

CONTINGENCY PLAN FOR EMERGENCY INCIDENTS

for

THE CENTRAL LANDFILL

and

RELATED FACILITIES

for

CITRUS COUNTY, FLORIDA

DEPARTMENT OF PUBLIC WORKS

DIVISION OF SOLID WASTE MANAGEMENT

**P.O. Box 340
Lecanto, Florida 34460
(352) 746-5000**

June, 1996

D.E.P.

OCT - 9 1996

**SOUTHWEST DISTRICT
TAMPA**

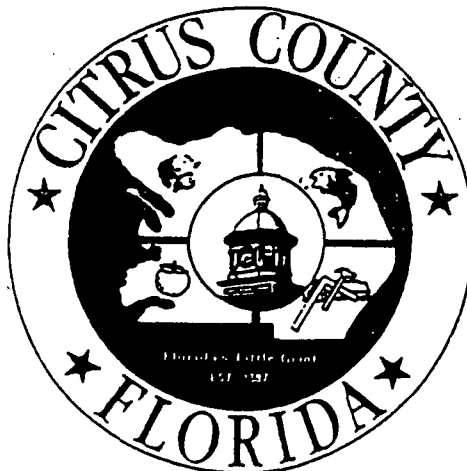


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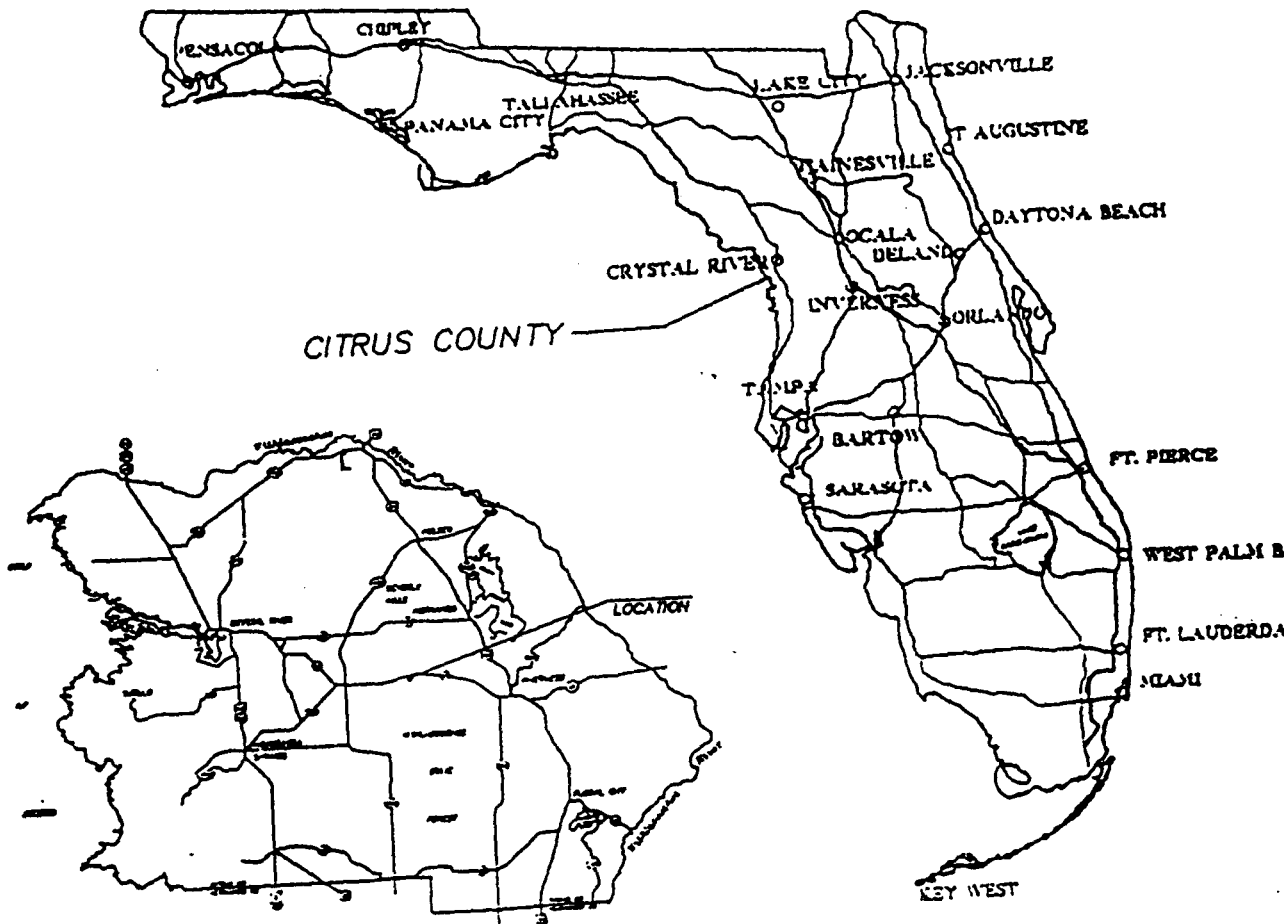
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CONTINGENCY PLAN

Citrus County Division of Solid Waste Management:

Citrus County Central Landfill Active 80 Acre Site

Citrus County Central Landfill Closed 60 Acre Site

Citrus County Leachate Treatment Facility

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Citrus County Waste Separation Facility - "Recycle Alley"

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Citrus County Division of Solid Waste Management
Citrus County Central Landfill
230 West Gulf to Lake Highway
Lecanto, Florida 34461
(352)746-5000

6-27-96\cjw\contgenc.pla\wp5files

A. PURPOSE AND SCOPE

The purpose of this plan is to provide information and guidance for responses to emergency incidents at the Citrus County Central Landfill Site(s) and Related Facilities.

B. PREPAREDNESS

Local authorities have been notified, and will be kept apprised, of the operations at the Citrus County Central Landfill Sites, located at 230 West Gulf to Lake Highway, Lecanto, Florida. A site diagram will be provided as well as a copy of the contingency plan for all revisions.

A current copy will be maintained at the Central Landfill Administrative Office in a box (mailbox or similar box) mounted on the wall at the entrance to the office. The Citrus County Fire Services/Hazardous Material Section, the Department of Public Works and the Sheriff's Office has access to the facilities.

Agencies Notified:

Hospital:	Citrus Memorial Hospital 502 West Highland Boulevard Inverness, Florida 34453	(352) 726-1551
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Law Enforcement:	Citrus County Sheriff's Office 1 South Park Avenue Inverness, Florida 34450	(352) 726-4488
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Emergency:	Emergency Response - 911 3425 West Southern Street Lecanto, Florida 34461	911
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Fire:	Public Safety Services -Fire Services -Fire Prevention 285 South Kensington Avenue Lecanto, Florida 34461	(352) 726-1606
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Hazardous:	Citrus County Hazardous Material Section 285 South Kensington Avenue Lecanto, Florida 34461	(352) 726-1400
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Agencies Notified: (continued)

Environmental:

Department of Agriculture and
Consumer Services (352) 796-5650
Division of Forestry
15019 Broad Street
Brooksville, Florida 33512

Department of Environmental Protection
Division of Waste Management (813) 744-6100
3804 Coconut Palm
Tampa, Florida 33619

Every effort shall be made to operate the facilities in a safe manner. All necessary materials to contain small spills, fires or releases shall be maintained on site as outlined in the emergency supplies list. The ability to clean up all residues thereof will also be available. These supplies shall also be used to contain and cleanup any de minimus releases during normal operation. Good housekeeping will support a safer work environment.

C. EMERGENCY SUPPLIES LIST

Equipment:

Shovels/Brooms
Fire extinguishers
Poly sheeting
First Aid Kit
Portable eye wash
Hard hats

Materials:

Absorbent
Absorbent pads
Drums
Pails

Monitoring devices:

Oxygen/combustible gas alarm
Combustible gas meter

Personal Protection Equipment:

Chemical resistant gloves and goggles
Impermeable coveralls
Face shields/respirators

ADDITIONAL EQUIPMENT LOCATED ON SITE:

Case 850G Bulldozer
Cat Front-End Wheel Loader
82 Ford CC F 700 Truck - 1,000 gallon water capacity
Flat Bed Truck
4" Hydraulic Pump
3" Gasoline Pump
3.0 KVA Generator

D. SITE LAYOUT

See Attachment A.

- (A) Overview - Citrus County Central Landfill
 - (1) Administrative/Operations Offices
 - (2) Scalehouse Complex
 - (3) Leachate Treatment Facility
 - (4) Leachate Storage Facility
 - (5) Recycle Alley
 - (6) Hazardous Waste Collection and Storage Facility
 - (7) Garbage Disposal Area
 - (8) Evacuation Routes

E. EMERGENCY RESPONSE COORDINATORS/EMERGENCY RESPONSE TEAM

Primary: Susan Metcalfe - Director - Solid Waste Management

Address: 9426 E. Baymeadows Drive
Inverness, Florida 34450

Phone: (Work) (904) 746-5000
(Home) (904) 637-3828

Responsibility: To ascertain the severity of the emergency, and if necessary, implement the contingency plan. The coordinator shall direct Solid Waste Management personnel, start evacuation procedures and notify local response agency of problem.

Secondary: David W. Chamblin - Solid Waste Section Chief

Address: 7864 East Day Lane
Inverness, Florida 34450

Phone: (Work) (904) 746-5000
(Home) (904) 726-8816
(Beeper) (904) 344-7474

Prime DeVaughn - Foreman - Landfill Operations

Address: 1366 South Rock Crusher Road
Crystal River, Florida 34446

Phone: (Work) (904) 746-5000
(Home) (904) 628-7591

Chain of Command:

Department of Public Works

Department Director

Division of Solid Waste Management

Division Director

Landfill Operations

Solid Waste Section Chief

Landfill Operations Foreman

In the event that the local emergency response authorities are called in, the senior officer of the responding agency shall assume command of the operations. The chain of command structure of this agency shall then be put into effect.

The Solid Waste Management response team shall follow the response authority's direction.

F. PREVENTION OF EMERGENCY SITUATIONS

Operations shall be conducted at the Central Landfill Facilities in a manner which maximizes worker and environmental safety. No smoking shall be permitted in the facility's designated compound areas and access will be restricted to authorized personnel in some areas as needed. Signs notifying this to the public shall be posted throughout and around the facilities. The safety and operation plans shall be followed at all times.

(1) Waste Separation Facility - "Recycle Alley"

Fire extinguishers are located at the waste tire site, which is in close proximity to the wood waste storage site.

See Appendix One for materials and maximum site capacity.

(2) Leachate Treatment Facility/Leachate Storage Facility

The enclosed portion of the Treatment Facility is outfitted with oxygen and combustible gas alarms. In the event of an alarm, the emergency coordinator will be contacted.

See Appendix Two for chemical listing and quantity, and Material Safety Data Sheets for the chemicals at the Leachate Treatment Facility.

(3) Scalehouse Operation Facility

The enclosed portion of the Facility is outfitted with oxygen and combustible gas alarms. In the event of an alarm, the emergency coordinator will be contacted.

See Appendix Three for Methane Gas Hazard Data.

(4) Hazardous Waste Collection and Storage Facility

The Hazardous Waste Collection and Storage Facility is outfitted with fire detection systems and automated fire suppression systems located inside of the materials storage building.

See Appendix Four for Facility Contingency Plan and Operating Plan.

G. IDENTIFICATION OF EMERGENCY SITUATIONS

The following situations will be considered emergencies:

- (1) Fire or smoke is detected
- (2) An explosion occurs
- (3) A serious leak or spill is detected
- (4) Personal injury has occurred
- (5) Any other occurrence transpires which needs immediate attention.

H. EMERGENCY PROCEDURES

Whenever there is an imminent or actual emergency situation, the emergency coordinator shall take responsibility for implementing the contingency plan. If necessary the emergency coordinator shall notify all facility personnel and provide for evacuation. If necessary, the notification plan must be implemented. The emergency coordinator shall direct facility staff in response procedures as the situation dictates.

During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions and releases do not occur, reoccur or spread to other parts of the facility.

Also, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire or explosion. This assessment must consider both direct and indirect effects.

1. Emergency Procedure, Fire

In the event of a small fire, the personnel discovering the fire should determine if it can be extinguished safely and quickly with the available fire extinguishers. First consideration must be given to the safety of all people within the facility. If the fire can safely be extinguished with available materials, appropriate actions should be taken.

The emergency response coordinator shall be notified immediately and he shall determine if the facility should be evacuated and if outside agencies need to be contacted.

In the event of a fire within the chemical holding area of the Leachate Treatment Facility or the storage building at the Hazardous Waste Collection and Storage Facility, initial determination should be made concerning the safety of response actions. **The doors of the buildings should not be opened.**

The emergency coordinator shall be notified immediately and shall implement the appropriate evacuation plan and notification plan.

3. Emergency Procedure, Explosion

If an explosion occurs, the affected facility shall be evacuated **immediately**. The emergency coordinator shall observe the situation and ascertain if surrounding facilities should be evacuated, and notify emergency response organizations.

The incident shall be investigated and the appropriate response as outlined herein shall be taken. Under no circumstances shall life or property be put in deliberate peril in attempting to handle explosions.

I. EVACUATION

See Attachment A.

In the event that the facility needs to be evacuated, the emergency coordinator shall notify County personnel by portable radio and the contingency and notification plan will be implemented. Due to the nature and location of the emergency, the emergency coordinator shall advise County personnel which evacuation route and plan to implement. Operations staff shall proceed to inform all non-county personnel on site and assist with their safe exit. Traffic on roads into the facility will be stopped and re-routed as necessary by Scalehouse personnel. Clear access by response personnel and vehicles to the emergency shall be maintained at all times by County personnel.

Upon completion of evacuation of the facility, all personnel are to proceed directly to the staging area.

Staging Area: Administrative Office.

J. FOLLOW UP

The emergency coordinator shall prepare a report indicating the time, date and details of any incident which requires implementing the contingency plan. Within 15 days after the incident, he must develop a written report on the incident. The report shall include:

- (1) All information included in the initial emergency notification and information updating original report (see above).
 - a. EPA report shall include:
 - Name, address and telephone number of owner operator;
 - Name, address and telephone number of facility;
 - Date and time of incident;
 - Type of incident; (Explosion, fire, spill)
- (2) Actions taken to respond to and contain incident
- (3) An assessment of actual or potential hazards to human health or the environment, where this is applicable; this must include any known or anticipated acute or chronic health risks associated with the incident.
- (4) Advice regarding medical attention necessary for exposed individuals. (See Appendix Three for Methane Gas Summary).
- (5) Estimated damage to the facilities.
- (6) A critique of the emergency response plan and how it was implemented.

K. CLEANUP/DECONTAMINATION

All residue from a release, fire or explosion shall be contained and cleaned up in a manner consistent with the emergency spill procedure.

Immediately after the emergency, the emergency coordinator shall provide for treating, storing or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire or explosion at the facility.

The emergency coordinator must ensure that in the affected areas of the facilities:

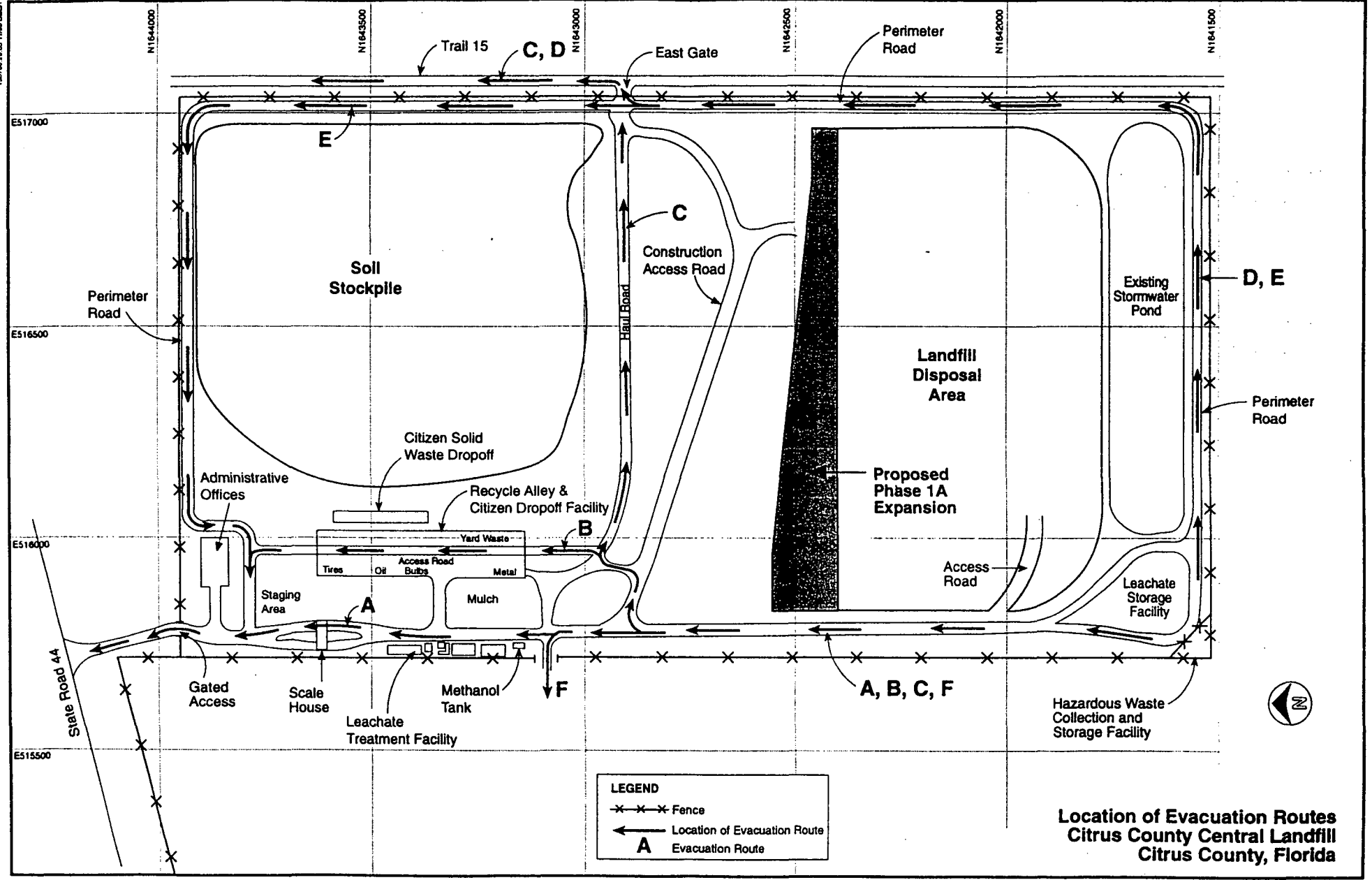
- (1) No waste that may be incompatible with the released material is treated, stored or disposed of until clean up procedure are completed; and
- (2) All emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use before operations are resumed.

