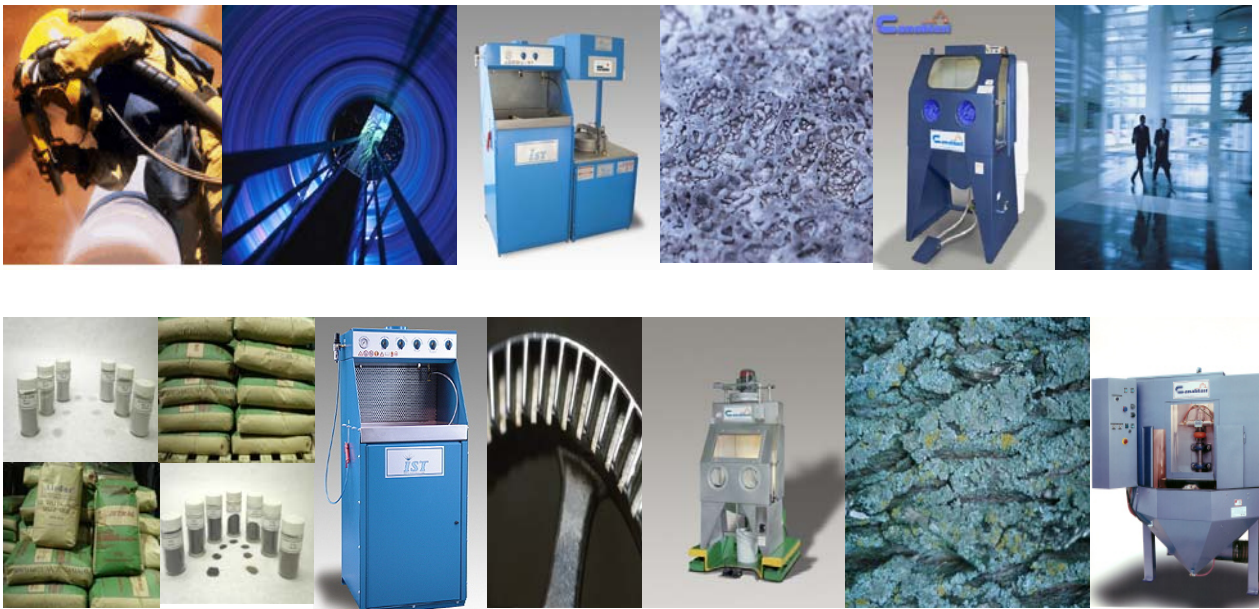




NORTH AMERICAN WASTE MINIMIZATION - 2005



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*** ELIMATE YOUR WASTE HAULER:**

*** ELIMINATE 90-95% OF YOUR HAZARDOUS WASTE:**

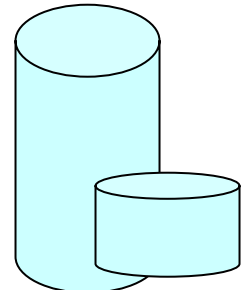
Waste materials generated from solvents used in maintenance procedures are generally recoverable, and may be used many times over. The largest loss of materials is due to evaporation, spillage and pilferage. Disposal and purchase volumes have a distinct relationship. The following is typical:

Waste materials are generally disposed in drums of 55 gallon capacity. Some materials will be disposed in container with a capacity of 5 or 15 gallons. ALL containers must be properly labelled, and characteristically classified.

Solvents used for cleaning or production purposes, can be recovered and reused. A portion of this material is not recoverable, due to normal attrition and loss.

