NEIC

EPA/STATE/TRIBAL PESTICIDE WORKSHOP
SOUTH DAKOTA DEPARTMENT OF AGRICULTURE
RAPID CITY, SOUTH DAKOTA

APRIL 17-19, 1990

National Enforcement Investigations Center, Denver

U.S. Environmental Protection Agency

Office of Enforcement

EPA/STATE/TRIBAL PESTICIDE WORKSHOP
SOUTH DAKOTA DEPARTMENT OF AGRICULTURE
RAPID CITY, SOUTH DAKOTA

APRIL 17-19, 1990

FINAL AGENDA

STATE AND TRIBAL PESTICIDE INSPECTOR WORKSHOP*

Rapid City, South Dakota

April 17-19, 1990

Tuesday, April 17, 1990

Time	Topic/Activity	Coordinated By
9:00 a.m.	Introduction/Course Objectives	S.D./NEIC
9:15 a.m.	Regulatory Updates - Ground Water - Endangered Species - Worker Protection	NEIC
10:00 a.m.	Basic Inspection Procedures	NEIC
10:30 a.m.	Break	
10:45 a.m.	Basic Inspection Procedures - Continued	
11:15 a.m.	Producer/Establishment Inspections	NEIC
12:00 p.m.	Lunch	
1:00 p.m.	Interview Techniques	R-8
1:45 p.m.	Narrative Writing	R-8
2:30 p.m.	Break	
2:45 p.m.	Case Preparation	R-8
3:30 p.m.	Fit Testing	NEIC

* Workshop location: Howard Johnson's, 2211 LaCrosse St., Rapid City, South Dakota

Wednesday, April 18, 1990

9:00 a.m.	Basic Safety	NEIC
9:45 a.m.	Photography	NEIC
10:30 a.m.	Break	
10:45 a.m.	Sampling	NEIC
11:30 a.m.	Inspection Briefing	S.D./NEIC
12:00 p.m.	Lunch	
1:00 p.m.	On-site Audit - Dealer/Applicator Interview - Records Review - Facility Inspection	S.D./NEIC
2:30 p.m.	Break	
2:45 p.m.	On-site Audit (continued)	S.D./NEIC

Thursday, April 19, 1990

9:00 a.m.	Documentation	S.D/NEIC
9:45 a.m.	DOT Regulations	NEIC
10:30 a.m.	Break	
10:45 a.m.	Preservation/Chain-of-Custody	NEIC
11:30 a.m.	Case Review	NEIC
12:00 p.m.	Lunch	
1:00 p.m.	Any Remaining Fit Testing	NEIC

CONTENTS

Regulatory Updates (pages 1-8)

Ground Water 1
Endangered Species 7
Worker Protection 7
Existing Worker Protection Standards 8

Inspection Procedures (pages 9-51)

Outline 9
Notice of Inspection 12
Selected Topics 13
Records 17
Pre-Inspection Checklist 24
Entry 28
NPJRS 29
NEIC Databases 34
South Dakota Forms 37

Producer/Establishment Inspections (pages 52-70)

Outline 52
Questions 54
Stock and Dealer Inspections 55
Producer and Marketplace Inspections 57

Interview Techniques (pages 71-100)

Outline 71
Opening Conference 72
Interviews 77
Inspection Criteria 92
Checklists 94

Report Preparation (pages 101-131)

Outline 101
Sample Report 114
The Inspection Report 117

Case Preparation (pages 132-170)

Inspection File Review 132
Review of Adequacy of Evidence 136
Inspection Report Evaluation Guide 143
Complaint Preparation and Filing 154

CONTENTS (continued)

Safety (pages 171-189)

Outline 171
Protective Clothing Guide 172
Chronic Toxicity 174
Safety Chapter 179
Articles 186

Photography (pages 190-201)

Outline 191
Occasional Number 192
Labels 193
Fundamentals 194
As Evidence 200

Sampling (pages 202-235)

Outline 202
Guidelines 208
By Media 210
Air Sampling 212
Residue Sampling 216
Bulk Sampling 223
SOPs 235

Documentation (pages 236-237)

Outline 236
Inspection File Review ..... see 132
Review of Adequacy of Evidence ..... see 136

DOT Regulations (pages 238-274)

Outline 238
Federal Express/DOT Workbook 239

Preservation, Chain-of-Custody (pages 275-282)

Outline 275
Preservative Tables 277
Custody Examples 280

Case Review/Referrals (pages 283-329)

Enforcement Responses 283
Response Guidance 288
Elements of a Violation 311
Washington, D.C. Ticket Policy 315
Case Examples 322