Any contaminated equipment shall either be cleaned with a suitable solvent, and the discarded solutions handled in an appropriate manner, or discarded with the spill clean up material.

Decontamination shall be conducted in accordance with an appropriate decontamination program.

ATTACHMENT A

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APPENDIX ONE

LEACHATE TREATMENT FACILITY

Chemical Listing

Quantities on Site

Chlorine - liquid
(Sodium Hypochlorite)

3 - 55 gallon drums
(Approx. 14,000 lbs.)

40% Phosphoric Acid
(Phosphoric Acid and
Chlorinated Hydrocarbon)

2 - 55 gallon drums
(Approx. 540 lbs.)

Polymer
(Percol 788-N)

7 - 5 gallon containers
(Approx. 300 lbs.)

Powdered Activated Carbon
(Hydrodarco C)

360 - 50 lb. Bags (Max.)

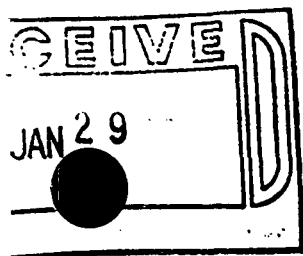
Liquid Methanol

7,000 gallon tank

LEACHATE STORAGE FACILITY

Two 125 gallon storage tanks

250,000 gallons



MATERIAL SAFETY DATA SHEET

SODIUM HYPOCHLORITE

MSDS

I. PRODUCT IDENTIFICATION

MANUFACTURER'S NAME

REGULAR TELEPHONE No.

EMERGENCY TELEPHONE No.

CHEMICAL NAME *Sodium Hypochlorite*TRADE NAME AND SYNONYMS *Javel Water Bleach, Soda Bleach*CHEMICAL FAMILY *Oxidizing Agent (Hypochlorite)*FORMULA *NaOCl*

CAS No. 7681-52-9

MOLECULAR WEIGHT 74.4

SHIPPING NAME AND HAZARD CLASS - (DOT)

- A. "Hypochlorite solution containing more than 7% available chlorine by weight."
- Corrosive Material
- B. "Hypochlorite solution containing not more than 7% available chlorine by weight." - ORM-B

II. HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT

Sodium hypochlorite is manufactured only in solution form. "Household bleach" contains not more than 7% available chlorine (= 6.67 wt. % NaOCl) with about 0.3 to 0.5% excess NaOH for stability control. Industrial bleach contains from 7% - 15% available chlorine (6.67 - 13.06 weight % NaOCl) with about 0.05 to 0.85% excess NaOH for stability control.

III. PHYSICAL DATA

OIL SOLUBILITY 110° C for 15% NaOCl

SPECIFIC GRAVITY 50 gpl - 1.08
 (H₂O = 1) 100 gpl - 1.14
 140 gpl - 1.21

VAPOR PRESSURE v.p. of water plus decomposition product v.p.

VAPOR DENSITY NA

% VOLATILE BY VOLUME Variable - Water vapor plus products of decomposition.

SOLUBILITY IN WATER Complete

EVAPORATION RATE NA COLOR Light Yellow-Green

H Approximately 12

ODOR Pungent like chlorine

IV. FIRE AND EXPLOSION DATA

FLASHPOINT

Nonflammable

SPECIAL FIRE FIGHTING PROCEDURES

Avoid fumes from spilled or exposed liquid, dilute copiously, ventilate, and be prepared to use respiratory protection if needed. Acid contamination will produce very irritating fumes similar to chlorine gas.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Bleach decomposes when heated; decomposition products may cause containers to rupture or explode. Vigorous reaction possible with organic materials or oxidizing agents; may result in a fire.

V. HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA

INHALATION

Fumes from spills are very irritating to mucous membranes. Very little hazard from properly stored solution.

SKIN CONTACT

Irritant, reddening of skin, skin damage.

EYE CONTACT

Severe irritation

INGESTION

Causes irritation of mucous membranes of the mouth, throat, and stomach pain and possible ulceration. LD₅₀ (oral, rat) for 5.25% NaOCl is approximately 13g/kg body weight and for 12.5% NaOCl is approximately 5g/kg body weight.

EFFECTS OF OVEREXPOSURE

ACUTE

CHRONIC

EMERGENCY AND FIRST AID PROCEDURES

EYES

INHALATION

INGESTION

*Irritating effects increase with strength of solution and time of exposure.
Constant irritant to eyes, throat.*

Copious eye wash with water for at least 15 minutes. Consult an eye specialist immediately.

Remove person to fresh air.

If accidentally swallowed, drink water, milk, and obtain medical attention. DO NOT USE BAKING SODA OR ACIDIC ANTIDOTES.

CONDITIONS CONTRIBUTING TO
INSTABILITY

COMPATIBILITY

HAZARDOUS DECOMPOSITION PRODUCTS

VI. REACTIVITY DATA

Solutions of sodium hypochlorite are fairly stable in concentrations below 1%. Stability decreases with concentration, heat, light exposure, decrease in pH, and contamination with heavy metals, such as, nickel, cobalt, copper, and iron.

Avoid contamination with heavy metals (act as catalysts), reducing agents, organics, ether, ammonia, acids.

Hypochlorous acid (HOCl), chlorine, hydrochloric acid. Composition depends upon temperature and decrease in pH. Additional decomposition products, which depend upon pH, temperature and time, are sodium chloride, sodium chlorate and oxygen.

VII. DISPOSAL, SPILL OR LEAK PROCEDURES

AQUATIC TOXICITY (e.g., 96 HR. TLM)

WASTE DISPOSAL METHOD

HANDLING SPILLS

NEUTRALIZING CHEMICALS

Not established, but if not dilute may seriously affect aquatic life. Do not allow spilled material to enter sewers or streams.

Reduce with chemicals listed below. Keep on alkaline side and dilute with copious quantities of water. Main end product is salt water. (NaCl)

Flush with water to dilute as much as possible, avoid heat and contamination with acid materials. Do not use combustible materials such as sawdust to absorb hypochlorite.

Reducing agents such as bisulfites or ferrous salt solutions; some heat will be produced.

VIII. SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY

EYES

GLOVES

OTHER

No special ventilation required unless bleach is exposed to decomposition condition, i.e., spills or acidic conditions.

When fumes are present use NIOSH approved respirator with acid type canister. Use goggles when dispensing solutions stronger than household bleach (7%).

Use rubber or plastic gloves when exposed to solutions stronger than household bleach (7%).

Use rubber apron, etc. to protect body from any splashing conditions. Use rubber protective shoes if spills occur. Safety showers and eyewash fountains should be available in storage and handling area.

IX. SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

PROPER HANDLING AND
STORAGE REQUIREMENTS

NATIONAL REGULATORY CONCERNS.
FEDERAL

Normal handling of household bottled bleach requires safety requirements as stated on the labels. Full protection should be provided when handling bulk shipments of concentrated, industrial bleach solutions.

Store in vented, closed, clean, non-corrosive containers in a cool, dry location, away from direct sunlight and not adjacent to chemicals which may react with the bleach if spillage occurs. If shipped, must comply with DOT, etc. shipping regulations. If closed containers become heated, the containers should be vented to release decomposition products (mainly oxygen under normal decomposition). Do not mix or contaminate with ammonia, hydrocarbons, acids, alcohols, ethers.

EPA Pesticide regulations applicable and registration as a pesticide required when used for disinfection purposes.

THIS PRODUCT IS LISTED ON THE TOXIC SUBSTANCES CONTROL ACT (TSCA) INVENTORY OF CHEMICAL SUBSTANCES.

PREPARED BY: THE CHLORINE INSTITUTE, NEW YORK, BASED ON THE ACCIDENT PREVENTION EXPERIENCE OF ITS MEMBERS. THE INSTITUTE AND ITS MEMBERS MAKE NO GUARANTEE, JOINTLY OR SEVERALLY, IN CONNECTION WITH THE ABOVE INFORMATION. REGULATORY REFERENCES APPLY IN THE U.S.A. ONLY.

DATE: May 1987

MATERIAL SAFETY DATA SHEET



Adrian Norit Company, Inc.
1050 Crown Pointe Parkway, Suite 1500
Atlanta, GA, 30338

Bulletin No. - MSDS - 101
Revised October 22, 1990

Emergency Phone No. (404) 512-4610

SECTION 1 NAME

All Darco® Lignite Based Carbons to include:

DARCO® S-51

DARCO® S-51 A (B,C,CE,H,FF,RL,RW,T)

Premium DARCO®

DARCO® TRS

DARCO® GFP

GRO-SAFE®

All HYDRODARCO® Grades

All Granular DARCO®

PETRODARCO® Grades

SECTION 2 INGREDIENTS

%

TLV (ACGIH)

Activated carbon (CAS 7440-44-0)
(U.N. 1362)

100

Not listed *

* Product normally contains greater than 1% quartz:
see Section 8

SECTION 3 PHYSICAL DATA

Boiling point: Not applicable

Vapor pressure (mmHg at 20°C): zero

Vapor density (air = 1): Not applicable

Solubility: Insoluble in water and organic solvents.

H: Not applicable

Specific gravity: 250 - 600 g/l

% Volatile by volume: Not applicable

Appearance and odor: Black granules or powder without taste or odor

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Flash point (and method): Not applicable

Autoignition temp.: Powdered - No generally accepted test method available
Granular - About 450°C (ANSI/ASTM D3466)

All carbonaceous materials will burn under certain conditions and activated carbons are no exception. Activated carbons, however, are not highly flammable and burn slowly without producing smoke or flame.

Extinguishing media:

Water (fog or fine spray), carbon dioxide

Avoid methods which may stir up dust clouds.

Special fire fighting protective equipment:

Self-contained breathing apparatus.

Unusual fire and explosion hazards:

Airborne dust is a weak explosion hazard.

MATERIAL SAFETY DATA SHEET (continued)

SECTION 6 HEALTH HAZARD ASSESSMENT (continued)

Effect of overexposure:

No adverse clinical effects have been associated with exposures to this material.

First aid procedures:

Skin: Wash material off the skin with soap and water. If redness, itching or a burning sensation develops, get medical attention.

Eyes: Immediately flush with copious amounts of water. If redness, itching or a burning sensation develops, have eyes examined and treated by medical personnel.

Ingestion: Give one or two glasses of water to drink. If gastrointestinal symptoms develop, consult medical personnel. (Never give anything by mouth to an unconscious person.)

Inhalation: Remove victim to fresh air. If cough or other respiratory symptoms develop, consult medical personnel.

SECTION 7 SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled:

Wear respiratory protection during cleanup. Sweep up and recover or mix material with moist absorbent and shovel into waste container. Wash down spill area with water containing detergent and flush away with plenty of water.

Disposal method:

Dispose of virgin (unused) carbon (waste or spillage) in a facility for non-hazardous wastes.

Container disposal:

Do not reuse empty bags. Dispose of in facility permitted for non-hazardous waste.

SECTION 8 SPECIAL PROTECTION INFORMATION

TLV or suggested control value:

The current OSHA and ACGIH limit for dusts which contain more than 1% quartz are as follows for Darco lignite carbons:

Respirable Dust Limit (OSHA and ACGIH)	=	0.7 mg/m ³
Total Dust Limit (OSHA)	=	2.1 mg/m ³
Total Dust Limit (ACGIH)	=	2.0 mg/m ³

Ventilation:

Provide adequate general and local exhaust ventilation to meet suggested control value requirements.

Material Safety Data Sheet

BEST AVAILABLE COPY

Required under USDOL Safety and Health Regulations
Shipyard Employment (29 CFR 1915)U.S. Department of Labor
Occupational Safety and Health AdministrationOMB No 1218-0074
Expiration Date 05/31/86

Section I

Manufacturer's Name

Du Cor International Corporation

1-800-424-9300

Emergency Telephone Number

Address (Number, Street, City, State, and ZIP Code)

P.O. Box 593298

Chemical Name
and SynonymsTrade Name
and Synonyms

DU COR R-40

Orlando, FL 32859-3298

Chemical
Family

Formula

cleaner- acid type

Section II - Hazardous Ingredients

Inerts, Preservatives, and Solvents

% TLV (UNAS) Alloys and Metallic Coatings

% TLV (UNAS)

Inerts

Base Metal

Stabilizer

Alloys

Filler

Metallic Coatings

Inerts

Filler Metal
Plus Coating or Core Flux

Inerts

Others

Inerts

Hazardous Mixtures of Other Liquids, Solids or Gases

(09) Corrosive material (173,240)

% TLV (UNAS)

Phosphoric Acid

27 1 mc/cu

Chlorinated Hydrocarbon

7 350 pp

Section III - Physical Data

Boiling Point (°F)

317°F

Specific Gravity (H₂O=1)

1.16

Vapor Pressure (mm Hg)

6.0 mmHG

Percent Volatile by Volume (%)

N.A.

Vapor Density (Air=1)

3.4

Evaporation Rate

N.A.

Solubility in Water

Completely soluble

Appearance and Color

Clear Blue liquid-pleasant odor

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used)

Not applicable

Flammable Limits

Lel

Uel

Extinguishing Media

Water Fog

Special Fire Fighting Procedures

Water may be used to extinguish fire by cooling and diluting liquid with water.

FIRE FIGHTING PROCEDURES: WATER MAY BE USED TO EXTINGUISH FIRE BY COOLING, AND DILUTING LIQUID WITH WATER.

SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE AND FULL BODY PROTECTIVE CLOTHING.

USUAL FIRE & EXPLOSION HAZARD: NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLODIBLY.

ACID REACTS WITH MOST METALS TO RELEASE HYDROGEN GAS WHICH CAN FORM EXPLOSIVE MIXTURES WITH AIR.

Section V - Health Hazard Data**Threshold Limit Value**

1 MG/CUM

Effects of Overexposure

EYES - CAUSES BURNS.
 SKIN - CAUSES BURNS.
 BREATHING - MIST CAN CAUSE DAMAGE TO NASAL AND RESPIRATORY PASSAGES.
 SWALLOWING - RESULTS IN SEVERE DAMAGE TO MUCOUS MEMBRANES.

Emergency First Aid Procedures**FIRST AID:**

IF ON SKIN: IMMEDIATELY FLUSH EXPOSED AREA WITH WATER FOR AT LEAST 15 MINUTES.
 GET MEDICAL ATTENTION. REMOVE CONTAMINATED CLOTHING. LAUNDRY CONTAMINATED
 CLOTHING BEFORE RE-USE.
 DISCARD CONTAMINATED SHOES

Section VI - Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	

Incompatibility (Materials to Avoid)

Avoid contact with strong alkali.

Hazardous Decomposition Products

May form toxic materials, phosphorous oxides, etc.

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section VII - Spill or Leak Procedures**Steps to be Taken in Case Material is Released or Spilled**

SMALL SPILL: COVER THE CONTAMINATED SURFACE WITH SODIUM BICARBONATE OR A SODA ASH/BLANKED LIME MIXTURE (50-60). MIX AND ADD WATER IF NECESSARY TO FORM A SLURRY. SCOOP UP SLURRY AND WASH SITE WITH SODA ASH SOLUTION.

LARGE SPILL: PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP IS COMPLETED. STOP SPILL AT SOURCE. DIKE TO PREVENT SPREADING. PUMP TO SALVAGE TANK.

Waste Disposal Method

SMALL SPILL: FLUSH DOWN DRAIN WITH LARGE AMOUNTS OF WATER IN ACCORDANCE WITH APPLICABLE REGULATIONS.

LARGE SPILL: COLLECT AND ADD SLOWLY TO LARGE VOLUME OF AGITATED SOLUTION OF SODA ASH AND BLANKED LIME ADD NEUTRALIZED SOLUTION TO EXCESS RUNNING WATER IN ACCORDANCE WITH APPLICABLE REGULATIONS.

Section VIII - Special Protection Information

RESPIRATORY PROTECTION: IF TLV OF THE PRODUCT OR ANY COMPONENT IS EXCEEDED, A NIOSH/MSHA JOINTLY APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS UNDER SPECIFIED CONDITIONS. (SEE YOUR SAFETY EQUIPMENT SUPPLIER) ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES SUCH AS, NEOPRENE, NITRILE RUBBER, POLYVINYL CHLORIDE, POLYETHYLENE

EYE PROTECTION: CHEMICAL SPLASH GOGGLES AND FACE SHIELD (8" MIN.) IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED, HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT: TO PREVENT SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS

Section IX - Special Precautions**Precautions to be Taken in Handling and Storing**

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTY SINCE EMPTY CONTAINERS RETAIN PRODUCT REMAINS (VAPOR, LIQUID, AND/OR SOLID). ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

Section I - Identification

Manufacturer's Name: Du Cor International Corporation
Address (Number, Street, City, State, and ZIP Code): P.O. Box 593298
Orlando, FL 32859-3298
Emergency Telephone Number: 1-800-424-9300
Chemical Name and Synonyms: DU COR R-40
Trade Name and Synonyms: cleaner- acid type
Chemical Family: Formula

Section II - Hazardous Ingredients

Paints, Preservatives, and Solvents	%	TLV (Units)	Alloys and Metallic Coatings	%	TLV (Units)
Pigments			Base Metal		
Catalyst			Alloys		
Vehicles			Metallic Coatings		
Solvents			Filler Metal Plus Coating or Core Flux		
Additives			Others		
Others					

Hazardous Mixtures of Other Liquids, Solids or Gases

	%	TLV (Units)
(09) Corrosive material (173,240)		
Phosphoric Acid	27	1 mc/cum
Chlorinated Hydrocarbon	7	350 ppm

Section III - Physical Data

Boiling Point (°F)	317°F	Specific Gravity (H ₂ O=1)	1.16
Vapor Pressure (mm Hg.)	6.0 mmHg	Percent Volume by Volume (%)	N.A.
Vapor Density (Air=1)	3.4	Evaporation Rate	N.A.

