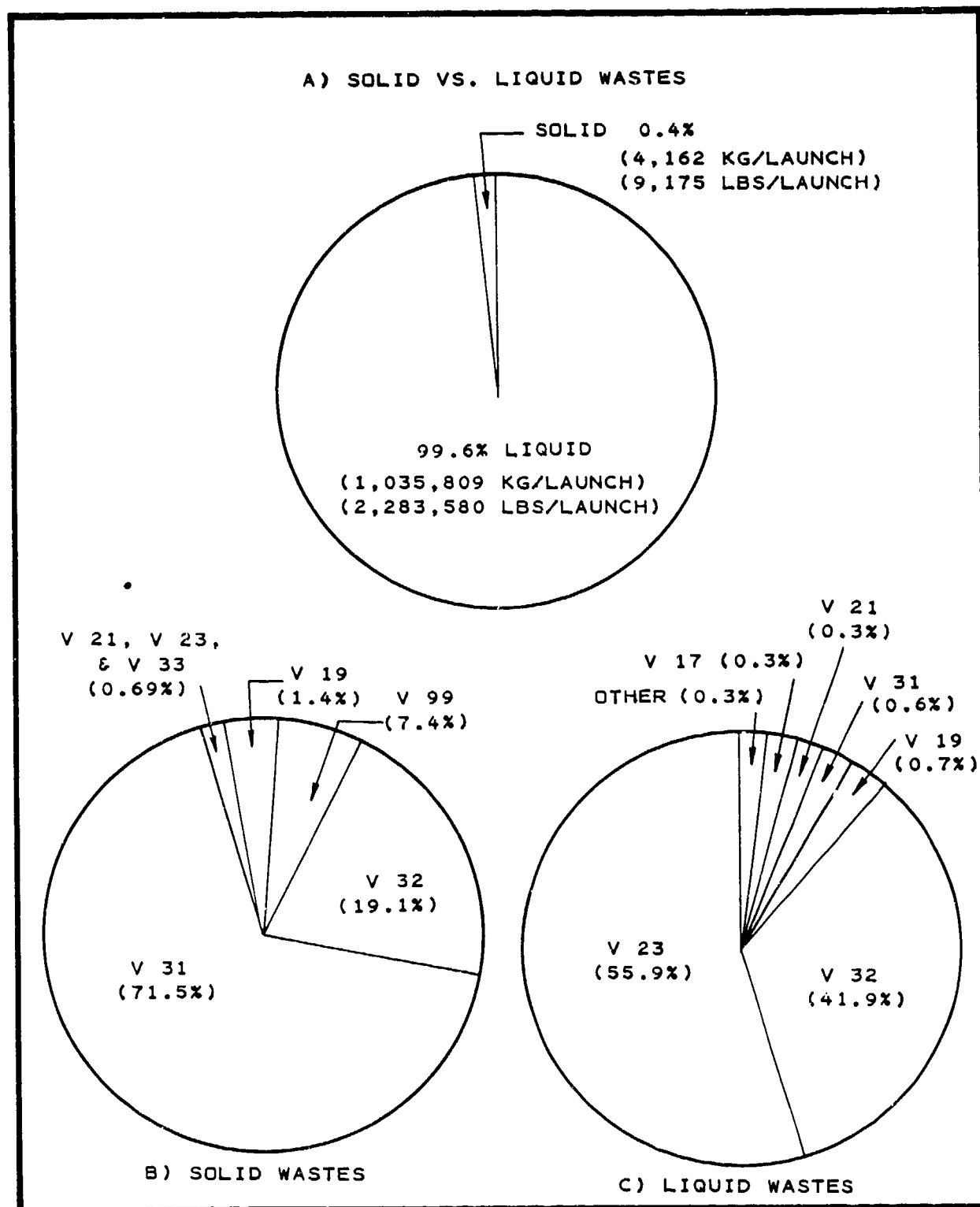


Figure 13. Physical state of hazardous waste generated by STS ground operations at VAFB under baseline conditions (reported by station set).

3. MAJOR TYPES OF WASTES GENERATED

Waste categories generated in the largest quantities are expected to be:

- Quench water (QW).
- SRB wash water (SB).
- Insulation wastewater (or "suprawater") (IW).
- SRB initial rinse (SI).
- Contaminated seawater (CS).
- Nonaqueous solvent wastes (SO).
- EEW&S wastewater (EW).
- Fuel spill cleanup wastes (FS).
- Hydrazine scrubber effluent (HS).

These wastes are estimated to constitute 99.4 percent by weight of total waste generation (129 million kg; 284 million lbs). The QW is projected to be the most predominant waste type, followed by SB and IW wastes. As shown in Figure 14a, these three waste types constitute 54.6, 20.4, and 17.8 percent by weight, respectively, of the total quantity of wastes generated by the major waste categories. Other major waste categories produce 7.2 percent of the total waste. The remaining 0.6 percent of waste is associated with the following minor categories (Figure 14b):

- Adhesive wastes (AW).
- Batteries (BA).
- Contaminated air filters (CA).
- Catalytic bed wash water (CB).
- Containers (CN).
- Contaminated rags (CR).
- Hydraulic fluids (HF).
- Hydrazine (HY).
- Insulation wastes, solid (IN).
- Monomethyl hydrazine (MH).
- Ammonia or ammonia wastewater (NH).
- Nitrogen tetroxide (NO).
- Oxidizer spill cleanup (OS).
- Paint wastes (PA).
- Paint wastewaters (PW).
- Solvent reducer wastes (SR).
- Solvent wastewaters (SW).
- Worn-out parts (WP).