REGULATORY UPDATES

Ground Water
Endangered Species
Worker Protection

REGULATORY UPDATES

Ground Water

- EPA began working on agricultural chemicals in ground water strategy in 1985
- EPA published proposed strategy for comment in 1988
  - Original Goal: prevent unreasonable contamination of ground water
  - Present Goal: Use FIFRA tools (regulations/management plans) to further agency goal of ground water contamination prevention
- Proposing MCLs or health advisories for reference point or stop action level (red light/yellow light)
  - Red Light - contamination exceeds MCL or health advisory and certain actions stopped
  - Yellow Light - less contamination than MCL or health advisory but additional monitoring and/or certain actions required
- Public water supplies/Fresno problems (see article "DBCP Haunts California Wells")
- Draft State Management Plan Guidance was issued with Aldicarb guidance and contained 12 elements
  - 2 Major Issues
    1. Implementation Section 3 RUP or Section 6 Cancellation
    2. Health regions or counties to define level/geological area where contamination exists
  - "Health Regions" - former USGS geologist procedures for defining ground water areas
  - A second draft State Management Plan Guidance for comment to be issued again this spring
  - Guidelines/support documents for EPA approval of State Management Plans can be submitted in <u>two</u> chunks:
    1. Administrative
    2. Monitoring/Response

State Management Menu

- Moratorium Areas
- Wellhead Protection Areas
- Well Set Backs (Buffer Zones)
- Future Well Requirements: Location, Depth, Construction
- Permit for Pesticide Use in Sensitive Areas
- Change in Rate of Application
- Change in Timing of Application
- Advance Notice of Application
- Integrated Pest Management
- Best Management Practices
- Additional Monitoring
- Additional Training and Certification

- Responding to detection - menu of possibilities

- Monitoring Guidance

  various approaches
  pluses and minuses
  cost

- Evaluations

  Direct measures
  Environmental indicators
  State evaluates and submits

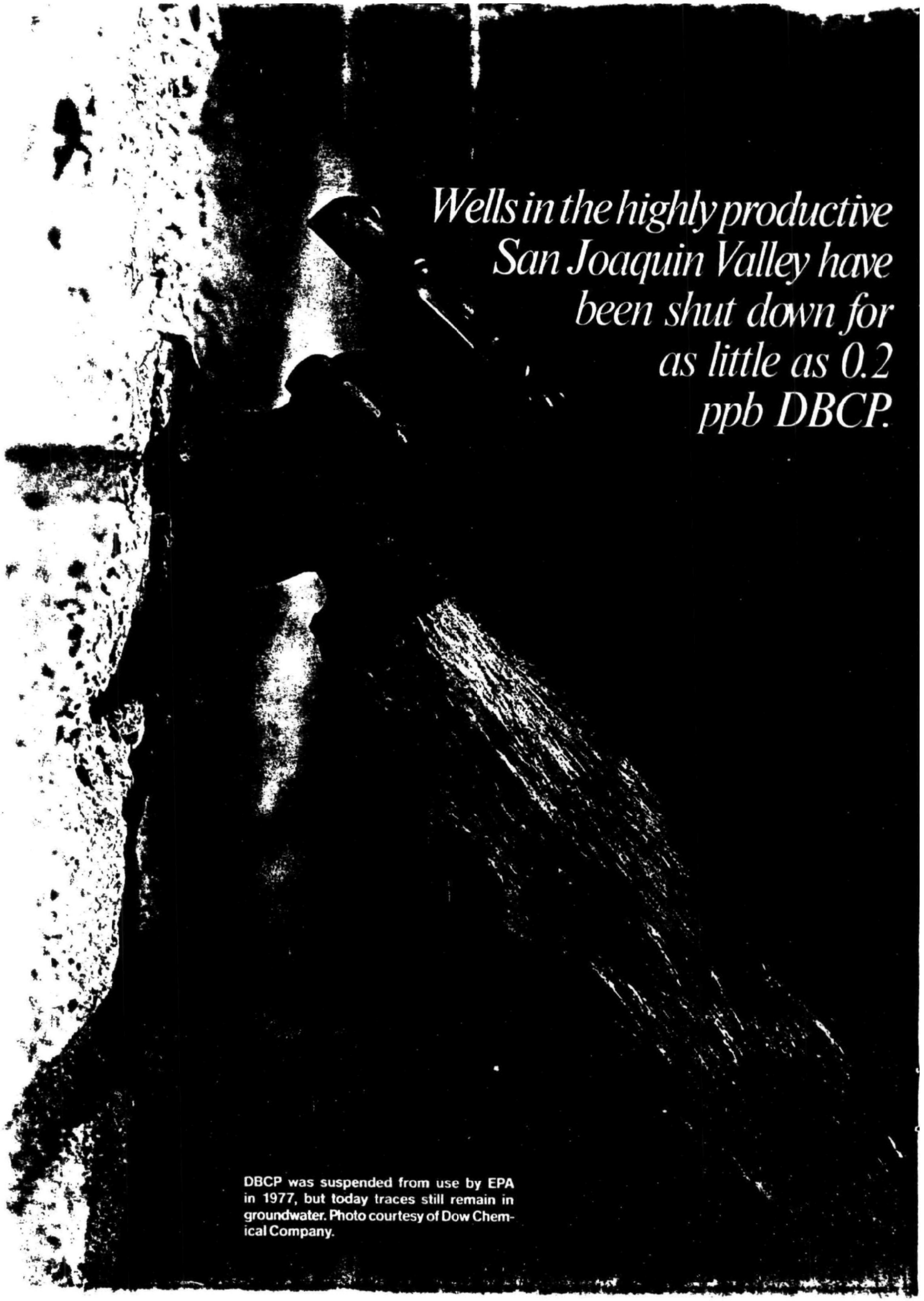
- Proposal to restrict chemicals/pesticides based on propensity to contaminate ground water currently in review at headquarters