Solubility in Water

Completely soluble
Appearance and Odor: Clear Blue liquid-pleasant odor

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LeI	UEL
Not applicable			
Extinguishing Media			
Water Fog			
Special Fire Fighting Procedures			
Water may be used to extinguish fire by cooling and diluting liquid with water.			

FIREFIGHTING PROCEDURES: WATER MAY BE USED TO EXTINGUISH FIRE BY COOLING, AND DILUTING LIQUID WITH WATER.
SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE AND FULL BODY PROTECTIVE CLOTHING.
UNUSUAL FIRE & EXPLOSION HAZARD: NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.
ACID REACTS WITH MOST METALS TO RELEASE HYDROGEN GAS WHICH CAN FORM EXPLOSIVE MIXTURES WITH AIR.

Section V - Health Hazard Data**Threshold Limit Value**

1 MG?CUM

Series of Phrases

EYES - CAUSES BURNS.
SKIN - CAUSES BURNS.
BREATHING - MIST CAN CAUSE DAMAGE TO NASAL AND RESPIRATORY PASSAGES.
SWALLOWING - RESULTS IN SEVERE DAMAGE TO MUCOUS MEMBRANES.

Emergency First Aid Procedures

FIRST AID:

IF ON SKIN: IMMEDIATELY FLUSH EXPOSED AREA WITH WATER FOR AT LEAST 15 MINUTES.
GET MEDICAL ATTENTION. REMOVE CONTAMINATED CLOTHING. LAUNDRY CONTAMINATED
CLOTHING BEFORE RE-USE
DISCARD CONTAMINATED SHOES

Section VI - Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	

Incompatibility (Materials to Avoid)

Avoid contact with strong alkali.

Hazardous Decomposition Products

May form toxic materials, phosphorous oxides, etc.

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section VII - Spill or Leak Procedures**Steps to be Taken in Case Material is Released or Spilled**

SMALL SPILL: COVER THE CONTAMINATED SURFACE WITH SODIUM BICARBONATE OR A SODA ASH/BLAKED LIME MIXTURE (50-50). MIX AND ADD WATER IF NECESSARY TO FORM A SLURRY. SCOOP UP SLURRY AND WASH SITE WITH SODA ASH SOLUTION.

LARGE SPILL: PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP IS COMPLETED. STOP SPILL AT SOURCE. DIKE TO PREVENT SPREADING. PUMP TO SALVAGE TANK.

Waste Disposal Method

SMALL SPILL: FLUSH DOWN DRAIN WITH LARGE AMOUNTS OF WATER IN ACCORDANCE WITH APPLICABLE REGULATIONS.

LARGE SPILL: COLLECT AND ADD SLOWLY TO LARGE VOLUME OF AGITATED SOLUTION OF SODA ASH AND BLAKED LIME. ADD NEUTRALIZED SOLUTION TO EXCESS RUNNING WATER IN ACCORDANCE WITH APPLICABLE REGULATIONS.

Section VIII - Special Protection Information

RESPIRATORY PROTECTION: IF TLV OF THE PRODUCT OR ANY COMPONENT IS EXCEEDED, A NIOSH/MSHA JOINTLY APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS UNDER SPECIFIED CONDITIONS. (SEE YOUR SAFETY EQUIPMENT SUPPLIER) ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES SUCH AS: NEOPRENE, NITRILE RUBBER, POLYVINYL CHLORIDE, POLYETHYLENE

EYE PROTECTION: CHEMICAL SPLASH GOGGLES AND FACE SHIELD (18" MIN.) IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED. HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT: TO PREVENT SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS

Section IX - Special Precautions**Precautions to be Taken in Handling and Storing**

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED SINCE EMPTIED CONTAINERS RETAIN PRODUCT REMIQUES (VAPOR, LIQUID, AND/OR SOLID). ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

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ALLIED COLLOIDS INC

PERCOL 788N
SUFFOLK, VA 23434
(804) 934-3700

24-HOUR EMERGENCY CONTACT
CHEMTREC: 800/424-9300

Page 1 of 3

SECTION I - IDENTIFICATION

PRODUCT: **PERCOL® 788N** ISSUE/REV DATE: 13-Dec-91

CHEMICAL FAMILY: Copolymer of a quaternary acrylate salt and acrylamide dispersed in mineral oil.

DESCRIPTION: White or off-white liquid. Slight, mild odor.

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	CAS No.	LIMIT(S) IN AIR		REMARKS
		PPM	mg/m ³	
POLYOXYETHYLENE NONYL PHENOL	9016-45-9	ND	ND	
COPOLYMER ACRYLAMIDE:DMAEMA Q. (MeCl)	35429-19-7	ND	ND	
ADIPIC ACID	124-04-9	ND	ND	
NAPHTHOL SPIRITS	64742-88-7	T 400	T 1600	OSHA limit (naphtha)
HYDROTREATED LIGHT NAPHTHENIC DISTILLATE	64742-53-6	T 400	T 1600	OSHA limit (naphtha)

T = TWA-8, C = CEILING, S = STEL-15min
NTP and/or IARC in remarks indicates possible or probable human carcinogen

SECTION III - PHYSICAL PROPERTIES

BOILING POINT: > 480 F SPECIFIC GRAVITY: 1.0-1.2

VAPOR DENSITY (air=1): ND pH: NA

VOLATILES (% by volume): ND VAPOR PRESSURE (mmHg): <.5 @68F

EVAPORATION RATE (ether=1): < 1

SOLUBILITY IN WATER: Soluble - solubility limited by viscosity.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical or foam. FLASH POINT: > 200 F

LEL: ND

UEL: ND

SPECIAL FIRE FIGHTING PROCEDURES

Firefighters should wear normal protective equipment. SCBA is recommended for confined areas. Cool exposed drums or tanks with water.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Wetted product presents an extreme slip hazard. Pedestrian and vehicular traffic must proceed with caution where even a small amount of wet product may exist.

SECTION V - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

INCOMPATIBILITY: Strong oxidants such as liquid chlorine, enriched gaseous or liquid oxygen, and sodium or calcium hypochlorite.

HMS RATING (GHS)

H 1

F 1

R 0

P *

PERSONAL PROTECTION BY USER, REFER TO

DEGREE OF HAZ

4 = SEVERE

3 = SERIOUS

2 = MODERATE

1 = SLIGHT

0 = MINIMAL

Material Safety Data Sheet

SECTION VI - HEALTH HAZARD DATA

NATURE OF PRINCIPAL HAZARD(S): Eye and skin irritant.

TARGET ORGAN(S): Eyes, skin

SIGNS, SYMPTOMS, AND EFFECTS OF EXPOSURE:

Contact with the eye may produce irritation and/or redness.
Prolonged or repeated skin contact tends to remove skin oils,
possibly leading to dry skin, irritation and/or dermatitis.
Vapors may irritate eyes and respiratory tract, and result in
headache or dizziness.

CARCINOGENICITY:

Not listed as a carcinogen by IARC, NTP, OSHA or ACGIH

EXPOSURE LIMITS:

None established for product. Refer to Section II for limits, if
any, appropriate for hazardous ingredients.

SAFETY PRECAUTIONS:

Do not get in eyes, on skin, on clothing.
Wash thoroughly after handling.
Avoid prolonged or repeated skin contact.
Caution - slip hazard - see Sections IV and/or VII.

FIRST AID: EYE CONTACT: Immediately flush eyes with plenty of water
for at least 15 minutes. Call a physician.

INGESTION: Consult a physician. Never give anything by
mouth to an unconscious person.

SKIN CONTACT: Remove contaminated clothing and launder before
reuse. Wash effected area with soap and water.

INHALATION: Remove to fresh air. If symptoms persist,
consult a physician.

SECTION VII - ENVIRONMENTAL DATA

SPILL OR LEAK PROCEDURES

Remove all ignition sources. Dike area to control runoff,
and collect spill in appropriate container(s). Use an
inert absorbant such as vermiculite to collect residual
liquid. Then water wash area to waste treatment to
eliminate slip hazard.

WASTE DISPOSAL METHOD

Disposal must be arranged in accordance with local, state
and federal regulations. This material, when
unadulterated, is not a RCRA regulated hazardous waste.
However, local disposal regulations will often apply. Care
must be taken to prevent environmental contamination from
the disposal of material, residues and containers.

SECTION VIII - PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION: Use a NIOSH approved organic vapor respirator, if
exposure exceeds TLV. Follow ANSI Z88.2 standard.

PROTECTIVE GLOVES: Chemical resistant
gloves.

EYE PROTECTION: Full sideshield safety
glasses or goggles
(ANSI Z87.1 standard).

VENTILATION: Recommended general ventilation rate is = 10 air
changes per hour.

OTHER EQUIPMENT: Provide eyewash station(s). Select additional
protective equipment (eg apron, face shield,
etc.), depending on conditions of use.

Allied Colloids Inc



Material Safety Data Sheet

SECTION IX - REGULATORY INFORMATION

SHIPPING INFORMATION

PROPER SHIPPING NAME: NOT A DOT/IMO HAZARDOUS MATERIAL

ID NUMBER: NA

RD: NA

DOT EMERGENCY GUIDE (ERG) #: 31

HAZARD CLASS or DIVISION: NA

PACKING GROUP: -

TSCA

COMPONENTS APPEAR ON THE TSCA INVENTORY

SARA PRODUCT HAZARD CATEGORIES (Sec 311): ACUTE HEALTH HAZARD

The following components are defined as toxic chemicals subject to reporting requirements of SARA Section 313 and of 40 CFR 372:

No components are 313 Toxic Chemicals

STATE LABELLING INFORMATION

NJ RTK LABEL - COMPONENTS INCLUDE:

CAS or ID #:

POLYOXYETHYLENE NONYL PHENOL

9016-45-9

COPOLYMER ACRYLAMIDE:DMAEMA Q. (MeCl)

35429-19-7

ADIPIC ACID

124-04-9

NAPHTHOL SPIRITS

64742-88-7

HYDROTREATED LIGHT NAPHTHENIC DISTILLATE

64742-53-6

CA PROP 65:

CALL FOR ADDITIONAL INFORMATION

SECTION X - ADDITIONAL INFORMATION

NA=Not Applicable; ND=Not Determined or No Data

Avoid high temperatures and open systems to minimize vapor release and exposures.

Keep containers closed and properly labelled.
Do not reuse containers before contents are completely removed, and the container is properly cleaned and reconditioned. (Refer also to Section VII)

Good personal hygiene practices can reduce potential exposure. Wash with soap and water following any contact with this product, as well as before breaks and meals. Shower and change clothing at end of work shift. If clothing becomes contaminated, remove and launder or dry-clean before reuse.

The information and recommendations contained herein are, to the best of Allied Colloids Inc's knowledge and belief, accurate and reliable as of the last revision date. This document is offered in good faith. The information relates to the specific material designated, and may not be valid for such material used in combination with any other materials, in any process, or if used in a manner other than for which it is intended.

Allied Colloids Inc does not warrant or guarantee accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information, nor do we offer warranty against patent infringement.



ALLIED COLLOIDS INC

P.O. BOX 820
SUFFOLK, VA 23434
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24-HOUR EMERGENCY CONTACT
CHEMTREC: 800/424-9300

Page 1 of 3

SECTION I - IDENTIFICATION

PRODUCT: **PERCOL[®] 788N** ISSUE/REV DATE
13-Dec-91

CHEMICAL FAMILY: Copolymer of a quaternary acrylate salt
and acrylamide dispersed in mineral oil.

DESCRIPTION: White or off-white liquid. Slight, mild
odor.

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	CAS No.	LIMIT(S) IN AIR		REMARKS
		PPM	mg/m ³	
POLYOXYETHYLENE NONYL PHENOL	9016-45-9	ND	ND	
COPOLYMER ACRYLAMIDE:DMAEMA Q. (MeCl)	35429-19-7	ND	ND	
ADIPIC ACID	124-04-9	ND	ND	
NAPHTHOL SPIRITS	64742-88-7	T 400	T 1600	OSHA limit (naphtha)
HYDROTREATED LIGHT NAPHTHENIC DISTILLATE	64742-53-5	T 400	T 1600	OSHA limit (naphtha)

T = TWA-8, C = CEILING, S = STEL-15min
NTP and/or IARC in remarks indicates possible or probable human carcinogen

SECTION III - PHYSICAL PROPERTIES

BOILING POINT: > 480 F SPECIFIC GRAVITY: 1.0-1.2

VAPOR DENSITY (air=1): ND pH: NA

VOLATILES (% by volume): ND VAPOR PRESSURE (mmHg): <.5 @68F

EVAPORATION RATE (ether=1): < 1

SOLUBILITY Soluble - solubility limited
IN WATER: by viscosity.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

EXTINGUISHING MEDIA FLASH POINT: > 200 F
Carbon dioxide, dry chemical
or foam. LEL: ND
UEL: ND

SPECIAL FIRE FIGHTING PROCEDURES
Firefighters should wear normal protective equipment. SCBA
is recommended for confined areas. Cool exposed drums or
tanks with water.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Wetted product presents an extreme slip hazard. Pedestrian
and vehicular traffic must proceed with caution were even a
small amount of wet product may exist.

SECTION V - REACTIVITY DATA

STABILITY STABLE HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

INCOMPATIBILITY Strong oxidants such as liquid chlorine, enriched
gaseous or liquid oxygen, and sodium or calcium
hypochlorite.

Material Safety Data Sheet

SECTION VI - HEALTH HAZARD DATA

NATURE OF PRINCIPAL HAZARD(S): Eye and skin irritant.

TARGET ORGAN(S): Eyes, skin

SIGNS, SYMPTOMS, AND EFFECTS OF EXPOSURE:

Contact with the eye may produce irritation and/or redness.
Prolonged or repeated skin contact tends to remove skin oils, possibly leading to dry skin, irritation and/or dermatitis.
Vapors may irritate eyes and respiratory tract, and result in headache or dizziness.

CARCINOGENICITY:

Not listed as a carcinogen by IARC, NTP, OSHA or ACGIH

EXPOSURE LIMITS:

None established for product. Refer to Section II for limits, if any, appropriate for hazardous ingredients.

SAFETY PRECAUTIONS:

Do not get in eyes, on skin, on clothing.
Wash thoroughly after handling.
Avoid prolonged or repeated skin contact.
Caution - slip hazard - see Sections IV and/or VII.

FIRST AID: EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION: Consult a physician. Never give anything by mouth to an unconscious person.

SKIN CONTACT: Remove contaminated clothing and launder before reuse. Wash effected area with soap and water.

INHALATION: Remove to fresh air. If symptoms persist, consult a physician.

SECTION VII - ENVIRONMENTAL DATA

SPILL OR LEAK PROCEDURES

Remove all ignition sources. Dike area to control runoff, and collect spill in appropriate container(s). Use an inert absorbant such as vermiculite to collect residual liquid. Then water wash area to waste treatment to eliminate slip hazard.

WASTE DISPOSAL METHOD

Disposal must be arranged in accordance with local, state and federal regulations. This material, when unadulterated, is not a RCRA regulated hazardous waste. However, local disposal regulations will often apply. Care must be taken to prevent environmental contamination from the disposal of material, residues and containers.

SECTION VIII - PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION: Use a NIOSH approved organic vapor respirator, if exposure exceeds TLV. Follow ANSI Z88.2 standard.

PROTECTIVE GLOVES: Chemical resistant gloves.	EYE PROTECTION: Full sideshield safety glasses or goggles (ANSI Z87.1 standard).
---	--

VENTILATION: Recommended general ventilation rate is = 10 air changes per hour.

OTHER EQUIPMENT: Provide eyewash station(s). Select additional protective equipment (eg apron, face shield, etc.), depending on conditions of use.

Allied Colloids Inc



Material Safety Data Sheet

SECTION IX - REGULATORY INFORMATION

SHIPPING INFORMATION

PROPER SHIPPING NAME: NOT A DOT/IMO HAZARDOUS MATERIAL

ID NUMBER: NA

RO: NA

DOT EMERGENCY GUIDE (ERG) #: 31

HAZARD CLASS or DIVISION: NA

PACKING GROUP: -

TSCA

COMPONENTS APPEAR ON THE TSCA INVENTORY

SARA PRODUCT HAZARD CATEGORIES (Sec 311): ACUTE HEALTH HAZARD

The following components are defined as toxic chemicals subject to reporting requirements of SARA Section 313 and of 40 CFR 372:

No components are 313 Toxic Chemicals

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CAS or ID #:

POLYOXYETHYLENE NONYL PHENOL

9016-45-9

COPOLYMER ACRYLAMIDE:DMAEMA Q. (MeCl)

35429-19-7

ADIPIC ACID

124-04-9

NAPHTHOL SPIRITS

64742-88-7

HYDROTREATED LIGHT NAPHTHENIC DISTILLATE

64742-53-6

CA PROP 65:

CALL FOR ADDITIONAL INFORMATION

SECTION X - ADDITIONAL INFORMATION

NA=Not Applicable; ND=Not Determined or No Data

Avoid high temperatures and open systems to minimize vapor release and exposures.

Keep containers closed and properly labelled.

Do not reuse containers before contents are completely removed, and the container is properly cleaned and reconditioned. (Refer also to Section VII)

Good personal hygiene practices can reduce potential exposure. Wash with soap and water following any contact with this product, as well as before breaks and meals. Shower and change clothing at end of work shift. If clothing becomes contaminated, remove and launder or dry-clean before reuse.

The information and recommendations contained herein are, to the best of Allied Colloids Inc's knowledge and belief, accurate and reliable as of the last revision date. This document is offered in good faith. The information relates to the specific material designated, and may not be valid for such material used in combination with any other materials, in any process, or if used in a manner other than for which it is intended.

Allied Colloids Inc does not warrant or guarantee accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information, nor do we offer warranty against patent infringement.

MATERIAL SAFETY DATA SHEET

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

ELF ATOCHEM NORTH AMERICA
PERFORMANCE PRODUCTS
2000 MARKET STREET
PHILADELPHIA, PA 19103
(215) 419-7063 (non-emergency)

EMERGENCY PHONE NUMBERS
8:30 am - 4:30 pm (800) 248-2322

CHEMTREC: (800) 424-9300

PRODUCT NAME: CECARBON® PAC *R
CHEMICAL NAME (if single substance): Activated Carbon
CHEMICAL FAMILY: Activated Carbon
PRODUCT USE: Liquid phase purification (decolorization and separation)

Section I: Ingredients

IDENTITY	CAS NO.	%	PEL	TLV
ACTIVATED CARBON	7440-44-0	100	*	*

PEL and TLV values are reported as TWA unless otherwise noted.