The first three minor categories are expected to jointly contribute over 60 percent by weight to the 0.6 percent of minor wastes.

4. HAZARDOUS AND ACUTELY HAZARDOUS WASTES

Further breakdown of wastes into hazardous and acutely hazardous categories reveals that only 1.8 percent by weight of total hazardous wastes are expected to exhibit acutely hazardous properties (Figure 15a). Primary generators of acutely hazardous

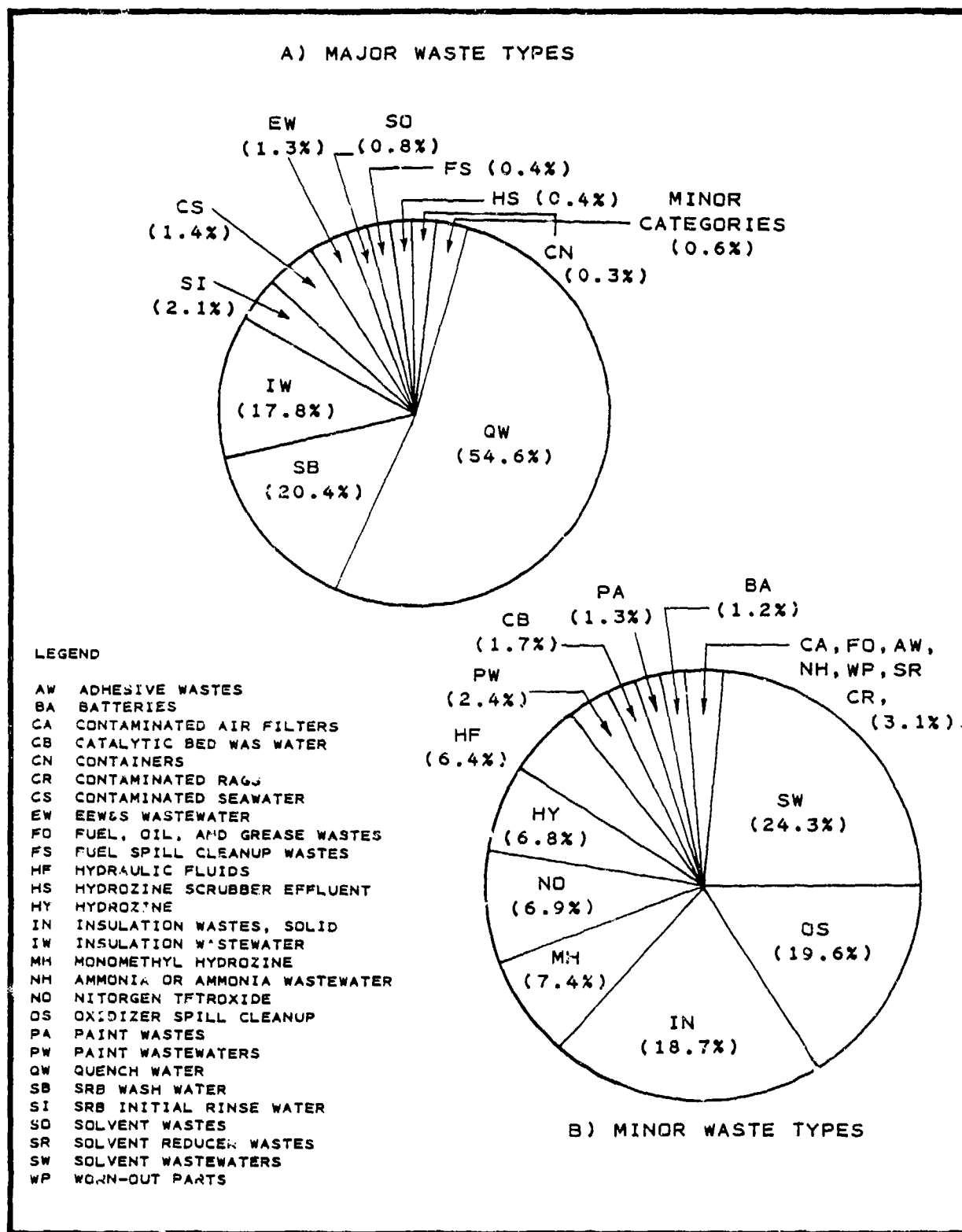
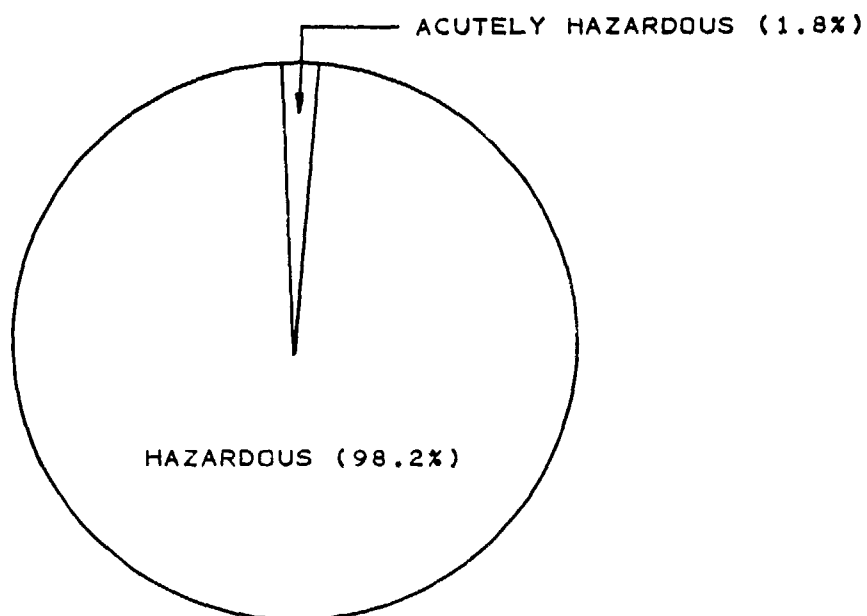
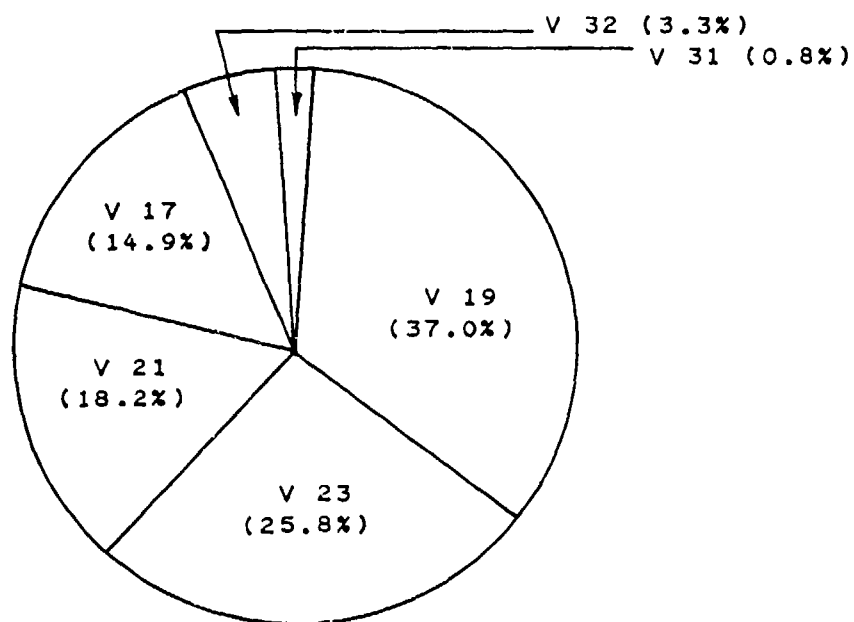