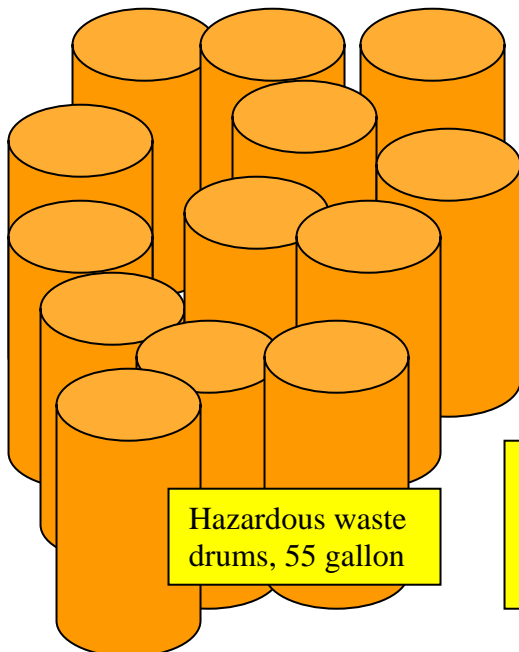
Typically, the generator will purchase between 1.2 gallons to 1.4 gallons of new materials for every 1.0 gallon of waste. (Disposed).

The balance of the materials will be lost thru normal applications, evaporation, etc.



New materials purchases: typically will range between 1.2 / 1.4 gallons of new materials to 1.0 gallons of waste materials.

WASTE REDUCTIONS: The proposed program will reduce waste materials by 90 to 95 percent, and will also reduce materials purchases by a similar percentage: These statistics are based on data base averages collected over a 5 year period, using approximately 100 system installations as the data base:



Hazardous waste drums, 55 gallon

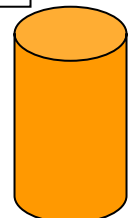
Waste materials generated from painting operations, dry cleaning establishments, printing and flexography, composite materials fabricators, and many other business entities, produce hazardous waste as a by-product of the cleaning and maintenance processes associated with the business.

This waste must be processed and disposed of in accordance with strict regulations as defined by the EPA.

ALL regulated waste materials must be transported by a licensed waste hauler, and must be delivered to "certified disposal or treatment facility"

TYPICAL WASTE REDUCTION, BASED ON ADITED AVERAGES:

*** 14 to 1 ***



EACH DRUM OF WASTE HAS A VALUE OF \$531.25

(Pricing information: Waste disposal @ 2.05 per gallon, Virgin materials @ 3.75 per gallon, EPA fee per manifest @ 6.00)

*** HAZARDOUS WASTE:**

*** CRADLE TO THE GRAVE WASTE LIABILITY:**



CRADLE TO THE GRAVE WASTE LIABILITY:
Improper waste disposal practices, spill problems, soil, water, and air contamination of the environment, all remain the responsibility of the generator.

There is no indemnity from the hauler, disposal site, insurance company, or any other entity.

The law is very clear, and is enforced.

THE GENERATOR IS RESPONSIBLE FOR ANY AND ALL FUTURE WASTE LIABILITY.

The waste disposal process must follow a complicated set of regulations. Failure to comply with these regulations will result in significant punitive action, taken against the waste generator.

All waste generated by a specific generator includes a **CRADLE TO GRAVE WASTE DISPOSAL LIABILITY**, from which there is no indemnity. As the statement implies, the liability for improper waste disposal of these materials is the responsibility of the waste generator, ***forever.***

REGULATORY REQUIREMENTS: These vary by each generator, and are dependant on the amount and type of waste each generator produces. The waste volumes are monitored on a monthly basis, and annualized for enforcement or investigative purposes.

It is the responsibly of the generator to review, and understand all regulations, and to develop, and apply all of the necessary procedures required to adhere to all the regulations to which the generator may be required to follow.

REGULATORY AGENCIES: The regulations are codified by federal regulation/law, adopted and modified by state/local agencies and administered accordingly. Federal regulations are administered by the **EPA**.

State enforcement is administered by the **DEQ**.
Local agencies may also pass regulatory standards to which the generator must comply.

The ***de minimums standard*** is the federal regulation.