Section II: Physical Data

Boiling Point, C: N/A
Specific Gravity: 1.8-2.1
Vapor Density: N/A
% Volatiles: N/A

Appearance and Odor: Black powder with no odor

Melting Point, C: N/A
Vapor Pressure @ 20 C: N/A
Evaporation Rate: N/A
Solubility in Water: Insoluble

Section III - Fire and Explosion Data

Flash Point (Test Method)
Non-Flammable

Autoignition Temperature
Non-Flammable

Flammable Limit
LEL = N/A UEL = N/A

Extinguishing Media:

Water spray, carbon dioxide, foam, or dry chemical.

Section III - Fire and Explosion Data (cont.)

Special Fire Fighting Procedures:

In the event of fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus with full face piece, operated in the positive pressure mode.

Hazardous Combustion Products:

Irritating and/or toxic gases due to decomposition of the product may be generated during a fire.

Unusual Fire and Explosion Hazards:

Contact with strong oxidizers; such as ozone or liquid oxygen may cause rapid combustion.

Section VI - Reactivity Data

Stability:

Compound is stable.

Conditions to avoid:

Moist air will reduce the operating life.

Incompatibility (Materials to avoid):

Acids and strong oxidizing agents

Hazardous Polymerization:

Does not occur.

Hazardous Decomposition Products:

Oxides of carbon.

Section V - Environmental Information

Spill Response:

Clean spills in a manner that does not disperse dust into the air, preferably a wet-down procedure or vacuum. Use non-sparking tools.

Recommended Disposal:

Dispose of as solid waste observing all local, state, and federal regulations.

Section VI - Health Hazard Data:

PRIMARY ROUTES OF ENTRY:

yes - EYE yes - SKIN yes - INGESTION yes - INHALATION

Eye Contact:

Dust that contacts the eye may be irritating or cause mechanical injury.

Skin Contact:

Dust may cause slight skin irritation.

Section VI - Health Hazard Data (cont.)

Ingestion:

It is reasonable to anticipate ingestion of powder would be irritating to the GI tract.

Inhalation:

Dust may be irritating to the respiratory tract and cause coughing or sneezing.

Chronic Toxicity:

No effects from chronic exposure are known.

Medical Conditions Prone to Aggravation by Exposure:

As with any organic compound that is heated to vaporization, exposure may aggravate pre-existing conditions such as colds, allergies, asthma, emphysema and psoriasis.

Toxicology:

Carcinogenicity: no - NTP no - IARC

Section VII - First Aid Measures

Eyes:

Immediately flush eyes with flowing water for at least 15 minutes. See a physician if the irritation persists.

Skin:

Wash thoroughly with soap and water. See a physician if the irritation persists.

Ingestion:

No harmful effects are anticipated if the powder is swallowed. See a physician if the irritation persists.

Inhalation:

No harmful effects are anticipated from breathing a low concentration of dust. If a problem develops, remove the person to the fresh air and supply oxygen if necessary.

Section VIII - Special Protection Information

Ventilation:

Provide local exhaust ventilation where there is a need to draw dust away from the workers' breathing zones. The following publication offers ventilation guidelines and techniques: "INDUSTRIAL VENTILATION, A MANUAL OF RECOMMENDED PRACTICE" available from the ACGIH.

Respiratory Protection:

For conditions where exposure to dust and fumes is apparent, a NIOSH approved respirator for dust mists and fumes appropriate to the airborne concentration may be worn. Where vapors are generated, a NIOSH approved organic respirator suitable to the airborne concentrations is recommended.

Section VIII - Special Protection Information (cont.)

Eye and Face Protection:

Safety glasses with side shields are recommended for any type of handling. Dust-tight goggles are recommended for dusty operations of areas where vapors accumulate.

Other Clothing and Equipment:

Wear clean body covering and gloves impervious to dust or vapor to minimize skin contact.

Storage and Handling:

Avoid dispersion of dust into air. Keep dry and containers should be closed. Maintain good housekeeping procedures.

Section IX - Miscellaneous

HMIS: Health - 1

Fire - 1

Reactivity - 0

Protection - E

DOT Proper Shipping Name: Not Regulated

DOT Hazard Class: Not Regulated

DOT Label: N/A

DOT ID #: N/A

All grades of CECARBON® activated carbon are steam-activated.

CECARBON activated carbon is not regulated for domestic or international transportation.

CECARBON activated carbon has been tested and passed the IMDG test for non-activated carbon.

CECARBON has also been tested by the methods given in 49 CFR 173 App. E for Self-Heating and Pyrophoric Materials with negative results for both properties.

The PEL and TLV for this chemical noted by * in Section I - Ingredients has not been established). Exposure should be treated as any nuisance dust particulate (TLV = 15 mg/m³ TWA).

This MSDS applies to the following CECARBON® Powdered Activated Carbon products:
PAC 20R PAC 20RZ

WARNING: Wet activated carbon depletes oxygen from the air and therefore dangerously low levels of oxygen may be encountered. Whenever workers enter a vessel containing activated carbon, the vessel's oxygen content should be determined and work procedures for potentially low oxygen areas should be followed.

SARA Hazard Classification

Immediate (Acute) Health: Yes

Delayed (Chronic) Health: No

Sudden Release of Pressure: No

Reactive: No

Fire: No

Section IX - Miscellaneous (cont.)

TSCA Inventory Status:

All ingredients of this product are listed on the TSCA Inventory.

SARA Title III, Section 302:

This product does not contain any chemicals currently on the Extremely Hazardous Substance List, Section 302, SARA Title III.

SARA Title III, Section 313:

This product does not contain any chemicals currently on the Toxic Chemical List, Section 313, SARA Title III.

California Proposition 65:

This product does not contain any chemicals currently on the California List of known Carcinogens and Reproductive Toxins.

**Pennsylvania Right-to-Know
Hazardous Substance List**

The ingredients of this product are provided in Section I. This product does not contain any Hazardous, Environmental Hazardous or Special Hazardous Substances in quantities greater than the threshold levels qualified in PA Code 34, Section 323.

WHMIS Classification:

Class D, Division 2, Subdivision B

Prepared by the Safety &
Environmental Affairs Committee

Issued: 11/30/93 Rev: 1
Supersedes: 10/21/91

The information set forth herein has been gathered from standard reference materials and/or Elf Atochem N.A. test data and is to the best knowledge and belief of Elf Atochem N.A. accurate and reliable. Such information is offered solely for your consideration, investigation and verification, and it is not suggested or guaranteed that the hazard precautions or procedures mentioned are the only ones which exist. Elf Atochem N.A. makes no warranties, expressed or implied, with respect to the use of such information or the use of the specific material identified herein in combination with any other material or process, and assumes no responsibility therefore.



TETRA Technologies, Inc.

Material Safety Data Sheet

This MSDS Sheet complies with the style format specified by ANSI Z400.1 - 1993

SECTION 1: CHEMICAL PRODUCT - COMPANY IDENTIFICATION

TETRA Technologies, Inc.

25025 IH-45 North

The Woodlands, Texas 77380

(713) 367-1983

(800) 327-7817 - After Hours Answering Service

(800) 424-9300 - CHEMTREC

SUBSTANCE: Methanol

TRADE NAMES/SYNONYMS: Methyl Alcohol; Wood Alcohol; Methyl Hydroxide ; Carbinol; Monohydroxymethane; Wood Spirit; Wood Naphtha; Methylol; Colonial Spirit; Columbian Spirit; Pyroxylic Spirit; Booster Fuel (Henes Product Corp.); Methanol (Elektroklein) (ROK); Methanol, Spectro Quality (MCB Manf. Chemist); Coulomatic (R) Conditioner Solution; Standard Water in Methanol; RCRA U154; UN 1230; STCC 4904230; CH₄ O; OHS14280

CHEMICAL FAMILY: Hydroxyl, Aliphatic

RTECS NUMBER: PC1400000

MSDS CREATION DATE: 26 Sep 94

MSDS REVISION DATE: 31 Oct 94

SECTION 2: COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: Methanol (Methyl alcohol)

CAS NUMBER: 67-56-1

PERCENTAGE: 100

PROBABLE CONTAMINANTS: None



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SECTION 3: HAZARDS IDENTIFICATION

NFPA RATINGS: (SCALE 0-4): HEALTH=1, FIRE=3, REACTIVITY=0

EMERGENCY OVERVIEW:

Clear, colorless liquid with a characteristic alcoholic odor. Causes skin and eye irritation. May be irritating to the respiratory tract. May cause convulsions. May damage nerves. May affect the central nervous system. May cause adverse reproductive effects. May affect respiration. May cause blindness. May cause eye damage. May cause hearing loss. Flammable liquid and vapor. May cause flash fire. Keep away from all ignition sources. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Keep container tightly closed. Wash thoroughly after handling. Use only with adequate ventilation. Handle with caution.

POTENTIAL HEALTH EFFECTS:

INHALATION:

Short Term Effects: May cause irritation. Additional effects may include coughing, ringing in the ears, digestive disorders, drunkenness, numbness, twitching, spastic winking, visual disturbances and nerve damage.

Long Term Effects: May cause effects as reported in short term ingestion. Additional effects may include headache. May also cause reproductive effects.

SKIN CONTACT:

Short Term Effects: May cause irritation. Additional effects may include drunkenness and nerve damage.

Long Term Effects: Same effects as short term exposure.

EYE CONTACT:

Short Term Effects: May cause irritation. Additional effects may include eye damage.

Long Term Effects: Same effects as short term exposure.

INGESTION:

Short Term Effects: May cause coughing, lack of appetite, nausea, vomiting, diarrhea, difficulty breathing, irregular heartbeat, low blood pressure, headache, weakness, drowsiness, drunkenness, disorientation, restlessness, muscle spasm,



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hearing loss, intolerance of the eyes to light, blindness, bluish skin color, lung congestion, nerve damage, convulsions, shock, unconsciousness and coma.

Long Term Effects: May cause effects as reported to short term ingestion. In addition to effects from short term exposure, may cause reproductive effects.

CARCINOGEN STATUS:

OSHA: No NTP: No IARC: No

SECTION 4: FIRST AID MEASURES

INHALATION:

Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately.

SKIN CONTACT:

Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.

EYE CONTACT:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.

INGESTION:

If ingestion of methanol is discovered within 2 hours, give syrup of ipecac. Lavage thoroughly with 2-4 L of tap water with sodium bicarbonate (20 g/L) added. Get medical attention immediately. Lavage should be performed by qualified medical personnel (Dreisbach, Handbook of Poisoning, 12th Ed.).

NOTE TO PHYSICIAN: Antidote:

The following antidote(s) have been recommended. However, the decision as to whether the severity of poisoning requires administration of any antidote and actual dose required should be made by qualified medical personnel.

Methanol Poisoning:

Give ethanol, 50% (100 proof), 1.5 mL/kg orally initially, diluted to not more than 5% solution, followed by 0.5-1.0 mL/kg every 2 hours orally or intravenously for 4 days in order to reduce metabolism of methanol and to allow time for its excretion. Blood



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ethanol level should be in the range of 1-1.5 mg/mL (Dreisbach, Handbook of Poisoning, 12th Ed.). Antidote should be administered by qualified medical personnel. Oral or intravenous administration of 4-methylpyrazole inhibits alcohol dehydrogenase and has been used effectively as an antidote for methanol or ethylene glycol poisoning (Ellenhorn and Barceloux, Medical Toxicology).

SECTION 5: FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARD:

Dangerous fire hazard when exposed to heat or flame. Vapors are heavier than air and may travel a considerable distance to a source of ignition and flash back. Vapor-air mixtures are explosive.

EXTINGUISHING MEDIA:

Dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For larger fires, use water spray, fog or alcohol-resistant foam. (1990 Emergency Response Guidebook, DOT 5800.5).

FIREFIGHTING:

Move container from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Stay away from ends of tanks. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in fire (1990 Emergency Response Guidebook, DOT P 5800.5, Guide Page 28). Extinguish only if flow can be stopped; use water in flooding amounts as fog, solid streams may not be effective. Cool containers with flooding quantities of water, apply from as far a distance as possible. Avoid breathing toxic vapors, keep upwind.

FLASH POINT: 52° F (11° C) (Closed Cup)

LOWER FLAMMABLE LIMIT: 6.0%

UPPER FLAMMABLE LIMIT: 36.0%

AUTOIGNITION: 725° F (385° C)

FLAMMABILITY CLASS (OSHA): 1B

HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition products may include toxic oxides of carbon.

**TETRA Technologies, Inc.****Material Safety Data Sheet**

This MSDS Sheet complies with the style format specified by ANSI Z400.1 - 1993.

SECTION 6: ACCIDENTAL RELEASE MEASURES**OCCUPATIONAL SPILL:**

Shut off ignition sources. Do not touch spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors. For small spills, take up with sand or other absorbent material and place into containers for later disposal. For larger spills, dike far ahead of spill for later disposal. No smoking, flames or flares in hazard area! Keep unnecessary people away. Isolate hazard area and deny entry.

Reportable Quantity (RQ): 5000 pounds

The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the National Response Center must be notified immediately at (800) 424-8802 or (202) 426-2675 in the metropolitan Washington, D.C. area (40 CFR 302.6).

SOIL SPILL:

Dig holding area such as lagoon, pond or pit for containment. Dike flow of spilled material using soil or sandbags or foamed barriers such as polyurethane or concrete.

AIR SPILL:

Apply water spray to knock down vapors.

WATER SPILL:

Allow spilled material to aerate. Limit spill motion and dispersion with natural barriers or oil spill control booms. Use suction hoses to remove trapped material.

SECTION 7: HANDLING AND STORAGE

Observe all federal, state, and local regulations when storing this substance. Store in accordance with 29 CFR 1910.106. Bonding and grounding: Substances with low electroconductivity, which may be ignited by electrostatic sparks, should be stored in containers which meet the bonding and grounding guidelines specified in NFPA 77-1983, Recommended Practice on Static Electricity. Store away from incompatible substances.



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SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

200 ppm (262 mg/m³), skin, TWA OSHA, ACGIH, NIOSH(recommended)

250 ppm (328 mg/m³), STEL OSHA, ACGIH, NIOSH(recommended)

Measurement method: silica gel tube; water; gas chromatography with flame ionization detection; (NIOSH Vol. III # 2000, Methanol).

Subject to SARA Section 313 Annual Toxic Chemical Release Reporting

** OSHA revoked the final rule limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See 29 CFR 1910.100 (58 FR 35338)**

VENTILATION:

Provide general dilution ventilation to meet published exposure limits. Ventilation equipment must be explosion-proof.

EYE PROTECTION:

Employee must wear safety glasses with splash shields or goggles to prevent contact with this substance.

EMERGENCY WASH FACILITIES:

Where there is any possibility that an employee's eyes and/or skin may be exposed to this substance, the employer should provide an eye wash fountain and quick drench shower within the immediate work area for emergency use.

CLOTHING:

Employee must wear appropriate protective (impervious) clothing and equipment to prevent any possibility of skin contact with this substance.

GLOVES:

Employee must wear appropriate protective gloves; such as rubberized or latex-coated canvas gauntlets, to prevent contact with this substance..

RESPIRATOR:

The following respirators and maximum-use concentrations are recommendations by the U.S. Department of Health and Human Services, NIOSH Pocket Guide to Chemical Hazards; NIOSH criteria documents or by the U.S. Department of Labor, 29 CFR 1910 Subpart 2. The specific respirator selected must be based on contamination levels found in



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the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA).

2000 ppm - Any supplied-air respirator.

Any self-contained breathing apparatus.

5000 ppm - Any supplied-air respirator operated in a continuous-flow mode.

10,000 ppm - Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator with a full facepiece.

Any supplied-air respirator that has a tight-fitting facepiece and is operated in a continuous-flow mode.

25,000 ppm - Any supplied-air respirator with a full facepiece and operated in a pressure-demand or other positive-pressure mode.

Escape - Any appropriate escape-type, self-contained breathing apparatus.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

DESCRIPTION: Clear, colorless liquid with a characteristic alcoholic odor.

MOLECULAR WEIGHT: 32.04

MOLECULAR FORMULA: CH₃OH

BOILING POINT: 149° F (65° C)

MELTING POINT: -137° F (-94° C)

VAPOR PRESSURE: 97.25 mmHg @ 20° C

VAPOR DENSITY: 1.11

SPECIFIC GRAVITY: 0.7914

WATER SOLUBILITY: very soluble

ODOR THRESHOLD: 100 ppm



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EVAPORATION RATE: (butyl acetate=1) 4.6

SOLVENT SOLUBILITY: Soluble in ether, benzene, alcohol, acetone, chloroform, ethanol, ketones and most other organic solvents

VISCOSITY: 0.59 cP @ 20° C

SECTION 10: STABILITY AND REACTIVITY

Stable under normal temperatures and pressures.

CONDITIONS TO AVOID:

Avoid contact with heat, sparks, flames or other ignition sources. Vapors may be explosive. Material is poisonous; avoid inhalation of vapors or contact with skin. Do not allow material to contaminate water sources.

INCOMPATIBILITIES:

Acetyl Bromide: Violent reaction with formation of hydrogen bromide.

Alkylaluminum Solutions: Violent reaction.

Aluminum: Corrodes.

Barium Perchlorate: Distillation yields highly explosive alkyl perchlorate.

Beryllium Hydride: Violent reaction, even at -196° C.

Bromine: Vigorously exothermic reaction.

Calcium Carbide: Violent reaction.

Chlorine: Possible ignition and explosion hazard.

Chloroform and Sodium Hydroxide: Explosive reaction.

Chromium Trioxide (Chromic Anhydride): Possible ignition.

Cyanuric Chloride: Violent reaction.

Dichloromethane: Possible ignition and explosion.

Diethyl Zinc: Possible ignition and explosion.

Hydrogen Peroxide + Water: Explosion hazard.

Iodine + Ethanol + Mercuric Oxide: Explosion hazard.

Lead: Corrodes.

Lead Perchlorate: Explosion hazard.

Magnesium: Violent reaction.

Magnesium (Powdered): Mixtures are capable of detonation.

Metals: Incompatible.

Nickel: Possible ignition in the presence of nickel catalyst.



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Nitric Acid (Concentrated): Mixtures of greater than 25% acid may decompose violently.

Oxidizers (Strong): Fire and explosion hazard.

Perchloric Acid: Explosion hazard.

Phosphorous Trioxide: Possible violent reaction and ignition.