Figure 14. Hazardous waste generated under baseline conditions, by waste type.



A) PERCENT OF HAZARDOUS AND ACUTELY HAZARDOUS WASTES



B) ACUTELY HAZARDOUS WASTES BY STATION SET

Figure 15. Hazardous and acutely hazardous waste generation under baseline conditions.

waste will be Station Sets V19 (37.0 percent), V23 (25.8 percent), V21 (18.2 percent), and V17 (14.9 percent) (Figure 15b). The remaining 4.1 percent is expected to be generated by Station Sets V31 and V32 (3.3 and 0.8 percent, respectively) (Figure 15b). As shown in Figure 16, most of the hazardous wastes generated by Station Sets V17, V19 and V21 are expected to exhibit acutely hazardous properties.

Generation rates for hazardous and acutely hazardous wastes are provided in Tables 17 and 18. Total projected baseline quantities of hazardous and acutely hazardous waste per launch are 1.0 million kg (2.2 million lb) and 0.02 million kg (0.04 million lb), respectively (Table 14). Consequently, the projected cumulative generation of these wastes for the period 1985 through 1994 is expected to be 128 million kg (282 million lb) and 2.3 million kg (5.1 million lb), respectively (Table 18).

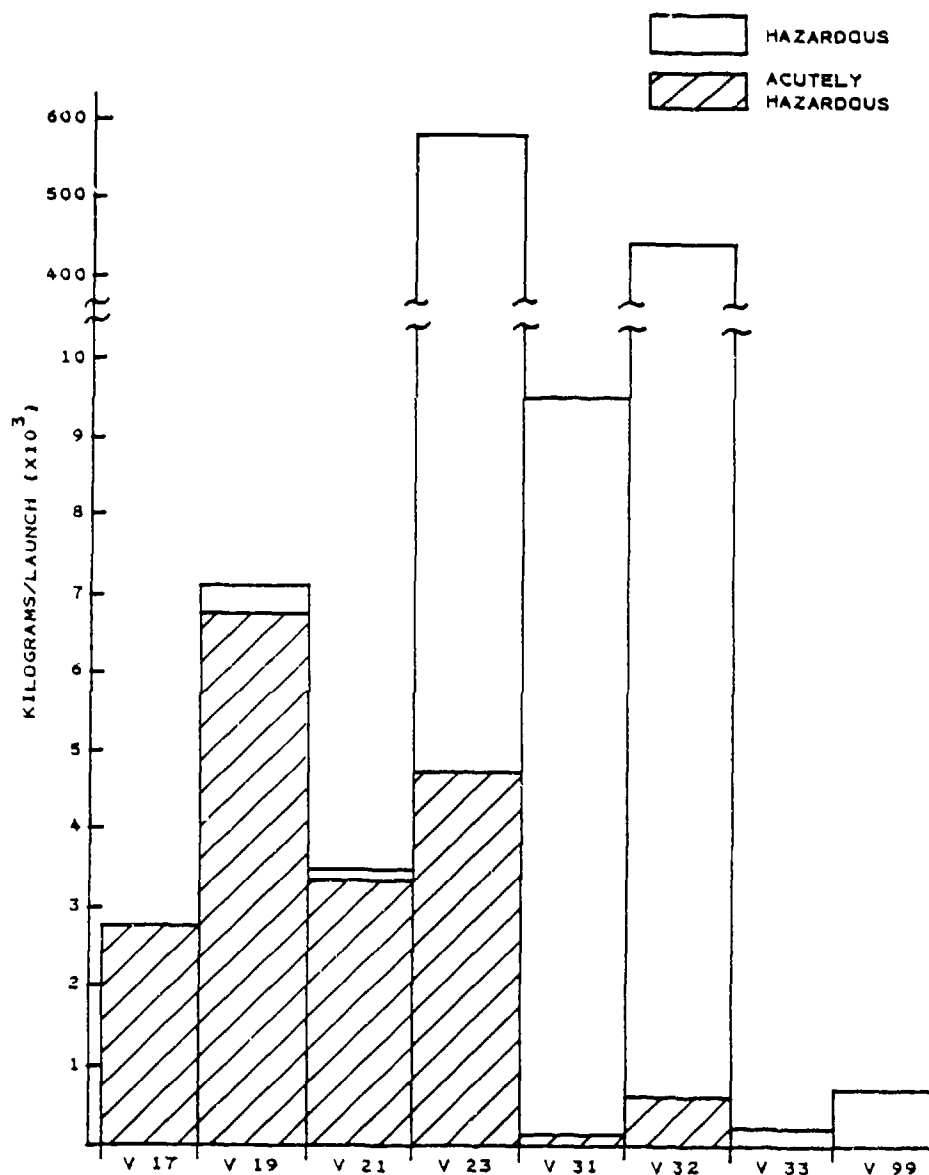


Figure 16. Comparison of hazardous and acutely hazardous waste generation under baseline conditions (reported by station set on a per launch basis).

TABLE 17. SUMMARY OF HAZARDOUS AND ACUTELY HAZARDOUS WASTE
GENERATION PER MONTH, 1985-1994.

	Per Launch		1985 Monthly		1986 Monthly		1987 Monthly		1988-1994 Monthly	
	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms	Pounds
Acutely Hazardous Wastes	18,333.3	40,418.3	6,111.1	13,472.8	9,166.7	20,219.7	15,777.8	31,681.9	77,916.7	50,522.9
Hazardous Wastes	1,021,637.3	2,252,336.7	340,545.7	750,778.7	510,818.6	1,126,166.1	851,165.7	1,876,947.9	1,777,047.1	7,815,421.6
TOTAL	1,039,970.6	2,292,755.0	346,656.8	764,251.5	519,985.3	1,146,177.5	866,942.5	1,910,629.8	1,799,963.8	7,865,944.5

TABLE 18. SUMMARY OF HAZARDOUS AND ACUTELY HAZARDOUS
WASTE GENERATION PER YEAR, 1985 - 1994

	1985		1986		1987		1988-1994 (per year)		Total for Project	
	<u>Kilograms</u>	<u>Pounds</u>	<u>Kilograms</u>	<u>Pounds</u>	<u>Kilograms</u>	<u>Pounds</u>	<u>Kilograms</u>	<u>Pounds</u>	<u>Kilograms</u>	<u>Pounds</u>
Acutely Hazardous Wastes	73,333.4	161,673.2	110,000.0	242,509.8	183,333.4	404,183.0	275,000.1	606,274.5	2,231,667.1	5,052,287.5
Hazardous Wastes	4,086,548.6	9,009,344.8	6,129,824.0	13,514,020.2	10,215,376.6	22,523,373.0	15,324,566.9	33,705,092.5	127,704,636.9	281,542,017.5
TOTAL	4,159,882.0	9,171,018.0	6,239,824.0	13,755,530.0	10,399,710.0	22,927,556.0	15,599,566.0	34,391,366.0	129,996,304.0	286,594,304.0