EACH DRUM OF WASTE HAS A VALUE OF \$531.25

(Pricing information: Waste disposal @ 2.05 per gallon, Virgin materials @ 3.75 per gallon, EPA fee per manifest @ 6.00)

*** DEQ/EPA WASTE GENERATOR CLASSIFICATIONS:**

*** CONDITIONALLY EXEMPT STATUS/BENEFITS:**

DEQ/EPA REGULATIONS define and classify hazardous waste generators in accordance with the amount of waste disposed in any calendar month. Currently there are three (3) classifications of waste generator:

<p>LARGE QUANTITY GENERATOR : >LQG< Monthly: Generates <u>more</u> than <u>1000kg / 2200lbs</u> of hazardous waste per month. This volume equals <u>250 gallons</u> of liquid waste per month.</p>	<p>HIGHLY REGULATED: Includes: <u>Annual agency audits</u>, <u>annual service fees</u>, heavy documentation, and very structured rules, regulations.</p>
<p>SMALL QUANTITY GENERATOR: >SQG< Monthly: Generates <u>more</u> than <u>100kg / 220lbs</u> of hazardous waste per month. This volume equals <u>25 gallons</u> of liquid waste per month.</p>	<p>STRONGLY REGULATED: Includes: <u>Agency audits (Bi-annual)</u>, <u>annual service fees</u>, documentation, and very structured rules, regulations.</p>
<p>CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR: >CESQG< Monthly: Generates <u>less</u> than <u>100kg / 220lbs</u> of hazardous waste per month. This volume equals <u>250 gallons</u> of liquid waste per month.</p>	<p style="text-align: center;">VITUALLY UNREGULATED</p>

CONDITIONALLY EXEMPT SMALL QUANTITY GENERATORS: (Esq.'s) ARE EXEMPT FROM MOST OF THE REGULATIONS AS DEFINED BY THE EPA:

SUMMARY OF DEQ/EPA REGULATIONS, LISTED BY GENERATOR STATUS:
 The following table has been reproduced, from the Federal Register (CFR), and defines the current regulations as applicable to hazardous waste generators.

<p>Note: The generator is responsible to develop, implement and maintain all written safety and compliance material and procedures as required under current law. The generator must also train all employees, annually, and must document all training.</p>	<p><u>EPA REGULATION:</u> Waste analysis: Notify agency: USDOT packaging/labelling: Manifest for transit: Land band Notification: Accumulation time/days: Container requirements: Tank (storage) requirements: Inspection, tanks, containers: Secondary containment, dinking: Contingency plan (spills): Personnel training; Hazmat: Biennial/annual reports:</p>	<p>>LQG< YES YES YES YES YES 90 YES (*) YES YES (*) YES YES (*) YES (*) YES</p>	<p>>SQG< YES YES YES YES YES 180 (3) YES (*) YES (*) YES (**) NO (1) YES (**) YES (**) YES</p>	<p>>CESQG< YES NO (1, 2) YES NO (2) NO NONE NO NO NO NO NO NO NO</p>
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Foot notes:

Items with (*) or (**) have significant additional regulations for generator implementation;

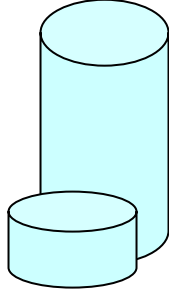
- 1) Required if waste exceeds 1000kg;
- 2) Applies to liquid waste only, ref ACT 451, part 121, et. al;
- 3) May be extended to 270 days, if distance to disposal site exceeds 200 miles.

*** ELIMINATE YOUR WASTE HAULER:**

• REDUCE MATERIALS PURCHASES BY 80-85%:

Solvents used in maintenance procedures are generally recoverable, and may be used many times over. The largest loss of materials is due to evaporation, spillage and pilferage. Disposal and purchase volumes have a distinct relationship. The following is typical:

New materials purchases: typically will range between 1, 2 / 1, 4 gallons of new materials to 1, 0 gallons of waste materials.



With the implementation of the proposed waste minimization program, any business that uses solvent materials in their operations process can reduce their purchase expense dramatically.