Plastics, Rubber, Coatings: May be attacked.

Potassium: Possible dangerous reaction.

Potassium Hydroxide + Chloroform: Exothermic reaction.

Potassium Tert-Butoxide: Fire and explosion hazard.

Sodium + Chloroform: Possible explosion.

Sodium Hypochlorite: Explosion hazard.

Sodium Methoxide + Chloroform: Violent reaction.

Sulfuric Acid: Fire and explosion hazard.

Zinc: Explosion hazard.

Hazardous Decomposition: Thermal decomposition products may include toxic oxides of carbon.

Polymerization: Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

SECTION 11: TOXICOLOGICAL INFORMATION

IRRITATION DATA:

20 mg/24 hours skin-rabbit moderate; 40 mg eye-rabbit moderate; 100 mg/24 hours eye-rabbit moderate.

TOXICITY DATA:

TC_{Lo}: 300 ppm, inhalation, human

TD_{Lo}: 3429 mg/kg, oral, man

LC_{Lo}: 1000 ppm, inhalation, monkey

LC₅₀: 64000 ppm, inhalation, rat

LD_{Lo}: 428 mg/kg, oral, human

LD₅₀: 5628 mg/kg, oral, rat

mutagenic data (RTECS); reproductive effects data (RTECS).

CARCINOGEN STATUS: None.

LOCAL EFFECTS: Irritant - skin, eye.



TETRA Technologies, Inc.

Material Safety Data Sheet

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ACUTE TOXICITY LEVEL: Slightly toxic by dermal absorption and ingestion; relatively non-toxic by inhalation.

TARGET EFFECTS/ORGANS: Central nervous system depressant; neurotoxin, kidneys, eyes.

AT INCREASED RISK FROM EXPOSURE: Persons with kidney, eye or skin disorders.

ADDITIONAL DATA: May cause blindness.

INHALATION:

Acute Exposure: May cause irritation of the mucous membranes, coughing, oppression in the chest, tracheitis, bronchitis, tinnitus, unsteady gait, twitching, colic, constipation, nystagmus, and blepharospasm. Symptoms from occupational exposure include paresthesias, numbness and shooting pains in the hands and forearms. Metabolic acidosis, and effects on the eyes and central nervous system may occur as detailed in acute ingestion.

Chronic Exposure: Repeated or prolonged exposure may cause effects as in acute ingestion. Repeated exposure to 200-375 ppm caused recurrent headaches in workers. Exposure for 4 years to 1200-8000 ppm resulted in marked diminution of vision and enlargement of the liver in a workman. Reproductive effects have been reported in animals.

SKIN CONTACT:

Acute Exposure: Contact with liquid may cause irritation. Skin absorption may occur and cause metabolic acidosis and effects on the eyes and central nervous system as detailed in acute ingestion.

Chronic Exposure: Repeated or prolonged contact with the liquid may cause defatting of the skin resulting in erythema, scaling, and eczematoid dermatitis. Chronic absorption may result in metabolic acidosis and effects as detailed in acute ingestion.

EYE CONTACT

Acute Exposure: Vapors may cause irritation. High concentrations have been reported to cause violent inflammation of the conjunctiva and epithelial defects on the cornea. Mild irritation may occur with dilute solutions; the undiluted liquid has produced moderate corneal opacity and conjunctival redness in rabbits. Application of a drop of methanol in rabbit eyes caused a mild reversible reaction, graded 3 on a scale of 1-10 after 24 hours.

Chronic Exposure: Repeated or prolonged contact may cause conjunctivitis.



Methanol

File: 002.MSD

TETRA Technologies, Inc.

Material Safety Data Sheet

This MSDS Sheet complies with the style format specified by ANSI Z400.1 - 1993.

SECTION 13: DISPOSAL INFORMATION:

Observe all federal, state and local regulations when disposing of this substance. Disposal must be in accordance with standards applicable to generators of hazardous waste, 40 CFR 262. EPA Hazardous Waste Number U154. US EPA RCRA Hazardous Waste Number: RCRA U154.

SECTION 14: TRANSPORT INFORMATION

DOT Shipping Name-ID Number, 49 CFR 172.101: Methanol - UN 1230
DOT Hazard Class or Division, 49 CFR 172.101: 3 - Flammable liquid
DOT Packing Group, 49 CFR 172.101: II
DOT Labeling Requirements, 49 CFR 172.101 and Subpart E: Flammable liquid, poison
DOT Packaging Authorizations:
EXCEPTIONS: 49 CFR 173.150
NON-BULK PACKAGING: 49 CFR 173.202
BULK PACKAGING: 49 CFR 173.242
DOT Quantity Limitations 49 CFR 172.101:
Passenger Aircraft or Railcar: 1 L
Cargo Aircraft Only: 60 L

SECTION 15: REGULATORY INFORMATION

	TSCA STATUS:	Yes
40 CFR 302.4	CERCLA SECTION 103:	No
40 CFR 355.30	SARA SECTION 302:	No
40 CFR 372.40	SARA SECTION 304:	No
40 CFR 372.65	SARA SECTION 313:	No
29 CFR 1910.119	OSHA Process Safety	No
	California Proposition 65	No
40 CFR 370.21	SARA HAZARD CATEGORIES, SARA SECTIONS 311/312	
	ACUTE HAZARD:	Yes
	CHRONIC HAZARD:	Yes

**TETRA Technologies, Inc.****Material Safety Data Sheet**

This MSDS Sheet complies with the style format specified by ANSI Z400.1 - 1993

INGESTION

Acute Exposure: May cause mild and transient inebriation and subsequent drowsiness followed by an asymptomatic period lasting 8-48 hours. Following the delay, coughing, dyspnea, headache, dullness, weakness, vertigo or dizziness, nausea, vomiting, occasional diarrhea, anorexia, violent pain in the back, abdomen, and extremities, restlessness, apathy or delirium, and rarely, excitement and mania may occur. Rapid, shallow respiration due to metabolic acidosis, cold and clammy skin, hypotension, cyanosis, opisthotonos, convulsions, mild tachycardia, cardiac depression, peripheral neuritis, cerebral and pulmonary edema, unconsciousness, and coma are possible. Effects on the eye may include optic neuritis, blurred or dimmed vision, dilated, unresponsive pupils, ptosis, eye pain, concentric constriction of visual fields, diplopia, change in color perception, photophobia, and optic nerve atrophy. Partial blindness or possibly delayed transient or permanent blindness may occur. Bilateral sensorineural deafness has been reported in a single case. Liver, kidney, heart, stomach, intestinal and pancreatic damage may also occur. Death may be due to respiratory failure or rarely from circulatory collapse. As little as 15 ml has caused blindness; the usual fatal dose is 60-240 ml. Prolonged asthenia and irreversible effects on the nervous system including difficulty in speech, motor dysfunction with rigidity, spasticity, and hypokinesia have been reported.

Chronic Exposure: Repeated ingestion may cause visual impairment and blindness and other systemic effects as detailed in acute ingestion. Reproductive effects have been reported in animals.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT RATING(0-4): No Data Available

ACUTE AQUATIC TOXICITY: No Data Available

DEGRADABILITY: No Data Available

LOG BIOCONCENTRATION FACTOR (BCF): No Data Available

LOG OCTANOL/WATER PARTITION COEFFICIENT: No Data Available

APPENDIX TWO

"RECYCLE ALLEY"

<u>Material</u>	<u>Maximum Capacity</u>
Waste Oil Site	3 - 450 gallon containers
Fluorescent Bulb - Battery Storage Shed	Small quantities
Waste Tires	115 tons
Scrap Metal	50 tons
Wood Waste	150 tons

APPENDIX THREE

TOMES (R) HAZARD MANAGEMENT

TOPIC: METHANE GAS

HAZARD DATA/MANAGEMENT Reference AAR, 1987; CHRIS, 1985)

SUMMARY

Methane is extremely flammable and may be easily ignited by flames, sparks, or heat.

All possible sources of ignition, including sparks, flares, flames and smoking, should be kept away from this material.

All sources of possible ignition should be shut off.

EXPLOSION HAZARD

Methane forms explosive mixtures with air; a mixture of 1 part methane to 10 parts air is particularly explosive.

When the concentration of methane is less than 5.53 percent, it will not longer explode.

When the methane concentration reaches 14 percent or more, it burns without an explosive noise.

Methane may explode if it is ignited in an enclosed space.

Methane reacts with chlorine and bromine in light, and explosively in bright sunlight.

Vapors may travel a considerable distance to an ignition source and flash back over the vapor trail.

Vapor explosion hazard indoors, outdoors or in sewers/wells.

EMERGENCY ACTION-CALL EMERGENCY RESPONSE 911 (HAZ-MAT 344-8700)

Keep unnecessary people away; isolate hazard area and deny entry.

Stay upwind, out of low areas and ventilate closed spaces before entering.

Possible pressure self-contained breathing apparatus and structural fire fighters' protective clothing will provide limited protection.

Fires involving methane should not be extinguished unless the flow of leaking material can be stopped.

Containers that are exposed to the heat of a fire should be cooled from the side with flooding amounts of water until well after the fire is extinguished.

Water should be applied from as far away as possible.

Containers should be moved from the area of the fire and leaks stopped if this can be done without undue risk.

Water spray may be used to protect personnel attempting to move containers and stop leaks.

DUST/VAPOR HEALTH HAZARD

May be poisonous if inhaled.

Contact may cause burns to skin and eyes.

Vapors may cause dizziness or suffocation.

Contact with liquid may cause frostbite.

Fire may produce irritating or poisonous gases.

LIFE SUPPORT TREATMENT

RESCUERS SHOULD WEAR APPROPRIATE RESPIRATORY PROTECTION:

BE AWARE OF THE SERIOUS FIRE AND EXPLOSION HAZARD PRESENTED BY METHANE DURING RESCUE ATTEMPTS:

Remove victims of inhalation exposure from the toxic environment and administer 100 percent humidified supplemental oxygen with assisted ventilation as required;

Airway protection and maintenance may be required;

Copiously flush exposed eyes or skin with water;

If not breathing, give artificial respiration;

DECONTAMINATION

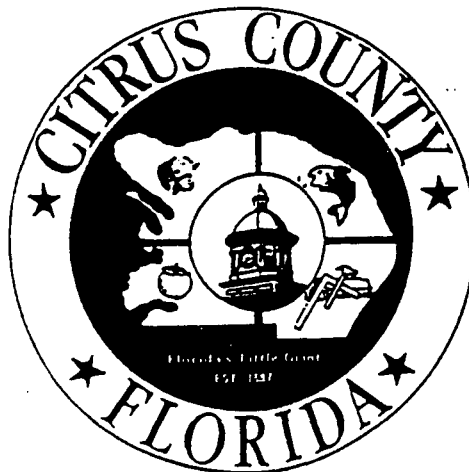
Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for respiratory tract irritation, bronchitis, or pneumonitis. Administer 100 percent humidified supplemental oxygen with assisted ventilation as required.

Carefully observe patients with inhalation exposure for the development of any systemic signs or symptoms and administer symptomatic treatment as necessary.

Monitor arterial blood gases and chest x-ray in cases with significant exposure.

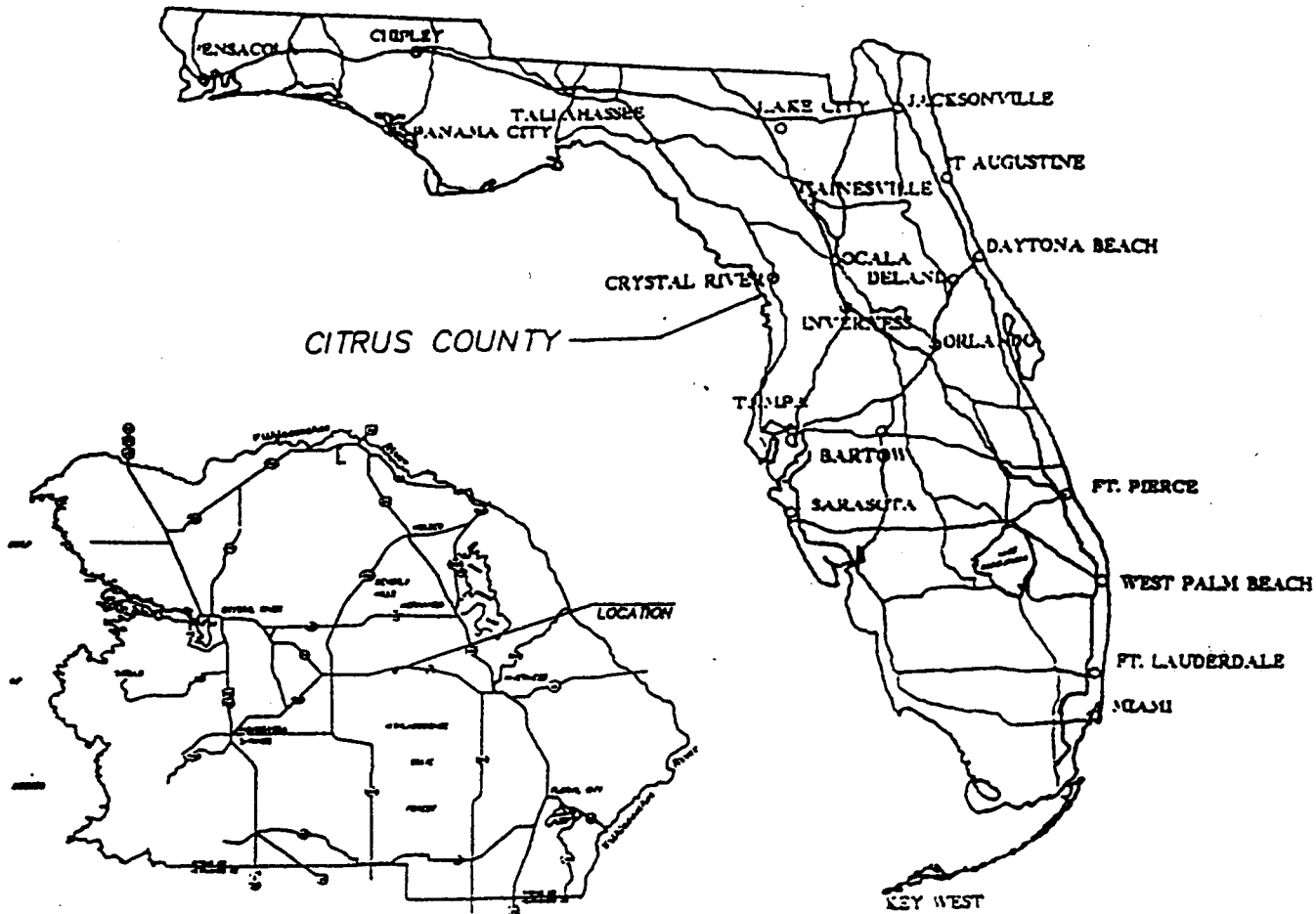
CONTINGENCY PLAN
for
CITRUS COUNTY
HAZARDOUS WASTE COLLECTION AND STORAGE FACILITY
located at the Citrus County Central Landfill
230 W. Gulf to Lake Highway
Lecanto, Florida

July, 1996



APPENDIX FOUR

LOCATION MAP



**APPENDIX FOUR TO THE CONTINGENCY PLAN FOR EMERGENCY INCIDENTS AT
THE CITRUS COUNTY CENTRAL LANDFILL AND RELATED FACILITIES, dated
June, 1996**

**CONTINGENCY PLAN FOR THE
HAZARDOUS WASTE COLLECTION AND STORAGE FACILITY**

- A. Facility Description
- B. Emergency Supplies List
- C. Site Layout - Attachment A.
- D. Emergency Response
- E. Prevention of Emergency Situations
- F. Evacuation

Appendix One: Household Hazardous Waste Collection
and Storage Facility Standards

Appendix Two: Standard Operating Procedures

Citrus County Division of Solid Waste Management
Citrus County Central Landfill
230 West Gulf to Lake Highway
Lecanto, Florida 34461
(352)746-5000

7-2-96\cjw\contgenc.hw\wp5files

A. FACILITY DESCRIPTION

The Citrus County Hazardous Waste Collection and Storage Facility was relocated from the Central Landfill 60 acre Site to the 80 Acre Expansion Site in December, 1991.

The facility was sited in the southwest portion of the Landfill Facility which had existing groundwater Monitoring wells sampled quarterly for contamination.

The facility was constructed on top of a 22" compacted subgrade and 6 mill vapor barrier. The facility is concealed by a six-foot chain link fence with locking gate, and consists of a 45.5' x 14' transfer / containment slab with a 3% center drain slope and a 8.5' x 22' prefabricated metal storage building. The transfer / containment slab received a hardener surface treatment of "Lapidolith", or equal upon completion of construction. The transfer /containment slab will be sheltered by a 53' x 30' open shed roof upon construction completion anticipated in early 1997.

The metal storage building was purchased from Safety Storage, Inc., Cupertino, California, Model 22, with options including the forced air ventilation, dry chemical fire suppression system, and two metal bulkheads creating three separate storage spaces. The building is engineered to comply with EPA, NFPA, and OSHA standards and regulations for storing hazardous chemicals and wastes. The building is also corrosion resistant and features secondary containment for the prevention of spills or leaks.

Access to the Hazardous Waste Collection and Storage Facility is from the main paved road along the west boundary of the Central Landfill facility.

B. EMERGENCY SUPPLIES LIST

Materials:

Absorbent

Over-packs

Absorbent pads

Pails

Absorbent booms

Drums

Equipment:

Brooms

Neutralizing agents

Foam fire extinguishers

Drum dollies and hooks

Chemical fire extinguishers

Drum spill skids/tarps

Dry chemical suppression system

Drum Wrench

Poly sheeting

Drum grounding kits

pH testing kits

Drum label kits

portable eye wash station/drench hose

Personal protection equipment:

Chemical resistant gloves/goggles

Safety glasses

Impermeable coveralls

Disposal gloves

Face shields/respirators

Flame retardant coat and gloves

C. SITE LAYOUT

See Attachment A.

(A) Overview - Citrus County Central Landfill

- (1) Administrative/Operations Offices
- (2) Hazardous Waste Collection and Storage Facility

D. DURING HOURS OF OPERATION:

**EMERGENCY RESPONSE COORDINATOR/
EMERGENCY RESPONSE TEAM**

Primary: Randy Messer, Hazardous Material Coordinator
Hazardous Material Section for Citrus
County, Department of Public Safety

Responsibility: To ascertain the severity of the emergency, and if necessary, implement the contingency plan. The coordinator shall direct personnel, start evacuation procedures, notify facility manager and local response agency of problem.