REFERENCES

1. Allaway, H. The Space Shuttle at Work. NASA SP-432. National Aeronautics and Space Administration, 1979.
2. Analysis of Deluge Water. USAF Hospital, Vandenberg Air Force Base, April 23, 1980.
3. Bioenvironmental Hazards Control Group Conference Minutes. Vandenberg Air Force Base, February 13-14, 1980.
4. Biomedical Problems Data Report (Preliminary). DOD STS Ground Support Systems Integration. VCR-76-030, Revision A. Martin Marietta Corporation, July 31, 1980.
5. California Environmental Technology. Comparison of Federal and California Hazardous Waste Regulations. Point Richmond, California, July 1980.
6. Environmental Impact Analysis Process: Reference Document to Environmental Impact Statement. Space Shuttle Program. Volume I. Department of the Air Force, August 1977.
7. Environmental Impact Analysis Process. Reference Document to Environmental Impact Statement. Space Shuttle Program. Volume II. Department of the Air Force, August 1977.
8. Environmental Impact Statement. Space Shuttle Program. National Aeronautics and Space Administration, 1978.
9. Ground Operations Plan. DOD STS. Ground Support Systems Integration. Martin Marietta Corporation, September 18, 1979.
10. Hawley, G. G. The Condensed Chemical Dictionary. 9th Edition. Van Nostrand Reinhold Company, New York, 1977.
11. Material Safety Data Sheet/EA934. Dexter Corporation, Hysol Division, Pittsburg, California.
12. Personal Communication, Dr. R. E. Bernberg, Aerospace Corporation, October 9, 1980.
13. Personal Communication, Dr. R. E. Bernberg, Aerospace Corporation, October 24, 1980.
14. Personal Communication, Orville Bradford, Rockwell International, October 30, 1980.
15. Personal Communication, John R. Edwards, Department of the Air Force, SD/DEV, Environmental Division, October 14, 1980.

REFERENCES (continued)

16. Personal Communication, Mack Ferguson, Department of the Air Force, SD/DEE, Environmental Division, October 9, 1980.
17. Personal Communication, Mack Ferguson, Department of the Air Force, SD/DEE, Environmental Division, October 9, 1980.
18. Personal Communication, Lee Freeman, Ralph Parsons Company, October 7, 1980.
19. Personal Communication, Ron Gillette, Cape Canaveral Air Force Base, November 7, 1980.
20. Personal Communication, Robert Larsh, Martin Marietta Corporation, October 30, 1980.
21. Personal Communication, Lt. David G. London, Cape Canaveral Air Force Base, November 7, 1980.
22. Personal Communication, Michael Walhood, Department of the Air Force, SD/DEE, Environmental Division, October 2, 1980.
23. Revised Inventory of Air Pollutant Emissions for Space Shuttle Construction and Operation at Vandenberg Air Force Base and Port Hueneme. Tetra Tech, Inc., January 1980.
24. Rustoleum Manufacturer's Information, October 1980.
25. Schehl, T. A., H. D. Bennett, C. J. Bryan, and C. W. Bright. Analysis of Surface Tris (2,3-Dibromopropyl) Phosphate on Chlorobutyl Rubber SCAPE Suits. NASA Technical Memorandum 79731. National Aeronautics and Space Administration, 1978.
26. Spectra Research Systems. Traffic and Safety Impact of STS Consumables Delivery at Vandenberg Air Force Base. SRS VUR79-101. Department of the Air Force, Space and Missile Test Center, VAFB, September 7, 1979.
27. Station Set Specification for VAFB V17, Landing Facility. SSS 1700A, April 21, 1978.
28. Station Set Specification for VAFB V18, Couple/Decouple Facility. SSS 1800A, April 21, 1978.
29. Station Set Specification for VAFB V19, Orbiter Maintenance and Checkout Facility. SSS 1900A, February 22, 1980.
30. Station Set Specification for VAFB V19A, Safing and Deservicing Facility. SSS 19A0, March 9, 1978.
31. Station Set Specification for VAFB V21, Hypergolic Maintenance and Checkout Facility. SSS 2100, June 1, 1978.

REFERENCES (continued)

32. Station Set Specification for VAFB V23, Launch Pad. SSS 2300A, July 7, 1978.
33. Station Set Specification for VAFB V27, Flight Crew Systems Facility. SSS 2700, June 2, 1978.
34. Station Set Specification for VAFB V28, Launch Control Center. SSS 2800, December 30, 1977.
35. Station Set Specification for VAFB V30, Parachute Refurbishment Facility. SSS 3000, June 11, 1978.
36. Station Set Specification for VAFB V31, Solid Rocket Booster Refurbishment and Subassembly. SSS 3100, February 10, 1978.
37. Station Set Specification for VAFB V32, Solid Rocket Booster Refurbishment and Subassembly Facility. SSS 3200, March 24, 1978.
38. Station Set Specification for VAFB V33, External Tank Processing and Storage Facility. SSS 3300, March 24, 1978.
39. Station Set Specification for VAFB V80, Transportation. SSS 8000A, February 1, 1977.
40. Station Set Specification for VAFB V84, Launch Processing System. SSS 8400, May 14, 1979.
41. Station Set Specification for VAFB V86, Utilities. SSS-86/86A, March 4, 1977.
42. Station Set Specification for VAFB V88, Logistics Support Facilities. SSS-8800, June 9, 1978.
43. Titan Liquid Booster Module for Space Performance Augmentation (SAMSO 333). Space and Missile Systems Organization. December 20, 1979.
44. U.S. Environmental Protection Agency. Questions and Answers on Hazardous Waste Regulations. SW-853. Office of Water and Waste Management, 1980.
45. U.S. Environmental Protection Agency. Environmental Regulation and Technology, the Electroplating Industry. EPA 251/1-80/001. Technology Transfer, 1980.
46. V2 Operations Emission Data. Supplemental Data Sheet No. 33. Leachout Toxics. Department of the Air Force, November 29, 1979.