- National Pesticide Survey

  - sampling completed
  - doing data entry/processing

- Estimating 2 years to implement ground water strategy

  - Major issue - Who gets the buck?
    - Who will handle ground water in states?
    - ? Authority to grant money to others



Wells in the highly productive San Joaquin Valley have been shut down for as little as 0.2 ppb DBCP.

DBCP was suspended from use by EPA in 1977, but today traces still remain in groundwater. Photo courtesy of Dow Chemical Company.

5

DBCP Haunts California Wells

BY BRENDA SIMMONDS AND DENNIS BROSTEN

Twenty-two municipal wells were closed last year in Fresno, Calif. because of dibromochloropropane (DBCP) contamination. Many of the closures followed a lowering by the California Department of Health Services of the Maximum Contaminant Level (MCL) for the nematicide in drinking water.

Although DBCP has not been used since 1977, minute traces of it remain in rural areas of Fresno County. Underground traces of DBCP have been moving from beneath the surrounding farmland to shallow aquifers tapped by the urban area of Fresno. Sandy soils, poorly sealed wells, and lower state tolerances have all contributed to the present situation. Consequently, the City of Fresno recently announced that it will file a lawsuit against the three former manufacturers of DBCP, to recover the anticipated costs of finding acceptable drinking water. Fresno may seek as much as $50 million in damages.

Some experts believe DBCP groundwater contamination extends for much of the 200-mile length of the San Joaquin Valley. According to hydrogeologist Kenneth Schmidt, whose company has done extensive research on groundwater quality in the San Joaquin Valley, "We think it is probably the largest case of groundwater contamination due to these types of chemicals in the nation."

DBCP, a soil fumigant first registered in 1955, was widely used to control nematodes in grapes, stonefruits, and various row crops. There are three major reasons why it wound up in groundwater: it was often applied deeply, by chisel injection; it is persistent, not readily degraded by microorganisms; and it is mobile. In the San Joaquin Valley, chemical mobility is exacerbated by some very sandy soils, frequent irrigations, and shallow aquifers.

Schmidt recalls that the first detection of DBCP in San Joaquin Valley groundwater dates back to the late 1970s, when contamination was found near the Occidental Chemical Plant in Lathrop, Calif. According to Schmidt, "It is my understanding they found it in the groundwater there and then started sampling around. They found out it was in water far away from the plant." He adds, "This led the State Health Services Department to start sampling programs, especially for cities and schools in the San Joaquin Valley, in about 1978."

DBCP was suspended from use by EPA in 1977. According to Carl Grable, a plant pathologist with the Registration Division of EPA, the compound had been identified as causing sterility and low sperm counts among production workers at the Occidental Chemical Plant in Lathrop. However, the workers were exposed to higher levels of DBCP than are found in groundwater. No human illness was shown to be caused by drinking well water with DBCP in it.