Secondary: Patty Jefferson, Hazardous Material Specialist
Hazardous Material Section for Citrus County,
Department of Public Safety

In the event that the local emergency response authorities are called in, the senior officer of the responding agency shall assume command of the operations. The chain of command structure of this agency shall then be put into effect.

Personnel shall follow the response authority's direction.

E. PREVENTION OF EMERGENCY SITUATIONS

Operations shall be conducted at the Hazardous Waste Collection and Storage Facility in a manner which maximizes worker and environmental safety. No smoking shall be permitted in the facility's designated compound areas and access will be restricted to authorized personnel. Signs notifying this to the public shall be posted at the facility.

Identification of emergency situations, and emergency procedures as outlined in the Contingency Plan for Emergency Incidents for the Central Landfill and Related Facilities shall be followed at all times.

F. EVACUATION

See Attachment A. for evacuation route(s)

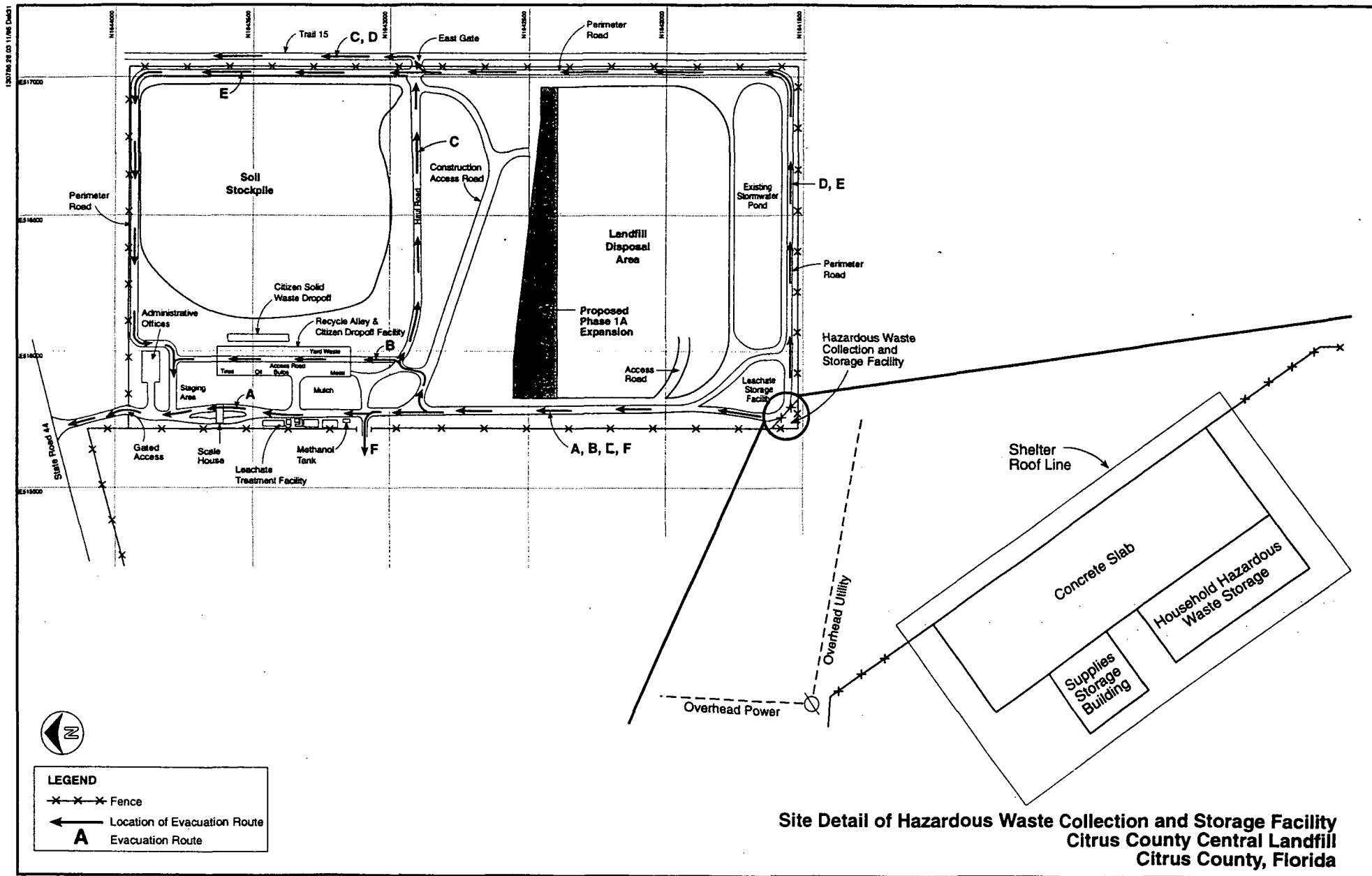
In the event that the facility needs to be evacuated, the emergency coordinator shall notify site personnel by voice communication and the Facility Manager by portable radio/telephone and the contingency and notification plan will be implemented. Due to the nature and location of the emergency, the emergency coordinator shall advise County personnel which evacuation route to implement. Staff shall proceed to inform all non-county personnel (i.e., residents) on site and assist with their safe exit. Traffic on roads into the facility will be stopped and re-routed as necessary by Scalehouse personnel. Clear access by response personnel and vehicles to the emergency shall be maintained at all times by County personnel.

Upon completion of evacuation of the facility, all personnel are to proceed directly to the staging area.

Staging Area: Administrative Office.

Follow up, Cleanup/Decontamination, Notification procedures as outlined in the Contingency Plan for Emergency Incidents for the Central Landfill and Related Facilities and the Hazardous Waste Collection and Storage Facility Standards, attached and made a part hereof, shall be followed at all times.

ATTACHMENT A



FACILITY STANDARDS
for the
CITRUS COUNTY
HAZARDOUS WASTE COLLECTION AND STORAGE FACILITY
located at the
Citrus County Central Landfill
230 West Gulf to Lake Highway
Lecanto, Fl
prepared by
Department of Public Works
Division of Solid Waste Management

July, 1996

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CITRUS COUNTY

HAZARDOUS WASTE COLLECTION AND STORAGE FACILITY

HISTORY

The Citrus County Hazardous Waste Collection and Storage Facility was relocated from the Central Landfill 60 Acre Site to the 80 Acre Expansion Site in December, 1991.

The facility was sited in the southwest portion of the Landfill Facility which had existing groundwater monitoring wells sampled quarterly for contamination detection.

The facility was constructed on top of a 12" compacted subgrade and 6 mill vapor barrier. The facility consists of a 45.5' x 14' transfer / containment slab with a 3% center drain slope and a 8.5' x 22' prefabricated metal storage building. The transfer / containment slab received a hardener surface treatment of "Lapidolith", or equal upon completion of construction.

The metal storage building was purchased from Safety Storage, Inc., Cupertino, California, Model 22, with options including the forced air ventilation, dry chemical fire suppression system, and two metal bulkheads creating three separate storage spaces. The building is engineered to comply with EPA, NFPA, and OSHA standards and regulations for storing hazardous chemicals and wastes. The building is also corrosion resistant and features secondary containment for the prevention of spills or leaks.

INTRODUCTION

Citrus County has permanent household hazardous waste programs and Conditionally Exempt Small Quantity Generator (CESQG) programs for the collection of materials at the facility. Due to the origin of these materials, by statute, they are exempt from all Federal and State Regulations.

Citrus County has adapted/modified the proposed HHW Facility Standards (draft 3), as prepared by Committee Members, State of Florida County Household Hazardous Waste Project Managers, as guidance to a site specific guideline for Citrus County personnel utilization for facility operations, in accordance with section "Applicability".

"The standards were proposed for facilities which collect HHW with in-house staff, and;

1. also bulk, neutralize or otherwise treat waste; or
2. also collect CESQG waste with in-house staff; or
3. both 1 and 2 above."

CITRUS COUNTY
HOUSEHOLD HAZARDOUS WASTE COLLECTION CENTER
FACILITY STANDARDS

I. FACILITY PERSONNEL

1. Facility Manager shall be the Director for the Division of Solid Waste Management, Department of Public Works. Completion of all phases of facility site work during hours of operation shall be assigned to the Site Supervisor;
2. Facility Site Supervisor shall be the Citrus County Hazardous Material Coordinator, and/or his/her assignee;
3. Facility Site Assistant shall be the Citrus County Hazardous Material Specialist, and/or his/her assignee;
4. Facility Site Staff shall be personnel trained in the facility operational requirements as outlined in the Site Operational Guidelines.
5. Unloaders/Paint Sorters shall be personnel trained in the facility operational requirements as outlined in the Site Operational Guidelines.
6. Facility Administrative Assistant shall be the Solid Waste Technician II, Division of Solid Waste Management, Department of Public Works.

II. PHYSICAL FACILITY MINIMUM STANDARDS

A. Containment

1. All waste shall be stored either in the storage building or in drums located on secondary containment pallets on the transfer/containment slab at the facility.
2. All liquid waste shall be stored within secondary containment structures capable of containing the entire contents of the largest two (2) containers in storage or 10% of the total volume of liquid in storage, whichever is greater.
3. Containers holding liquid shall be placed so that material escaping from a small leak in a non-pressurized container will not fall outside the containment structure.
4. All non-liquid waste shall be stored within secondary containment structures capable of containing all stormwater reasonably expected to fall or run onto the structure in a 25 year flood or on a paved and sheltered surface which would be substantially unaffected by a 25 year flood.
5. Stormwater shall be prevented from accumulating within in-service containment structures in amounts in excess of 10% of their volume.
6. Containers shall be protected from deterioration due to excessive exposure to stormwater or condensation.

B. Required Equipment

During hours of operation the facility is equipped with the following, unless none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

1. Voice communication from the site supervisor shall be utilized to provide immediate emergency instruction to facility personnel;
2. A device, such as a portable telephone available at the scene of operation, or a hand-held two-way radio, capable of summoning emergency assistance from local police department, fire department, or State or local emergency response teams;
3. Portable fire extinguishers, such as those using foam and dry chemicals.
4. Spill control equipment, including appropriate protective clothing and equipment and decontamination equipment
5. If needed, there is equipment at the Landfill capable of providing water at adequate volume and pressure to supply water hose streams, or water spray systems for fire suppression and/or decontamination.
6. Emergency eyewash.

III. WASTE ACCEPTANCE CRITERIA

A. Household Waste

The facility shall only accept waste if:

1. It is acceptable material for disposal with the County's Hazardous Waste Contractor;
2. If it is generated by a Citrus County residence; or
3. If it can be safely stored prior to disposal.

B. CESQG Waste

Facility personnel enforces the following additional criteria with respect to any CESQG waste that they accept. (This section applies to wastes that the facility accepts, not to waste accepted directly by the disposal contractor):

1. They verify that the source is Citrus County generated and Conditionally Exempt;
2. They do not accept unknowns from CESQG's. The generator is required to identify the process generating the waste and all materials that were used in the process. From that information, the generator or the facility supervisor should be able to determine which EPA waste codes are applicable to that waste;
3. They only accept waste if they can verify that it is what the generator says it is.

IV. PERSONNEL

A. Training

Facility personnel successfully complete training program(s) that teaches them to perform their duties in a way that ensures the facility is operated in a manner that protects them and the public from potential health and safety hazards at the site and is protective of the environment.

1. The program is instructed by a person trained in hazardous waste management procedures, and includes instruction that teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed. The person providing the training has no less than 40 hours training in appropriate aspects of hazardous waste/material management including selection of protective clothing and equipment and emergency response.
2. At a minimum, the training program is designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including where applicable:
 - a. Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
 - b. Communications or alarm systems;
 - c. Response to fires or explosions;
 - d. Response to discharges to the land surface; incidents; and
 - e. Shutdown of operations.
3. All personnel who handle hazardous waste (or items which would be hazardous waste if regulated) are trained in sorting materials by hazard class and compatibility group.
4. Facility personnel shall successfully complete the program required above within six months after the date of their employment or assignment to a facility. New employees shall not work in unsupervised positions until they have completed the training requirements.

5. Facility personnel shall take part in an annual review of the initial training required.
6. Facility personnel which receives CESQG waste or bulk or otherwise treat any waste has on staff, at least one person who has no less than 40 hours training in appropriate aspects of hazardous waste/material management including selection of protective clothing and equipment and emergency response. One such person is on site whenever CESQG waste is being received and whenever any hazardous material is being bulked or otherwise treated.

B. Records

The following documents and records shall be maintained at the facility manager's office:

1. The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;
2. A written job description for each position. This description may be consistent in its degree of specificity with descriptions for other similar positions at the same site, but should include the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position;
3. A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position; and
4. Record that documents that the training or job experience required for each position has been completed by facility personnel.

V. OPERATIONS

A. Maintenance and Operation of Facility

1. The facility shall be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water that could threaten human health or the environment.
2. All facility communications or alarm system, fire protection equipment, spill control equipment, and decontamination equipment, where required, shall be tested and maintained in accordance with manufacturer's recommendations and as necessary to assure its proper operation in time of emergency.
3. Facility personnel shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.
4. Whenever hazardous waste is being poured, mixed, or otherwise handled, all personnel involved in the operation shall have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not necessary.
5. Normal operational procedures requires two personnel on site at all times, but, if there is ever just one employee on the premises while the facility is in operation, he shall have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless such a device is not necessary. (Telephones and radios shall not be placed in areas where the atmosphere may become explosive due to the presence of flammable vapors, dusts, or gases.)

B. Accumulation Time

1. The HHW collection facility will be accumulating household hazardous waste and CESQG waste on-site, and shall store the material as follows:
 - a. The waste will be placed in containers; a container is a storage building or a DOT shippable drum.
 - b. The amount of waste accumulated will not place the facility in violation of any part of section II.A, V.D, or V.E; and
 - c. While being accumulated on-site, each container is labeled with the appropriate DOT label, if any, and a description of the contents. A proper label on the storage building door described all the hazardous properties of the materials stored inside.
2. The household hazardous waste and CESQC waste collected for treatment or disposal shall not be accumulated on site for more than 210 days. Once the capacity limit is reached, all hazardous waste collected shall be shipped to a permitted hazardous waste facility for treatment or disposal. The operator may request DEP approval of a longer accumulation time period for specific wastes which are accumulated slowly.

C. Management of Containers

1. If a container holding hazardous waste is not in good condition or if it begins to leak, the operator shall pack the container and its contents in a larger container that is in good condition, or manage the waste in some other way that complies with the requirements of this part.
2. The operator shall use containers made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.
3. A container holding hazardous waste should always be closed during storage, except when it is necessary to add or remove waste.
4. A container holding hazardous waste should not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.
5. The operator shall inspect areas where containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors. The operator shall keep records and results of inspections.

D. Special Requirements for Ignitable or Reactive Waste

1. Containers holding ignitable or reactive waste shall be located within the transfer/containment slab on secondary containment pallets. An overhead fire suppression system shall be located in this area.
2. The operator shall take precautions to prevent accidental ignition of ignitable waste. This waste will be separated and protected from sources of ignition including but not limited to: open flames, smoking, cutting and welding, hot surfaces frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable waste is being handled, the owner or operator should confine smoking and open flame to a specially designated location. "No Smoking" signs are conspicuously placed wherever there is a hazard from ignitable waste.
3. Reactive wastes shall receive such special handling and storage as needed to prevent unintentional reactions.

E. Special Requirements for Incompatible Wastes

The following are guidelines for prevention of fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible waste or if a container breaks or leaks.

1. Incompatible waste, or incompatible waste and materials should not be placed in the same container;
2. Hazardous waste should not be placed in an unwashed container that previously held an incompatible waste or material; and
3. Incompatible wastes should be stored separately. They should be separated by a minimum of two impervious barriers such that, should any one container fail, no waste or vapors will come into contact with incompatible material or containers.

F. Handling Requirements for Ignitable, Reactive, or Incompatible Wastes

Repackaging or treatment, including bulking, or neutralizing of ignitable, reactive, or incompatible waste, shall be conducted so that it does not:

1. Generate extreme heat or pressure, fire or explosion, or violent reaction;
2. Produce uncontrolled toxic vapors, dusts, or gases in sufficient quantities to threaten human health;
3. Produce uncontrolled flammable vapors, dusts, or gases in sufficient quantities to pose a risk of fire or explosion;
4. Damage the structural integrity of the device or facility containing the waste; or
5. Threaten human health or the environment.

G. Material Redistribution Guidelines

In the event Citrus County decides to establish a Material Redistribution Program in the future, the following shall serve as the program guideline for facility personnel.

1. Selection of Materials for Redistribution to the Public

Materials selected for exchange programs should meet the following minimum criteria:

- a. original containers only
- b. original label including ingredients, instruction for use, and warnings must be present and readable
- c. contents should be visually inspected and should look like correct material in new condition
- d. containers should be at least 3/4 full except pesticides, which should be full and, where applicable, sealed (NOTE: Facilities which choose to include pesticides must maintain a current list of banned, canceled, and restricted use pesticides.)

The following items should be excluded from redistribution programs:

- a) ammunition
- b) reactive materials
- c) canceled or banned products

Each item selected for redistribution should be approved by the facility manager or his/her designee.

2. Storage

- a) Materials designated for redistribution should be stored in a separate area of the facility. This area should be clearly marked and secured from unauthorized access.
- b) As a minimum, secondary containment sufficient to contain the entire contents of the largest two containers in storage should be provided. Secondary containment which also provides for the separation of incompatibles is preferred.

3. Customers

- a) All customers should be at least 18 years of age
- b) Customers should be allowed to "shop" only in the designated area.

4. Documentation

Each redistribution program should develop and use a waiver/inventory form which includes the following elements:

- a) Customer's name and signature
- b) name and quantity of each material received
- c) liability waiver ("hold harmless" statement)

The above document would be reviewed by the county attorney prior to implementation.

VI. PREPAREDNESS AND PREVENTION

A. Arrangements with Local Authorities

1. The Facility Manager shall make the following arrangements, through distribution of a Contingency Plan, outlining the type of waste handled at the facility and the potential need for the services of these organizations:
 - a. Arrangements to familiarize police, fire department, and emergency response teams with the layout of the facility, properties of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;
 - b. Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any other to provide support to the primary emergency authority;
 - c. Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and
 - d. Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses that could result from fires, explosions, or release at the facility.