APPENDIX A

HAZARDOUS WASTE GENERATION BY STS
GROUND OPERATIONS AT VAFB, LISTED
BY EPA HAZARDOUS WASTE NUMBER

APPENDIX A

The following tables were compiled to assist VAFB personnel in completing all pertinent EPA notification and application forms. Both tables are organized by EPA hazardous waste number, in much the same fashion as required by the Hazardous Waste Permit Application Form 3510-3. Estimated annual hazardous waste quantities are presented for each waste. These quantities are based on the numerical data available at the time that the information was developed. Those hazardous waste numbers described as "included with above" are components of the quantified waste number above; as components, they do not need to be quantified separately if the total mixed waste is quantified. Table A-1 further divides the wastes by station set. Table A-2 presents the hazardous waste numbers and annual quantities for the project as a whole.

TABLE A-1. EPA DESCRIPTION OF HAZARDOUS WASTE
(by Station Set)

Station Set	EPA Hazardous Waste No.	Quantity per Launch	Estimated Annual Quantity (kg)				Project Total
			1985	1986	1987	1988-1994 (per year)	
V 17	*D001						
	*P068	2,725.4	10,901.6	16,352.4	27,254.0	40,881.0	340,675.0
	*P080						
V 18	D001	4.3	17.2	25.8	43.0	64.5	537.5
V 19	*D000						
	U013 included with above						
	U092 included with above						
	D001	17.9	71.6	107.4	179.0	268.5	2,237.5
	F002 included with above						
	F003 included with above						
	F005 included with above						
	U159 included with above						
	D002	3,157.0	12,628.0	18,942.0	31,570.0	47,355.0	394,625.0
	P068 included with above						
	U133 included with above						
	D003	0.5	2.0	3.0	5.0	7.5	62.5
	F002 included with above						
	F017	27.4	109.6	164.4	274.0	411.0	3,425.0
	D001 included with above						
	D007 included with above						
	U159 included with above						
	U220 included with above						
V 21	P068	3,165.2	12,660.8	18,991.2	31,652.0	47,478.0	395,650.0
	P030	514.7	2,058.8	3,088.2	5,147.0	7,720.5	64,337.5
	*U080						
	U133	68.0	272.0	408.0	680.0	1,020.0	8,500.0
	U159	42.4	169.6	254.4	424.0	636.0	5,300.0
	D001	9.0	36.0	54.0	90.0	135.0	1,125.0
	D002	470.9	1,883.6	2,825.4	4,709.0	7,063.5	58,862.5
	P068 included with above						
	P068	2,725.4	10,901.6	16,352.4	27,254.0	40,881.0	340,675.0
	P080	139.1	556.4	834.6	1,391.0	2,086.5	17,387.5
	U159	42.4	169.6	254.4	424.0	636.0	5,300.0

TABLE A-1 (continued)

Station Set	EPA Hazardous Waste No.	Quantity per Launch	Estimated Annual Quantity (kg)				Project Total
			1985	1986	1987	1988-1994 (per year)	
V 23	D001	2,323.1	9,292.4	13,938.6	23,231.0	34,846.5	290,387.5
	D002	568,092.2	2,275,968.8	3,413,953.2	5,689,922.0	8,534,883.0	71,124,025.0
	P068	included with above					
	U133	included with above					
	*D003						
	P080	3,358.9	13,435.6	20,153.4	33,589.0	50,383.5	419,862.5
V 31	U133	1,015.7	4,062.8	6,094.2	10,157.0	15,235.5	126,962.5
	P080	3,236.3	12,945.2	19,417.8	32,363.0	48,544.5	404,537.5
	D001	2,506.1	10,024.4	15,036.6	25,061.0	37,591.5	313,262.5
	D003	included with above					
	F002	included with above					
	U013	included with above					
	U210	included with above					
	D002	37.6	150.4	225.6	376.0	564.0	4,700.0
	D007	153.8	615.2	922.8	1,538.0	2,307.0	19,225.0
	D002	included with above					
	P055	included with above					
	F001	4.5	18.0	27.0	45.0	67.5	562.5
	F002	3,973.6	15,894.4	23,841.6	39,736.0	59,604.0	496,720.0
	F005	552.5	2,210.0	3,315.0	5,525.0	8,287.5	69,062.5
	F017	1,272.0	5,088.0	7,632.0	12,720.0	19,080.0	159,000.0
	D001	included with above					
	D003	included with above					
	D007	included with above					
	F002	included with above					
	F003	included with above					
	F005	included with above					
	U210	included with above					
	U133	109.5	438.0	657.0	1,095.0	1,642.5	13,687.5
	U159	529.8	2,119.2	3,178.8	5,298.0	7,917.0	66,225.0
	U210	0.6	2.4	3.6	6.0	9.0	75.0
	D001	included with above					
	F002	included with above					