- *-Automobile painting and repair
- *-Dry cleaning operations
- *-Fiberglas fabricators
- *-Furniture manufacturers
- *-Manufacturing, tool and die facilities
- *-Printing and photo processing companies
- *-Vehicle and machine fabricators



**55 GALLON DRUMS,
HAZARDOUS WASTE**

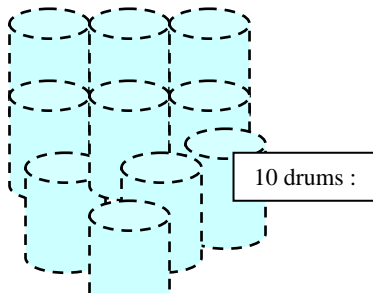
Solvents used for cleaning or production purposes, can be recovered and reused. A portion of this material is not recoverable, due to normal attrition and loss. The recovery ratio is typically in the 90% range, for most materials.

PARTIAL LISTING OF MATERIALS WHICH MAY BE RECOVERED:

ACETONE, ALCOHOL BUTYL, BENZENE, ETHYL ACETATE, ISOPROPYL ACCETATE, LACQUER SOLVENTS, METHYL ACETATE, METHEL ETHEL KETONE (MEK), (MIBK), N, PROPYL ALCOHOL, TOLUOL, TOLUENE, WHITE SPIRITS, XYLEN.

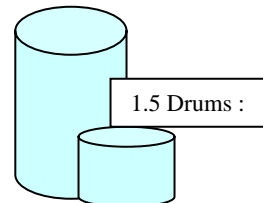
The above list focuses on hazardous chemicals, with low flash points. The waste minimization program also allows for waste reduction and recovery of a wide range of non-flammable materials/chemicals.

WITH THE IMPLEMENTATION OF THE PROPOSED WASTE MINIMIZATION PROGRAM. MATERIALS PUCHASED WILL BE GREATLY REDUCED. THE RESULT WILL BE SIGNIFICANT DOLLAR SAVINGS FROM DAY ONE.



10 drums :

MATERIAL NOT PURCHASED



1.5 Drums :

Purchased materials will be reduced by an average of 85% (average audited results of programs in force)

*** EXPENSE REDUCTION, CASH FLOW CHANGES:**

*** FINANCIAL OVERVIEW WASTE MINIMIZATION:**

FINANCIAL CONSIDERATIONS:

Waste materials generated thru normal business operations must be disposed of thru a licensed waste hauler, and delivered to an appropriate end disposal facility. The related costs of disposal are paid by the generator.

In addition, the materials from which the waste materials were generated have a purchase expense, which adds to the total equation.

Traditionally, these costs are absorbed and passed on to the end customer or client, in the form of increased product or service cost.

Unfortunately, there is no method of passing on the "CRADLE TO GRAVE" liability derived from these materials. This remains the responsibility of the waste generator.

WASTE GENERATION EXPENSE OVERVIEW:

Traditional waste processing includes the purchase and disposal of materials necessary for the business to function. In the example we are using an Automotive Body Shop and their waste disposal in averaging 1.0 drum (55 gallons) per month.

The waste is properly disposed thru a licensed waste hauler, at a reasonable rate, and the materials purchased are procured at the "most favourable pricing" available to the generator.

Waste disposal 1.0 drums per month; Material purchases at a ratio of 1.4 to 1.0 (gallons).
(Note: purchase ratio of 1.2 to 1.0 was used to be conservative)

<u>TYPICAL COST:</u>	<u>MONTHLY:</u>	<u>YEAR:</u>	<u>5 YEARS:</u>
1.0 DRUM, Disposed, waste materials, 55 gallon	112.75	1353.00	6765.00
1.2 DRUM, Purchased, virgin materials, 66 gallons:	247.50	2970.00	17820.00
EPA/MDEQ, Annual fees, Small Quantity Generator:		100.00	500.00
EPA/MDEQ, Manifest fees, 6.00 per manifest:	6.00	72.00	360.00
TYPICAL EXPENSE:	366.25	4495.00	22475.00

The above cost are stated in "constant dollars" and do not consider inflation.