VII. CONTINGENCY PLAN AND EMERGENCY PROCEDURES

The following procedures serve as the Facility's guideline for Contingency Plan. Specific information may be located in the Citrus County Hazardous Waste Collection and Storage Facility Contingency Plan.

A. Purpose and Implementation of Contingency Plan

1. Each owner or operator should have a contingency plan for his facility. The contingency plan should be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.
2. The provision of the plan should be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

B. Content of Contingency Plan

1. The contingency plan should describe the actions facility personnel should take to protect the public from potential health and safety hazards in response to fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.
2. If the owner or operator has already prepared some other emergency or contingency plan in the normal permit application for the solid waste management facility, he/she need only amend that plan to incorporate hazardous waste management provisions that are applicable to the HHW collection site.
3. The plan should describe arrangements agreed to by local police department, fire department, hospitals, contractors, and State and local emergency response teams to coordinate emergency services as previously described.
4. The plan should list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (as described later). This list should be kept up to date. Where more than one person is listed, one should be named as primary emergency coordinator and others should be listed in the order in which they will assume responsibility as alternates.

5. The plan should include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems [internal and external], and decontamination equipment), where this equipment is required. This list should be kept up to date. In addition, the plan should include the location and a physical description of each item on the list, and a brief outline of its capabilities.
6. The plan should include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan should describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

C. Copies of Contingency Plan

A copy of the contingency plan and all revisions to the plan should be maintained at the facility, submitted to the local police and fire departments, hospitals, and State and local emergency response teams that would be called upon to provide emergency services.

D. Changes of Contingency Plan

The contingency plan should be reviewed, and immediately changed if necessary, whenever:

1. The plan fails in an emergency,
2. The facility changes in its design, construction, operation, maintenance, or other circumstances in a way that increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;
3. The list of emergency coordinators changes; or
4. The list of emergency equipment changes.

E. Emergency Coordinator

At all times, there should be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator should be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the locations and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person should have the authority to commit the resources needed to carry out the contingency plan.

The emergency coordinator's responsibilities vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of coordinator is responsible for.

F. Emergency procedures

1. Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) should immediately:
 - a. Activate internal facility alarms or communication systems, where applicable, to notify all facility alarms or communication systems.
 - b. Notify appropriate State or local agencies with designated response roles if their help is needed.
2. Whenever there is a release, fire, or explosion, the emergency coordinator should immediately identify the character, exact source, amount, and the extent of any released materials. He or she may do this by observation or review of facility records, or if necessary, by chemical analysis.
3. Concurrently, the emergency coordinator should assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment should consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire, or heat-induced explosions).

4. If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he should report his findings as follows:
 - a. If his assessment indicates that evacuation of local areas may be advisable, he should immediately notify appropriate local authorities. The emergency coordinator should be available to help appropriate officials decide whether local areas should be evacuated; and
 - b. He should immediately notify either the government official designated as the on-scene coordinator for the area or the State Warning Point (using their 24-hour number 904/488-1320). The report should include:
 - i. Name and telephone number of reporter;
 - ii. Name and address of facility;
 - iii. Time and type of incident (e.g., release, fire);
 - iv. Name and quantity of material(s) involved, to the extent known;
 - v. The extent of injuries, if any; and
 - vi. The possible hazards to human health, or the environment, outside the facility.
5. During the emergency, the emergency coordinator should take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other areas of the facility. These measures should include, where applicable, stopping processes and operations, collecting and containing release waste, and release waste, and removing or isolating containers.
6. During an emergency, the emergency coordinator should monitor for leaks, pressure buildup, gas generation, or ruptures in containers and/or equipment, wherever this is appropriate.
7. Immediately after an emergency, the emergency coordinator should provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material contaminated by a release, fire, or explosion at the facility.

8. The emergency coordinator should ensure that, in the affected area(s) of the facility;
 - a. No waste that may be incompatible with the released material is stored or handled until cleanup procedures are complete; and
 - b. All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.
9. The owner or operator should notify appropriate State and local authorities, in writing, that the facility is once again functional before operations are resumed in the affected area(s) of the facility.
10. The owner or operator should note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 24 hours after the incident, incidents shall be reported to the Department of Environmental Protection (District Office Hazardous Waste Supervisor), and a written report on the incident should be submitted within 15 days. The report should include:
 - a. Name, address, and telephone number of the owner or operator;
 - b. Name, address, and telephone number of the facility;
 - c. Date, time and type of incident (e.g., fire, explosion);
 - d. Name and quantity of material(s) involved;
 - e. The extent of injuries, if any;
 - f. An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
 - g. Estimated quantity and disposition of recovered material that resulted from the incident.

EXHIBIT 1. SUGGESTED OUTLINE HAZARDOUS WASTE MANAGEMENT FACILITY CONTINGENCY PLAN

I. Facility Identification and General Information

1. Name of Facility
2. Location
3. Owner's Name, Address, and Telephone Numbers (office and hours)
4. Type of Facility
5. Facility Site Plan
6. Description of Treatment, Storage and Disposal Activities

II. Emergency Coordinator(s)

1. Primary Coordinator
2. Alternate Coordinator(s)
3. Emergency Duties and Authority to Commit Facility Resources

III. Implementation of Contingency Plan

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2. Control Containment
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APPENDIX TWO

SITE OPERATIONAL GUIDELINES

for the

**HAZARDOUS WASTE COLLECTION AND STORAGE
FACILITY**

located at the

Citrus County Central Landfill

230 West Gulf-to-Lake Highway

Lecanto, Florida

prepared by the

**Department of Public Safety
Hazardous Material Section**

July, 1996

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I. DEFINITIONS

Conditionally Exempt Small Quantity Generators - (40 CFR 261.5) A generator who produces no more than 100 kg (220 lbs) of hazardous waste or no more than 1 kg of acutely hazardous waste per month.

Contingency Plan - A document setting out an organized, planned, and coordinated course of action.

Hazardous Material - A substance or material including a hazardous substance, which has been determined by the Secretary of Transportation capable of posing an unreasonable risk to health, safety, and property during transportation.

Hazardous Waste - A hazardous waste as defined by 40 CFR 261.3 is a material that could be ignitable, corrosive, reactive, toxic, or also a listed waste.

Hazardous Waste Collection and Storage Facility - A facility established by the Citrus County Board of County Commissioners to provide hazardous waste disposal services to households and conditionally exempt generators.

Household - Single and multiple dwellings and other residential sources.

Personal Protective Equipment - Equipment used to protect individuals from chemical, physical and biological hazards.

Training - Instruction in the use of equipment, personal protective equipment, site safety and handling.

II. FACILITY PROGRAM

The Citrus County Household Hazardous Waste Collection Facility, located at 230 Gulf-to-Lake Highway, Lecanto, Florida consists of a secured manufactured metal storage building specifically designed for the storage of hazardous materials and/or wastes. The major components of the Hazardous Waste Collection Facility are as follows:

- ◇ Security System - The entire site is fenced with a six (6) foot high chain link fence, topped with a triple strand of barbed wire. Two gates provide ingress and egress to the facility. When not in use, the facility is locked and secured. A double security exists in that the main access road into the County Landfill has a gate and is secured when the Landfill is not in operation.
- ◇ Containment and Storage System - The storage building consists of a prefabricated metal storage building specifically designed for hazardous materials featuring secondary containment in the event of a spill. The building is corrosion resistant equipped with forced air ventilation, dry chemical fire suppression system, and two metal bulkheads creating three separate storage spaces.
- ◇ The storage building sits flush with the impervious, sloped, diked, and reinforced cement containment area. The Facility is located in a small complex operated by the Citrus County Solid Waste Management Division.

The facility is open to Citrus County residents quarterly on the second Saturday from 8:30 A.M. until 2:00 P.M. and on the second Wednesday of the remaining months from 8:30 A.M. until 12:00 noon. Up to fifty pounds of household generated hazardous waste is accepted during these times and disposal is provided free to residents of Citrus County.

Following the Wednesday household disposal events, from 12:00 noon until 2:00 P.M., hazardous waste generated by Conditionally Exempt Small Quantity Generators (CESQG) will be accepted at the Hazardous Waste Collection and Storage Facility by appointment only. CESQG(s) are specifically defined by 40 CFR, Part 261. The County's disposal contract rates will apply to Citrus County CESQG business waste only. All businesses participating in the business collection programs shall sign an affidavit stating that they understand the Rules and Regulations and are a CESQG. Waste acceptance is in accordance with Facility Standards, Section III, Item B.

Wastes generated by Small Quantity Generators (SQG) will not be accepted during these events. The County's Hazardous Waste Contractor shall work with the County in an effort to establish collection route services (milk-runs) for SQG.

Facility Program Con't:

Twice a year, or more frequently as needed, Citrus County's Hazardous Waste Contractor will be on-site to perform shed clean outs. The Facility Site Supervisor or Assistant will review all paperwork and will have the responsibility of approving and signing outgoing manifests.

Materials will be accepted from County residents during non-operating hours on occasions when the resident will be unable to be in the County during the scheduled collection days. Residents may drop their waste off at the Administrative Office, Division of Solid Waste Management located at 230 Gulf-to-Lake Highway. The Facility Administrative Assistant or Site Staff will screen all incoming materials. The wastes will then be relocated to the Facility Collection area where they will be placed on pallets on the containment slab within the fenced area of the site.

Careful attention will be given to the proper preliminary segregating of the waste using the guidelines contained within this document. Upon acceptance of materials during non-operating hours, the Facility Site Supervisor or Assistant will be notified to properly segregate, store, and log the wastes into the locker storage units.

If materials are questionable or any unknowns discovered, the Facility Administrative Assistant shall contact the Facility Site Supervisor or Assistant for guidance.

III. TECHNICAL APPROACH

Safety is the primary concern of all personnel participating at the Hazardous Material Collection and Storage Facility. All staff are instructed in how to handle emergencies as well as site safety. The collection program is maintained in a neat and organized manner at all times. Good housekeeping practices are followed. The unloading area will be kept clean and free of excess materials. It is the responsibility of all Facility staff to follow these guidelines. No smoking signs are posted. Smoking is prohibited at the Facility.

Facility staff will assist participants by answering questions about proper disposal methods and handing out informational literature. Only hazardous waste generated by Citrus County households will be accepted during the household hazardous waste disposal programs. In the event a participant arrives to dispose of waste generated from a business, the CESQG hazardous waste disposal program will be explained.

Following are guidelines to follow in processing the participant(s)' waste:

A. SAFETY PROCEDURES

Facility Staff will, at all times, act in a safe manner. Work practices will be carried out to minimize or eliminate the possibility of an injury-related accident. Proper ergonomics will be followed. Correct lifting techniques will be used by all personnel in order to prevent injury to the body. Containers will be removed from vehicles one at a time onto the utility carts.

Appropriate PPE will be worn when handling hazardous waste. Protective clothing is required not only for staff's safety but also to reduce the risk of cross contamination when leaving the site. Close attention shall be given to staff during the summer months to reduce the risk of heat related injuries. All Facility staff will monitor themselves for any signs or symptoms of heat stress and act accordingly.

B. REMOVAL FROM VEHICLES

Traffic will be directed from the scale house at the front entrance of the Landfill to the Hazardous Waste Collection and Storage Facility. All incoming cars are directed by signs to a stopping point where participants will be greeted by trained County staff. An initial spotting of the chemicals by Facility staff will be performed before removal of chemicals from the vehicle. The participants will be questioned on the contents of any unknown materials or unmarked containers. If any

Removal from vehicles con't:

unacceptable or unknowns are spotted, personnel will immediately notify the Facility Site Supervisor or Site Assistant.

The waste from the vehicles will then be unloaded onto carts by the Facility Unloaders/Paint Sorters. Participants will remain in their vehicles and will not be allowed to unload their waste. This reduces risks of spills or injuries. Facility staff will then evaluate the contents. If any leaking containers are spotted, the container will be placed into an overpack bucket. The participant will be informed of the leak. It is not the responsibility of Facility staff to clean up the leak or spill beyond initial containment.

B. WASTE SEGREGATION

County personnel will transport the waste from the cart to the preliminary sorting table located at the front of the Facility. Cardboard boxes, packaging, similar debris, and/or household trash will be removed and placed into the roll-off designated for trash. The Site Supervisor and/or the Site Assistant will examine all materials received. They will then sort the waste according to Department of Transportation hazard classes placing the waste on the appropriate tables. Usually, pesticides, paints, and low-chlorine flammables represent the majority of the waste received.

C. LOCKER STORAGE

Each chemical storage unit is clearly labeled with DOT placards showing the hazard class of the materials which it contains. In addition to the hazard class, each storage building has a list of chemicals which can be safely stored in that building posted inside the door (Appendix One). The Facility Site Supervisor and/or Assistant will categorize all waste within a storage locker according to its reactivity/compatibility with waste within that hazard class. The hazard class will be determined by:

- ◇ Product labels;
- ◇ Participant information; and
- ◇ Reference materials.

Each container will be logged onto a locker content inventory sheet (Appendix Three) by:

- ◇ Chemical name;
- ◇ Product name;
- ◇ EPA Waste Code; and
- ◇ Size of container.

Locker storage con't:

Wastes shall be stored according to their primary hazard, noting the subsidiary hazard on the inventory log sheet. The basic categories of waste are as follows:

- ◇ Flammables (Bulked);
- ◇ Pesticides (Flammables and toxic);
- ◇ Corrosives (Acids, Bases);

To ensure that materials are segregated and properly stored, the following guidelines are adhered to:

- ◇ Corrosive materials will not be stored directly next to oxidizers or reactives
- ◇ Acidic Corrosives will be separated from Alkaline Corrosives;
- ◇ Oxidizers will not be stored directly next to organic materials; and
- ◇ Incompatible material will not be stored with its reactant.

The Site Supervisor or Assistant shall have the final decision on what wastes to accept or not accept, classification, and any other decision regarding the waste.

E. WASTE BULKING

Only the Facility Site Supervisor or Site Assistant will determine which wastes should be bulked. All labels will be read before bulking any wastes together to ensure compatibility. Safety will be the major factor in bulking. No bulking shall take place during inclement weather.

Containers of compatible waste are opened and poured directly into fifty-five gallon drums. When bulking flammables, the drum will be grounded before bulking procedures begin. During bulking process, a fire retardant Nomex suit and respiratory protection including an air-purifying respirator with organic filter cartridges will be worn. When the drum is full or bulking is discontinued for that work period, the lid shall be replaced. A small space for vapor expansion shall be left at the drum head space.

Low chlorine flammables shall be bulked separately from high chlorine flammables. Two dry chemical fire extinguishers will be placed within close proximity to the bulking area. All empty containers will be discarded into the trash roll-off at the end of each work period. Consolidating of Ethylene Glycol (antifreeze) will also be performed at this location.

Waste bulking con't:

Drums are required to have the proper labels and markings adhered to them. The labels will be placed so that they are visible. The Hazardous Waste Label will contain the following information:

- ◇ The hazardous waste warning statement;
- ◇ The generator's name and address;
- ◇ The generator's EPA ID#;
- ◇ The accumulation start date; and
- ◇ The proper U.S. DOT description including

U.N. ID#;
proper shipping name; and
hazard class.

The proper D.O.T. hazard class label will be applied adjacent to the Hazardous Waste Label. The labels will be applied to the drums at the beginning of bulking procedures.

F. DRUM STORAGE

All drums will be stored following all applicable Federal and State Rules and Regulations. A weekly drum inspection log will be kept and maintained at the Facility (Appendix Four -Drum Inventory Log Sheet.) The following items will be recorded:

- ◇ Drum Number;
- ◇ Drum Contents;
- ◇ Date of Inspection;
- ◇ Inspector's Initials;
- ◇ Condition of Drums; and
- ◇ Final Disposition.

G. UNKNOWNNS

It is the intent of these guidelines to not accept unknowns; however, on occasions unknowns must be accepted. These items are materials which cannot be identified by either original labels or by participant knowledge. The following procedures will be adhered to:

- ◇ Unknowns will be placed on the center segregation table;
- ◇ Using a permanent marker, mark the container "UNKNOWN";
- ◇ Perform a pH test and record the results with permanent marker on the container;
- ◇ Perform a flammability test;
- ◇ If further classification warrants, perform a HAZCAT chemical identification test;
- ◇ Log onto log sheet; and
- ◇ Place material into appropriate storage building according to hazards.

IV. PERSONNEL TRAINING REQUIREMENTS

All County personnel participating in the Hazardous Waste Collection Programs shall be trained to the appropriate level for their participation. All trained County personnel will be specifically trained as Hazardous Waste Collection Staff. The Facility Site Supervisor and/or Assistant will be responsible for enforcing all safety policies. The following guidelines outline the training requirements to be completed by personnel so they may safely work with hazardous materials during the collection programs. This training will therefore reduce the potential for hazardous material-related accidents.

A. UNLOADERS/PAINT SORTERS:

Training for this level will be limited to on-the-job instruction. Personnel trained will have minimal contact with the waste. After initial screening of the waste, personnel will unload the waste from the vehicles onto carts. They will sort paints into water based or oil based categories and place in the appropriate containers. Training will consists of:

- ◇ Florida Right-to-Know;
- ◇ Physical and Health Hazards;
- ◇ Proper Personal Protective Equipment; and
- ◇ Emergency Spill Procedures.

B. FACILITY STAFF:

Training for this level of participation will include both class room instruction and on-the-job training. Staff will assist with opening and closing the Facility, screening incoming materials, and responding to spills, releases, or any other emergency. Specific training will include but not be limited to the following:

- ◇ HAZWOPER Operational Level (29 CFR 1910.120);
- ◇ Florida Right-to-Know;
- ◇ CPR;
- ◇ On-the-job training in accepting, identifying, segregating, and storing waste;
- ◇ Hazardous waste rules and regulations; and
- ◇ Emergency response to hazardous material incidents.

All Facility Site Staff actively working with hazardous materials and hazardous waste under the direction of the Facility Site Supervisor and/or Assistant shall have, at a minimum, Technician Level Training.