TABLE A-1 (continued)

Station Set	EPA Hazardous Waste No.	Quantity per Launch	Estimated Annual Quantity (kg)				Project Total
			1985	1986	1987	1988-1994 (per year)	
V 32	D001	740.8	2,963.2	4,444.8	7,408.0	11,112.0	92,600.0
	D002	included with above					
	D002	323.5	1,294.0	1,941.0	3,235.0	4,852.5	40,437.5
	U133	included with above					
	D003						
	D011	40.8	163.2	244.3	408.0	612.0	5,100.0
V 33	P068	605.6	2,422.4	3,633.6	6,056.0	9,084.0	75,700.0
	U133	41.0	164.0	246.0	410.0	615.0	5,125.0
	D001	193.7	774.8	1,162.2	1,937.0	2,905.5	24,212.5
	D001	345.8	1,383.2	2,074.8	3,458.0	5,187.0	43,225.0
V 99	U229	included with above					
	U239	included with above					
	D003	128.3	513.2	769.8	1,283.0	1,924.5	16,037.5
	D001	included with above					
	U102	included with above					
	U160	included with above					
	U229	included with above					
	F002	0.2	0.8	1.2	2.0	3.0	25.0
	F005	81.0	324.0	486.0	810.0	1,215.0	10,125.0
	F017	0.1	0.4	0.6	1.0	1.5	12.5
	D001	included with above					
	D007	included with above					
	F003	included with above					
	U057	included with above					
	U159	included with above					
	U161	included with above					
	U220	included with above					
	U239	included with above					
	U159	101.1	404.4	606.6	1,011.0	1,516.5	12,637.5
	U057	included with above					
Other	F002	2,376.8	9,507.2	14,260.8	23,768.0	35,652.0	297,100.0

* Data not presently available.

TABLE A-2. EPA DESCRIPTION OF HAZARDOUS WASTE
(Overall)

EPA Hazardous Waste No.	Quantity per Launch	Estimated Annual Quantity (kg)				1988-1994 (per year)	Project Total
		1985	1986	1987			
*D000							
U013 included with above							
U092 included with above							
D001	6,140.7	24,562.8	36,844.2	61,407.0	92,110.5	767,587.5	
D002 included with above							
D003 included with above							
F002 included with above							
F003 included with above							
F005 included with above							
U013 included with above							
U159 included with above							
U210 included with above							
U229 included with above							
U239 included with above							
D002	572,981.2	2,291,924.8	3,437,887.2	5,729,812.0	8,594,718.0	71,622,650.0	
P058 included with above							
U133 included with above							
D003	128.8	515.2	772.8	1,288.0	1,932.0	16,100.0	
D001 included with above							
F002 included with above							
U102 included with above							
U160 included with above							
U229 included with above							
D007	153.8	615.2	922.8	1,538.0	2,307.0	19,225.0	
D002 included with above							
P055 included with above							

TABLE A-2 (continued)

EPA Hazardous Waste No.	Quantity per Launch	Estimated Annual Quantity (kg)			1988-1994 (per year)	Project Total
		1985	1986	1987		
D011	40.8	163.2	244.8	408.0	612.0	5,100.0
F001	4.5	18.0	27.0	45.0	67.5	562.5
F002	6,350.6	25,402.4	38,103.6	63,506.0	95,259.0	793,825.0
F005	633.5	2,534.0	3,801.0	6,335.0	9,502.5	79,187.5
F017	1,299.5	5,198.0	7,797.0	12,995.0	19,492.5	162,437.5
D001 included with above						
D003 included with above						
D007 included with above						
F002 included with above						
F003 included with above						
F005 included with above						
U057 included with above						
U159 included with above						
U161 included with above						
U210 included with above						
U220 included with above						
U239 included with above						
P068	12,580.5	50,322.0	75,483.0	125,805.0	188,707.5	1,572,562.5
P080	1,669.5	6,678.0	10,017.0	16,695.0	25,042.5	208,687.5
*U080						
U133	3,454.8	13,819.2	20,728.8	34,548.0	51,822.0	431,850.0
U159	715.7	2,862.8	4,294.2	7,157.0	10,735.5	89,462.5
U057 included with above						
U210	0.6	2.4	3.6	6.0	9.0	75.0

* Data not presently available.