The following costs should also be considered:

- Added cost of insurance for storage of hazardous waste on premises;
- Cost of floor space for storage;
- Internal waste handling <labour> costs;
- House keeping problems associated with waste;

(Pricing information: Waste disposal @ 2.05 per gallon, Virgin materials @ 3.75 per gallon)

*** EXPENSE REDUCTION, CASH FLOW CHANGES:**

*** FINANCIAL OVERVIEW WASTE MINIMIZATION:**

WASTE MINIMIZATION PROGRAM COST REDUCTION:

Concurrent with the implementation of the proposed WASTE MINIMIZATION PROGRAM, a reduction in waste related expenses, (disposal and purchases) will be IMMEDIATELY realized.

Based upon audited averages of over 100 programs in force, the following cost and waste reduction are typical:

Waste reduction (expense) of 90% has been applied to the example. The last audit defined waste reduction at 94% average. Purchase reduction stated at 85%. Last audit average defined reduction ratio at 87%.

<u>TYPICAL SAVINGS:</u>		<u>MONTH:</u>	<u>YEAR</u>	<u>5 YEAR:</u>
Waste disposal, fees reduced by 90%,	112.75 (x) .10=	11.28	135.36	1624.32
Purchase expense reduced by 85%,	247.50 (x) .15=	37.13	445.56	3337.80
EPA-MDEQ, Annual fees: Small Quantity Generator:		0.00	0.00	0.00
EPA-MDEQ, Manifest fees, 6.00 per manifest:		0.00	0.00	0.00
<u>TYPICAL COSTS AFTER PROGRAM IMPLEMENTATION:</u>		48.41	580.92	2904.60

SUMMARY AND COMPARISON

DISPOSAL COST AND WASTE MINIMIZATION PROGRAM SAVINGS:

<u>WASTE DISPOSAL EXPENSE, PRIOR TO PROGRAM:</u>	366.25	4495.00	22475.00
<u>TYPICAL COSTS AFTER PROGRAM IMPLEMENTATION:</u>	48.41	580.92	2904.60

<u>NET DOLLAR SAVINGS, CONSTANT DOLLARS:</u>	317.84	3914.08	19570.40
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EXECUTIVE SUMMARY :

The proposed WASTE MINIMIZATION PROGRAM is a proven method of reducing hazardous waste and the same time reducing related disposal and material purchase expense.

In addition, a major portion of the "CRADLE TO GRAVE" waste liability has been eliminated.

*** WASTE MINIMIZATION, PROGRAM OVERVIEW:**

*** PROGRAM COMPONENTS AND DOCUMENTATION:**

WASTE MINIMIZATION PROGRAM:

The basic **WASTE MINIMIZATION PROGRAM** includes a formalized approach to waste management, waste reduction, and cost savings. The program incorporates the defined **MDEQ-EPA-OSHA** regulatory requirements, into a simple, straightforward and documented format.

PROGRAM GOAL :

The specified and basic goal of the program is to allow hazardous waste generators the ability and venue to attain a waste status as defined for:

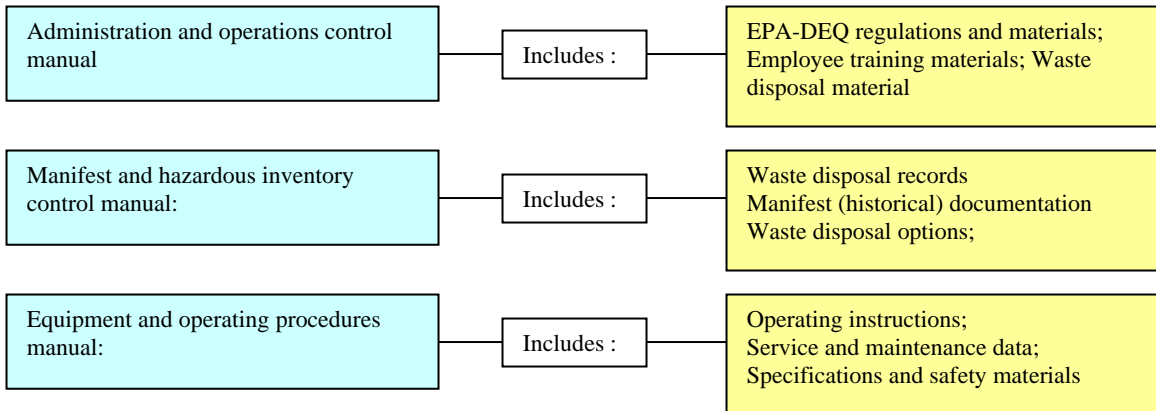
CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (CESQG)