C. FACILITY SITE SUPERVISOR AND SITE ASSISTANT:

Training shall be sufficient at this level to meet State and Federal Rules and Regulations and to supervise the site safety of all Facility Site Staff. The following are the minimum guidelines for this level of participation:

HAZARD COMMUNICATIONS STANDARD, 29 CFR 1910.1200

The objective of this training is to provide health and safety information concerning the hazards of chemical substances that personnel will come in contact with. The transmittal of information is accomplished by means of container labeling and MSDS's, thus enabling personnel to recognize chemical hazards and the means available for personal protection and safety. Emphases will be placed on the following topics:

- ◇ A summary of the Hazard Communication Standard;
- ◇ A description of the NFPA based labeling system;
- ◇ The contents and use of MSDS's;
- ◇ Physical and health hazards associated with potential exposure to chemicals;
- ◇ Methods and observations used to detect the presence or release of hazardous materials; and
- ◇ Procedures to protect against hazards, including personal protective equipment, work practices, and emergency response to spills, leaks, and accidental exposure.

HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE 29 CFR 1910.120.

The objective of this training is to provide personnel with the knowledge and skills necessary to safely and successfully respond to any on-site spills and/or releases. A five level classification system is used to provide appropriate training to indicate the scope of their authorized response activities;

- ◇ First Responder Awareness Level;
- ◇ First Responder Operations Level;
- ◇ Hazardous Materials Technician;
- ◇ Hazardous Material Specialist; and
- ◇ Incident Commander.

Personnel training requirements con't:

Personnel trained in accordance with this Section shall receive annual refresher training of sufficient content and duration to maintain their competency. A record of the methodology used to demonstrate competency shall become a part of the employee's training record (Appendix Two).

In addition to yearly refresher courses, annual or more frequently personnel at this level must participate in hazardous material emergency response drills. Upon completion of the drill(s), a critique will be developed to address the strengths and weaknesses of each employee. Deficiencies will be identified and corrected as appropriate.

DEPARTMENT OF TRANSPORTATION (DOT) HM-126F, 49 CFR 172.700.

The purpose of this training is to enable personnel to identify materials that may be dangerous to people or property during transportation. In addition, training will provide for the communication of those possible dangers or hazards in several ways. DOT specifies that any employee who directly affects hazardous material transportation safety through involvement in packaging, transport, manifesting, labeling, and/or maintenance is subject to the training required of this Section. At a minimum, the four areas of training to be addressed are:

- ◇ General Awareness and Familiarization;
- ◇ Function Specific Training;
- ◇ Safety Training; and
- ◇ Driver Training.

Specific function training will emphasize the following areas:

- ◇ Hazard Classes;
- ◇ Shipping Papers;
- ◇ Hazardous Wastes, Hazardous Substances and Marine Pollutants;
- ◇ Load Segregation;
- ◇ Labeling;
- ◇ Marking;
- ◇ UN Specifications for Material Containerization and Package Marking Selection; and
- ◇ Placarding.

In addition to HM-126F competency, training will be required to fully understand the new shipping regulations known as the DOT HM-181, Performance-Oriented-Packaging Standards.

HAZARDOUS WASTE TRAINING:

This category of training provides for the training requirements enabling personnel to be in compliance with the Resource Conservation and Recovery Act (RCRA) as specified in 40 CFR 265.16. The intent of this training is to provide the knowledge and skills necessary to perform hazardous waste handling and to clean up with minimal risk to their safety and health, and to minimize damage to the environment. The personnel will show competency in recognizing hazards and using appropriate work practices to minimize those hazards.

STANDARD FIRST AID/CPR TRAINING

Facility Site Supervisor, Site Assistant, and Facility Assistant will hold up current CPR cards and at least one individual trained to First Responder Level shall be on site during program days.

All Facility Site staff shall have annual refresher courses. This not only satisfies OSHA requirements, but provides for the safety of personnel. A record of the initial training and the updates shall be recorded on the Training Record (Appendix Two) and shall become a part of the employee's record.

V. PERSONAL PROTECTION EQUIPMENT PROCEDURES

Personal Protective Equipment (PPE) is used to limit exposure to various hazardous materials and wastes at the Hazardous Waste Collection and Storage Facility. PPE is necessary when handling hazardous materials to prevent skin contact with harmful substances. Whenever removing and/or otherwise working with hazardous materials or waste, personnel are required to wear, at a minimum, the following personal protective equipment:

A. UNLOADERS/PAINT SORTERS:

- ◇ Safety glasses;
- ◇ Chemical resistant gloves with outer leather gloves; and
- ◇ Protective coveralls (Tyvek) or apron (optional).

B. FACILITY STAFF:

- ◇ Safety glasses ;
- ◇ Chemical resistant gloves inner glove and outer puncture-proof (leather) glove;
- ◇ Respirator with organic vapor cartridge or high efficiency particulate air filter, (HEPA) if necessary as determined by the waste material being handled;
- ◇ Steel toed, chemical resistant boot or safety boots;
- ◇ Chemical resistant aprons; and
- ◇ Fire retardant Nomax Jumpsuit; when bulking flammable liquids.

In the event of a spill or release of a hazardous material or waste, the following protective equipment is available on-site:

- ◇ Full-faced air purifying respirators;
- ◇ Positive Pressure Self-Containing Breathing apparatus (SCBA); and
- ◇ Chemical resistant suits.

When specialized training is required to properly utilize personal protective equipment, this training must be provided to the employee prior to its use. A record of the training will become a part of the employee's personnel record (Appendix Two).

VI.SPILL/RELEASE PROCEDURES

The facility Site Supervisor and/or Assistant shall be properly trained in hazardous material emergency response to efficiently mitigate, contain, and clean up any accidental spill/release that might occur at the Facility. At all times, the safety of personnel and program participants are the primary concern.

The following will be considered emergencies at the Facility:

- ◇ Fire or smoke is noticed;
- ◇ An explosion occurs;
- ◇ A leak or spill is discovered;
- ◇ Medical emergencies, including heat induced injuries; and
- ◇ Discovery of explosive devices.

When a spill/release or any other emergency occurs, the following guidelines will be followed:

- ◇ Cease operations/perform initial size up;
- ◇ Make mental note of nature, extent, source and amount of any released product;
- ◇ Evaluate potential harm to human health and the environment;
- ◇ Scene control. Keep all unauthorized individuals away from the scene;
- ◇ Protect individuals directing them, if not contaminated, away from the scene;
- ◇ If necessary, perform emergency personnel decontamination;
- ◇ If flammable materials are involved, check for all ignition sources;
- ◇ Don appropriate PPE for the materials involved;
- ◇ Take measures to contain release or fire from spreading to other hazardous areas as quickly as possible;
- ◇ Use of absorbent and/or pads can be used to contain spill;
- ◇ Notify 911 if warranted;
- ◇ Notify Facility Manager/Director of Solid Waste Management if necessary;
- ◇ Notify State Warning Point if reportable quantity;
- ◇ Perform basic first aid to stabilize any victims until E.M.S. arrives;
- ◇ Clean up any spills using compatible materials;
- ◇ Place waste in proper container for disposal through the County's Hazardous Waste Transporter;
- ◇ Label all containers;
- ◇ Decontaminate any personnel and/or equipment as appropriate; and
- ◇ Document using the Hazardous Material Incident Reporting Form.

Spill/release procedures con't:

Under no circumstances will the health and safety of County staff be placed in harm's way in the attempt to handle suspected explosives. If explosives are discovered, evacuate the immediate area, cease traffic flow, and notify the Sheriff's Department Bomb Technician.

If a reportable quantity of a hazardous material has been spilled or released, a follow-up written report must follow within fifteen working days and be filed with the State Emergency Response Center.

Decontamination procedures will be consistent with procedures identified in the Citrus County Hazardous Material Standard Operating Guidelines. After the incident, all equipment will be decontaminated and inspected for damage before being placed back into service.

A portable eye-wash station is on-site during program events. In the event of materials being splashed into staff's eyes, a minimum eye-wash of fifteen minutes shall take place.

In the event of fire or explosion, **immediately** notify the Facility Manager/Director of Solid Waste Management to begin evacuation procedures as specified in the Central Landfill's Contingency Plan for Emergency Incidents.

VII. STORAGE UNIT CONTENTS

The Hazardous Waste Collection and Storage Facility is equipped with three separate storage units. All wastes will be segregated into the following three categories for storage:

- ◇ Flammables & Reactives;
- ◇ Corrosives & Oxidizers; and
- ◇ Poisons.

Within each locker unit, the categorized waste will be further segregated into compatible divisions. Once compatibility has been determined, designated shelves are marked for the storage of wastes. Only personnel trained in the proper storage and segregation of waste shall place materials in the units.

If there is uncertainty as to the compatibility of materials, it will be the responsibility of the Facility Site Supervisor and/or Assistant to make the final decision of proper storage. The wastes will be logged onto the Locker Content Inventory Sheet (Appendix Three). The following guidelines will be used when determining the compatibility of wastes:

INCOMPATIBLES

Mixtures dangerous to health and/or environment Heat-Fire-Explosion-Toxic Releases

- ◇ Oxidizers and Organics

Pool Chlorines (Hypochlorite and Trichlor)
Pool Chemicals & Petroleum Products
Some Fertilizers & Oil
Hydrogen Peroxide & Potassium Permanganate

- ◇ Alkaline Corrosives and Acidic Corrosives

Tile Scale Removers & Bathroom Cleaners
Ammonia Cleaners & Chlorine Cleaners
Drain Openers

- ◇ Reactives & Multiple Classes

Cyanide Pesticides & Acids
Sodium or Potassium Metals & Water
Fiberglass Hardeners & Certain Organics

COMPATIBLES

Materials in the left hand column may be stored in the same locker unit with materials in the right hand column.

Flammables

Poisons
Non-Flammable Solvents
Cyanides/Sulfides
Water Reactives
Metal Bearing wastes

Alkaline Corrosives

Metal Bearing Wastes
Cyanides/Sulfides

Acid Corrosives

Metal Bearing Wastes
Mineral Acids
Alkaline Corrosives

Poisons

Flammables
Metal Bearing Wastes
Alkaline Corrosives

Metal Bearing Waste

Alkaline Corrosives
Acid Corrosives
Oxidizers
Flammables
Poisons

All Organic Peroxides, Other Reactive Compounds, and Unknowns will be reviewed case-by-case. The use of Bretherick's Handbook of Reactive Chemical Hazards, 5th Edition will allow assessment of the likely potential for reaction hazards which may be associated with chemical compounds.

VIII. EQUIPMENT

Following is a partial list of the equipment available during hazardous waste disposal programs held at the Citrus County Hazardous Waste Collection and Storage Facility:

A. Equipment permanently stored at the Facility:

- Drum Dolly
- Drum Up-Ender
- pH paper and meter
- Water Finding Test Paper
- Fire Extinguishers
- Assorted Tools
- Funnels
- Utility carts
- Shovels and brooms
- 55 gallon drums
- 85 gallon overpack drums
- 30 gallon drums
- 3 and 5 gallon buckets
- Absorbent
 - Vermiculite
 - Fuel Absorbent
 - Pads, pillows
- Sampling pipettes
- Traffic cones
- Labels
- Inventory sheets
- Assorted tape
- Neutralizing agents

B. The following equipment is mobilized to the site for each program:

- Voice Communications (Two-way radios)
- Portable Telephone
- Portable Laptop Computer
- Portable Eye-Wash Station
- Combustible Gas Indicator
- Flame Ionizing Detector
- Chlorine Detectors
- HAZCAT KIT
- SCBA(s)
- Level B Protective Clothing

APPENDIX ONE
SUGGESTED LOCKER CONTENTS

LOCKER 1

Flammables Hazard-Class 3

A flammable liquid is defined as a liquid having a flash point of less than or equal to 141° F.

Acetone	Petroleum Distillates
Copper Naphthate	Polyurethane Activator
Denatured Alcohol	Polyurethane Hardener
Formaldehyde	Polyurethane Resin
Glue	Thompson's Water sealer
Methyl Alcohol	Toluene
Mineral Spirits	Turpentine
Paint Stripper w/o Methylene Chloride	Wood preservatives containing copper naphthate
Paint Thinner	Xylene

Flammable Solids-Hazard Class 4

Includes materials that are spontaneously combustible and dangerous when wet.

Benomyl (Pesticide)
Hexamine
Lead Phosphate
Aluminum carbide
Potassium, metal alloys

Aerosols - Hazard Class 2

Aerosols will be stored on the back shelves of the locker.

LOCKER 2

Corrosive Material, (Acids) - Hazard Class 8

A corrosive material is defined as a liquid or solid that causes visible destruction or irreversible alteration in human skin tissue or that causes corrosion of steel or aluminum. An acid has a pH value between 0 and 6.

Acidic materials may be stored next to Oxidizers.

Acetic Acid	Naval Jelly
Acidic Pool Chemicals	Nitric Acid
Boric Acid	Oxalic Acid
Hydrochloric Acid	Radiator De-Scaler
Liquid Iron	Radiator Flush
Material With a pH of 0 to 6.5	Rust Remover
Muriatic Acid	Sulfuric Acid

Oxidizers - Hazard Class 5

An oxidizer is a material that may, by yielding oxygen, cause or enhance the combustion of organic materials such as wood or solvents.

May be stored next to acids

Bleach with Chlorine	Fertilizers
Calcium Hypochloride	Hydrogen Peroxide (Do not mix with potassium permanganate)
Chlorates	Mildew Remover
Chlorine, any form	Nitrates
Chromates	Sodium Hypochlorite

LOCKER 2

Corrosive Material, Basic (Alkaline)- Hazard Class 8

These corrosives have a pH value from 8 to 14 on the pH scale.

Alkaline Pool Chemicals

Drain Cleaners

Alkaline Products

Oven Cleaners

Amine: Products with Amines

Photography Chemicals

Ammonia; Ammonia containing products

Products that have a pH range
of 8 to 14

Caustic products that do not contain oxidizers

Tri-Sodium Phosphate (TSP)

LOCKER 3

Poisons-Hazard Class 6

Poisons represent materials that are known to be so toxic to humans as to afford a hazard to health during transportation or may be known to have a toxic effect on test animals. The route of entry into the body can be through inhalation, ingestion, injection, and absorption.

Segregate Poisons inside Compartment by Product Name:

Examples: Malthion; Chlordane; Sevin; Liquid Copper;

Arsenic Compounds	Pesticides
Creosote	Tear Gas
Flea Shampoo	Tri butylin Oxide
Herbicides	Weed Killer
Insecticides	Weed & Feed
Orthotolidine	Wood Preservatives containing
Methylene Chloride	a. Pentachlorophenol
Pentachlorophenol	b. Tri butylin oxide

Poisons having a subsidiary hazard of flammability shall be segregated within the Poison locker from poisons with only a toxicity hazard.

APPENDIX TWO

TRAINING RECORD

CITRUS COUNTY HAZARDOUS WASTE COLLECTION AND STORAGE FACILITY

TRAINING RECORDS

EMPLOYEE NAME _____
EMPLOYEE NUMBER _____ JOB TITLE _____
WORK AREA _____

	INITIAL	UPDATE	UPDATE	UPDATE
Employee Right to Know				
Physical and health hazards of chemicals and operations on the job				
Where exposure to hazards is possible				
Explanation of safe work practices				
Explanation of personal protective equipment and location in workplace				
Explanation of routine and non routine tasks				
Explanation of emergency procedure spill notification				

SUPERVISOR'S STATEMENT

This employee has been trained in all the above topics and the individual hazards of regulated chemicals in the work area have been explained.

Supervisor _____
(Print Name)

Signature _____

EMPLOYEE'S STATEMENT

I have received the above training and all the above topics have been covered and questions answered. I understand my rights and responsibilities as an employee.

Employee Signature _____

APPENDIX THREE

LOCKER CONTENT INVENTORY SHEET

2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 2681, 26

DOT Shipping Name	UN/NA Number	Hazard Class

[illegible]

APPENDIX FOUR
DRUM INVENTORY LOG

DRUM INVENTORY LOG SHEET

[illegible]

APPENDIX FIVE

HOUSEHOLD HAZARDOUS WASTE AGREEMENT

BETWEEN

**FLORIDA DEPARTMENT OF ENVIRONMENTAL
PROTECTION**

AND

CITRUS COUNTY

Household Hazardous Waste Agreement
between
Florida Department of Environmental Protection
Bureau of Emergency Response
and

CITRUS

**County Household Hazardous Waste
(HHW) Program**

Purpose & Background

This Agreement is entered into between the above-named entities, respectively referred to as "DEP" and "County". The purpose of this Agreement is to set forth a policy and response procedure for the disposal of small amounts of household hazardous waste (HHW).

DEP operates an emergency response program in which abandoned materials or other materials are encountered, requiring disposal as a hazardous waste. Occasionally, these amounts are small and all facts support the conclusion that the material is of HHW nature. However, at times, it is inconvenient, impractical or not cost-effective for DEP to handle such HHW. The County is better suited for handling HHW.

The County operates an HHW program for the collection and disposal of small amounts of exempt HHW from citizens. However, occasionally, abandoned drums of a non-HHW nature (i.e., fully-regulated, non-exempt hazardous waste) may be found at the entrance of the HHW collection area, despite attempts to clearly mark the area to prevent such incidents. Such abandoned wastes often require extraordinary analytical and disposal efforts, for which DEP is better suited.

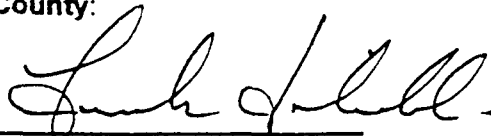
Agreement

Therefore, in order to make the best use of the two agencies' resources, the agencies agree to the following:

1. DEP agrees to respond and remove abandoned materials which are clearly of a non-HHW nature which would otherwise impose undue hardship on the County. (DEP may occasionally ask that the County store the drum temporarily while removal arrangements are made, then DEP will dispose of the drum.) Temporary storage shall be within Federal Guidelines for non-permitted facilities, and should not exceed ten (10) days.
2. DEP will attempt to provide for disposal of HHW it encounters (e.g., in a drum of similar material which DEP may have in its possession). However, the County agrees to accept small amounts of HHW for disposal if DEP cannot dispose of the HHW in a timely, cost-effective and practical manner. Only HHW will be brought to the County for disposal.

This Agreement is effective upon the last date signed below, and will remain effective until modified by mutual agreement, or canceled by either agency.

For County:



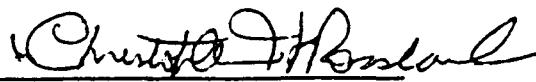
signature

Frank Schiraldi

print name

Chairman,
Board of County Commissioners
agency

For DEP:



signature

CHRISTOPHER W. ROSSBACH

print name

Fla. Dept. of Env. Protection

21 NOVEMBER 1994