Some time later, traces of DBCP were found in some Fresno municipal wells. This period, the late 1970s, was when new instruments for the first time allowed DBCP to be detected at the ppb level. The detection of DBCP prompted the City of Fresno to hire Schmidt's firm to do several groundwater studies. The studies, completed in 1984 and 1987, showed the extent of the DBCP contamination on the outskirts of Fresno. To strengthen its ability to manage its water, the city acquired 19 surrounding county waterworks districts in 1989. It also stepped up its well monitoring activities. Martin McIntyre, Fresno's new water quality supervisor, initiated an intensive program to monitor over 70 compounds every three months. Ten of the compounds were pesticides. Despite a decade of scrutiny, there were still no cases of human illness proven to be caused by the traces of DBCP in the wells.

In April of 1989, 15 of Fresno's 235 wells were closed because of DBCP concentrations above the state's MCL of 1 ppb. Most of the closed wells were shallow ones which had been acquired from the county district. A few of these wells had DBCP concentrations of 4–5 ppb. Three months later, the state lowered the MCL to 0.2 ppb. The new limit resulted in the closure of an additional seven wells. McIntyre notes a number of other wells are also near the 0.2 ppb MCL and appear to be increasing in concentration.

The state MCL for DBCP could be lowered further, according to McIntyre. A new California bill (A.B. 21), recently signed into law, requires new standards to be based only on theoretical health criteria. McIntyre says, "Most of the MCLs that we operate under today already are at the one-in-a-million health [cancer] risk standard." However, for a few compounds like DBCP and TCE, the MCL is not at the one-in-a-million health risk standard.

Since the extensive well-monitoring program began in 1989, all city wells are being tested quarterly for the following pesticides: ethylene dibromide, lindane, molinate, endrin, toxaphene, 2,4,5-T, 2,4-D, methoxychlor, DBCP, simazine, atrazine, and bentazon. Of these, only DBCP and ethylene dibromide have been detected in any of the wells. Results of tests for simazine, atrazine, and bentazon are not yet complete.

Most of the monitored pesticides have been targeted by California for regulation in large municipal systems. The state is also increasing the number of chemical compounds for which it will enforce safety standards. McIntyre says, "The State Department of Health Services is planning on adding 25 more compounds per year for the next several years." Carbofuran, glyphosate, chlordane, and heptachlor are soon to be included in Fresno's monitoring program.

McIntyre comments, "Some of the compounds are extremely expensive to monitor for, but next year [1990] we are going to spend half a million dollars to a million on laboratory analysis for monitoring all the compounds."

DBCP and ethylene dibromide are not the only chemicals detected in Fresno's groundwater. Industrial solvents, gasoline additives, and dry-cleaning solvents have also been detected at various locations. The