PROGRAM COMPONENTS:

Each program is custom configured to the needs of the client, and addresses the issues necessary to achieve **CESQG** status. Components include the following:

- Formal documentation, resource data;
- Employee orientation and training;
- Formal audit procedures as required by the **MDEQ-EPA**;
- Selected equipment, recycling systems, paint gun and parts washings systems;
- Audit materials required to corroborate attainment of **CESQG** status;
- Processing and filling of necessary notification documentation with the **MDEQ-EPA**;

FORMAL DOCUMENTATION INCLUDES THE FOLLOWING:



*** WASTE MINIMIZATION, PROGRAM OVERVIEW:**

*** PROGRAM COMPONENTS AND DOCUMENTATION:**

EMPLOYEE TRAINING:

Each custom configured program includes on-site employee training and staff orientation.

Employee training consists of an introductory session, (unusually including lunch), and includes a review of the related regulatory issues, **EPA/MDEQ** requirements, waste processing procedures and systems (equipment) operation.

All employees will be presented with a copy of the “new procedure materials”, and will be required to sign an acknowledgement of attendance, which will be retained for future reference.

All system “equipment” and “processes” will be functional after the initial training session.

Follow up training is provided as required, and is also provided on site. Periodic visits to the customer facility will be completed during the “audit process” which is described in the next section.

AUDIT PROCESS AND TRAINING FOLLOW UP:

The audit process and follow up training are provided simultaneously, during the initial phases of the program. The program includes (requires) certain audits, in order to qualify as a **CESQG**.

EPA BASE LINE AUDIT: Substantiates base line waste in gallons, to establish a “from” point.

COUNT ONCE AUDIT: Defines waste sources and volumes on a daily basis

30-60-90-180 DAY AUDIT: Monitors waste volumes over a specific time period.

TYPICAL TRAINING AND AUDIT SCHEDULE:

DAY 01:	INITIAL ORIENTATION, TRAINING AND PROGRAM START UP	2-3 HOURS
DAY 02:	OPERATIONS FOLLOW UP	1 HOUR
DAY 07:	WASTE BASE LINE ESTABLISHED	1 HOUR
DAY 14:	OPERATIONS FOLLOW UP	1 HOUR
DAY 30:	WASTE AUDIT, LOG REVIEW	1 HOUR
DAY 60:	WASTE AUDIT, LOG REVIEW	1 HOUR
DAY 120:	WASTE AUDIT, LOG REVIEW	1 HOUR

ON THIS DATE, ALL LEGACY WASTE WILL BE SHIPPED FROM THE PREMISES.

DAY 180 – AUDIT COMPLETED: RECORDS REVIEWED, MATERIALS AND TCLP DATA PROCESSED, FORMS FILED WITH **MDEQ/EPA**: STATUS DEFINED **CESQG**

*** WASTE MINIMIZATION, PROGRAM OVERVIEW:**

*** PROGRAM COMPONENTS AND DOCUMENTATION:**

WASTE MINIMIZATION PROGRAM:

EQUIPMENT AND SPECIAL MATERIALS

Waste reduction results, and waste management controls are accomplished thru the utilization of formal waste handling procedures (technique), or these of special equipment and hardware.

Recycling systems, paint gun washers, parts washers, and other waste management equipment may become part of the overall program and waste minimization solution.

The program is not sensitive to any special brand of equipment/hardware, and in some cases will use, convert or implement the clients "existing equipment".

All recommended or required equipment is certified to meet all electrical codes for safe operation in the applied location or environment.