GLOSSARY

ADDI	Additives
AFB	Air Force Base
Ag	Silver
Al	Aluminum
APPL	Application
APS	Aft propulsion system
APU	Auxiliary power unit
ARCS	Aft reaction control subsystem
AUX	Auxiliary
BGE	Butyl glycidyl ether
C	Corrosive
CAT	Category
CC	Cubic centimeters
CF	Cubic feet
CFM	Cubic feet per minute
CLNP	Cleanup
CM	Centimeters
CMP	Corrugated metal pipe
CMPNTS	Components
CO ₂	Carbon dioxide
COMP	Compatibility
Cr	Chromium
Cu	Copper
CY	Cubic yards
DOT	Department of Transportation
E	EP toxic
EEW&S	Emergency eyewash and shower
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ET	External tank
F	Flammable
FRCS	Forward reaction control system
Ft ²	Square feet

GLOSSARY (continued)

Ft ³	Cubic feet
FWD	Forward
Gal	Gallons
GH ₂	Gaseous hydrogen
GHe	Gaseous helium
GN ₂	Gaseous nitrogen
GO ₂	Gaseous oxygen
GPM	Gallons per minute
H	EPA acutely hazardous
H ₂ O	Water
H ₂ O ₂	Peroxide
Ha	Hectares
He	Helium
HP	Horsepower
HYD	Hydrazine
Hz	Hertz
i	Ignitable
I	Irritant
IPA	Isopropyl alcohol
ISP	Instant set polymer
IW	Insulation wastewater (suprawater)
KSC	Kennedy Space Center
kV	Kilovolts
kVA	Kilovoltampere
kW	Kilowatt
L	Liters
LAPS	Left aft propulsion system
LBM	Liquid boost module
Lbs	Pounds
LH ₂	Liquid hydrogen
LIQ	Liquid
LN ₂	Liquid nitrogen
LO ₂	Liquid oxygen

GLOSSARY (continued)

LP	Launch pad
M	Meter
M ²	Square meters
M ³	Cubic meters
MDA	Methylene dianiline
MDI	Diphenyl methane diisocyanate
MECl	Methylene chloride
MEK	Methyl ethyl ketone
Mg	Magnesium
MMH	Monomethylhydrazine
mPDA	meta-Phenylene diamine
MSA	Marshall Sprayable Ablative
MTA	Marshall Trowlable Ablative
N/A	Not applicable
N ₂	Nitrogen
N ₂ H ₄	Anhydrous hydrazine
N ₂ O ₄	Nitrogen tetroxide
NaOH	Sodium hydroxide
ND	No data
Neg	Negligible
NH ₃	Ammonia
NVAFB	North Vandenberg Air Force Base
O&M	Operation and Maintenance
O ₂	Oxygen
OPNS	Operations
ORB	Orbiter
ORD	Ordnance
OXID	Oxidizer
P	Pressure generating
Pb	Lead
PBK	Payload bay kit
PCB	Polychlorinated biphenyl
PCR	Payload changeout room

GLOSSARY (continued)

PERC	Perchloroethylene
PH	Port Hueneme
POTW	Publicly owned treatment works
PPM	Parts per million
PPR	Payload preparation room
PRG	Purge
PRO1	Protective or protection
PSI	Pounds per square inch
PVC	Polyvinylchloride
QW	Quench water
R	Reactive
RAPS	Right aft propulsion system
RCRA	Resource Conservation and Recovery Act
RSV	Remote service vehicle
RTN	Routine
RV	Retrieval vessel
S	Strong sensitizer
S&A	Safe and arm
SCAPE	Self-contained atmospheric protective ensemble
SEG	Segment
SF	Square feet
SKT	Skirt
SOFI	Spray-on foam insulation
SOL	Solid
SPL	Spill(s)
SRB	Solid rocket booster
SRM	Solid rocket motor
SS	Station set
SSS	Station set specification
STA	Station
STS	Space transportation system
SVAFB	South Vandenberg Air Force Base
T	Toxic

GLOSSARY (continued)

TCE	1,1,1-trichloroethane
TP	Thrust post
TPH	Tons per hour
TPS	Thermal Protection System
TRT	Treatment
TVC	Thrust vector control
UDMH	Unsymmetrical dimethylhydrazine
VAFB	Vandenberg Air Force Base
Zn	Zinc

CATEGORY CODES

AL	Alkaline cleaning solutions
AW	Adhesive wastes, nonaqueous
BA	Batteries
BW	Bilge wastes
CA	Contaminated air filters
CB	Catalytic bed wash water
CC	Contaminated clothing
CN	Containers
CR	Contaminated rags
CS	Contaminated seawater
CW	Forward skirt cleaning wastes
EW	EEW&S wastewater
FO	Fuel, oil and grease spills and wastes
FS	Fuel spill cleanup
HF	Hydraulic fluids
HS	Hydrazine scrubber effluent
HY	Hydrazine
IN	Insulation wastes, solid
IW	Insulation wastewater (suprawater)
MH	Monomethylhydrazine
NH	Ammonia (NH_3), or water with ammonia
NO	Nitrogen tetroxide (N_2O_4)
OR	Ordnance
OS	Oxidizer spill cleanup
PA	Paint wastes, nonaqueous
PR	Preservative wastes, nonaqueous

CATEGORY CODES (continued)

PS	Propellants, solid
PW	Painting wastewater
QW	Quench water
SB	SRB wash water
SI	SRB initial rinse
SO	Solvent wastes, nonaqueous
SR	Solvent reducer wastes
SW	Solvent wastewater
WP	Worn-out parts
WS	Wastewater treatment sludges