Paint gun washers, parts cleaners, and other equipment meet or exceed regulatory safety standards for use in the intended environments.

Solvent recyclers are certified explosion proof for use in Class One, Division I Hazardous Environments, and will bear the appropriate "mark" and documentation or certification.

The "mark" includes: **ETL or CSA or UL**, as appropriate.

Solvent recyclers are configured in 7.5 gallon, 15 gallon and 30 gallon capacities, with larger units available to custom fabrication. Units are also available with Vacuum assisted recovery systems, to decrease recovery time and increase the range of materials which can be recovered...

A listing of recoverable materials is available on request.

EQUIPMENT AND SPECIAL MATERIALS

Equipment proposed to support the "program" will be fully defined in the final proposal and will include cost of materials, installation requirements and approximate cost, and delivery lead time on equipment.

FINANCIAL OPTIONS:

Options included outright purchase, lease to own and other special arrangements. Lease packages may be configured with zero up front cost, and \$1.00 ownership buyout.

IRS SUPPORT:

Under 179, of the IRS code, the entire COST of this program is subject to a total dollar tax CREDIT. *The credit may total up to 100 PER CENT OF THE INVESTMENT COSTS, and the credit may be applied in the year which the program was implemented.*

*** WASTE MINIMIZATION, PROGRAM OVERVIEW:**

*** PROGRAM BENEFITS, START UP:**

SUMMARY OF PROGRAM BENEFITS:

The described program has been successfully installed in several hundred FORMER hazardous waste generator business locations. Our oldest location dates back to 1997, and is still operational, producing very little waste.

BENEFITS INCLUDE:

SIGNIFICANTLY REDUCE WASTE

MAJOR REDUCTION IN WASTE RELATED EXPENSE

MAJOR SAVINGS IN REDUCED MATERIALS PURCHASES

GREATLY IMPROVED HOUSEKEEPING

REDUCED FIRE AND SPILL HAZARDS

AND, YOU WILL ATTAIN THE STATUS OF:

CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR >CESQG<

AS FAR AS THE EPA/MDEQ IS CONCERNED, YOU WILL BECOME VIRTUALLY NON EXISTENT AND SUBJECTED TO EXTREMELY REDUCED REGULATIONS.

OTHER PROGRAMS AVAILABLE:

ROI and COST ANALYSIS: PAINT APPLICATION SYSTEMS, DISPOSABLE LINERS

OSHA-MIOSHA SAFETY INSPECTIONS AND PROGRAMS

EPA/MDEQ FACILITIES AUDIT

*** WASTE MINIMIZATION, PROGRAM OVERVIEW:**

*** PROGRAM BENEFITS, START UP:**

Getting started:

Initially, it is desirable to review your existing waste practices and history. This can be done by reviewing your waste manifests and visiting your facility.

A short questionnaire will allow for the gathering of specific information, which will be used to prepare a proposal, ROI, project analysis.

Once received, a confidential report will be presented for your review, and will include accurate projections of cost and waste reductions, based on audited results of similar client installations.

ITEMS NECESSARY TO COMPLETE A

RETURN ON INVESTMENT ANALYSIS:

The analysis will be returned in the form of a confidential report/proposal, addressed to the employee identified or owner.

- SITE VISIT, REVIEW OF FACILITY:
- ROI QUESTIONNAIRE, AS APPROPRIATE FOR BUSINESS/ENTITY:

Or the following Minimal information:

- 6 MONTH WASTE HISTORY, OR COPY OF LAST MANIFEST W/EPA (I.D.) NUMBER
 - NAME OF PAINT MATERIALS SUPPLIER
 - TYPE/BRAND OF SOLVENT USED
 - NUMBER OF RO's PER MONTH
- FOR USERS OF DISPOSAL CUP LINERS, INCLUDE THE FOLLOWING
- NUMBER OF RO's (MONTH) AND NAME OF CUP LINER SUPPLIER
 - NAME OF WASTE HAULER FOR LINER CUPS