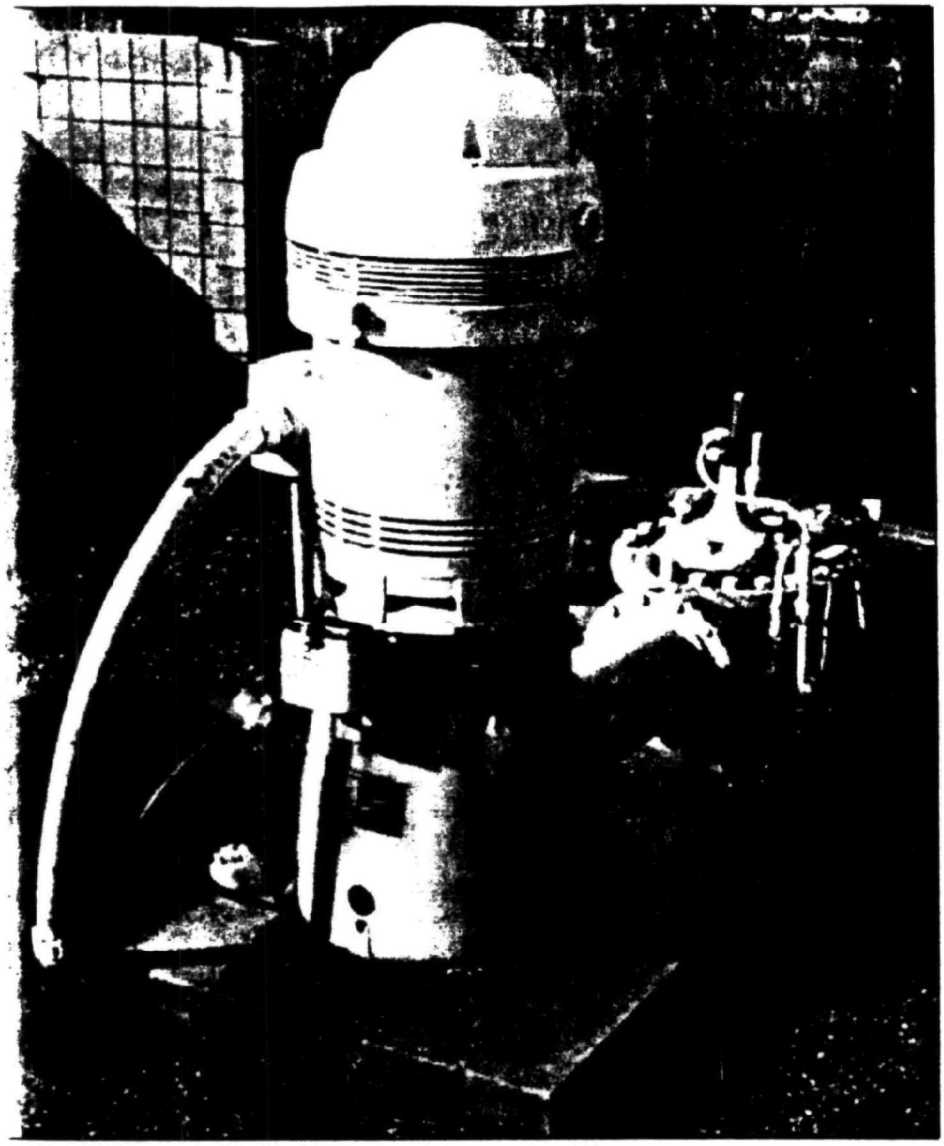
Continued on next page

Continued from previous page

Fresno area has two industrial sites on EPA's national list of Superfund cleanup sites.

Publicity about all the chemicals has prompted many city residents to drink bottled water. Most supermarkets carry several brands of bottled water, and five-gal dispenser-coolers are the latest status symbol for middle class residents.

test for viruses in water, which may provide a new perspective on the safety of public and private sewage systems (see AGRICHEMICAL AGE, May 1987). There is some irony to the fact that the perception of the groundwater problem is defined by the detection technology being used. For example, the new virus test can detect less than one ten-millionth of a billionth of an ounce of human viruses in groundwater. The virus test, which is based on DNA-RNA hybridization,



This is one of 22 wells in the Fresno area which were shut down due to 0.2 or greater ppb DBCP contamination.

Fresno's municipal wells are also tested each month for nitrate and bacterial contamination. Nitrates have been detected in some of Fresno's wells and bacteria were found to contaminate one private water system. McIntyre says, "We have a number of wells that have been closed due to nitrates." However, he does not consider the nitrates to be agriculturally related. The wells are in the middle of an urban area not serviced by sewers, and McIntyre thinks faulty septic tank systems are the likely source of the nitrates.

So far, no official has mentioned a new is expected to reveal widespread contamination from septic tanks and settling ponds. However, it will probably take another five years for health officials to fit the test into their routine water-monitoring programs. So, in the meantime, pesticides are getting most of the scrutiny.

Fresno sits upon an enormous aquifer that extends 1200 feet or more below the ground surface. Schmidt describes the aquifer beneath Fresno as one aquifer with two major divisions. The underlying deeper layer lies below 250–300 feet. Schmidt says most experts believe this layer is relatively unaffected by DBCP.

Schmidt has monitored some DBCP contaminated wells for over 10 years. He says, "It [DBCP] will degrade and get diluted with new fresh sources of water being recharged from seepage from canals and irrigation. We are already seeing some pretty good decreases." He adds that, if the MCL for DBCP had been left at 1.0 ppb, in another 5–15 years the compound would have been below the 1.0 ppb level, due to degradation and dilution.

Part of the groundwater contamination problem stems from improperly sealed wells. Many of the older city wells have 50-foot seals. According to Schmidt, 200–350-foot seals are being put on new wells drilled in the Fresno area. Improved techniques for installing the seal have also been implemented. The real concern is in older, poorly sealed wells providing an easy route for compounds like DBCP to get into groundwater.

According to Schmidt, thousands of wells in the DBCP-contaminated area are perforated and gravel packed. In other words, these wells are drawing water from the upper and lower regions of the aquifer. Then, when the pump is shut off, contaminated water can enter the upper well casing and move down to the lower levels. He says, "No one has really tackled this problem yet. It is such a difficult one." He mentions that the state of California is making new standards to address this issue, so wells won't become conduits. But he says, "For guys like me that work in this field, it is one of the biggest problems we are going to have to tackle on the long-term."

Schmidt lists three solutions for Fresno:

- Drill deeper wells and try to seal off the DBCP contaminate.
- Have farmers pump from the shallow DBCP-contaminated wells for irrigation. Every time the DBCP water passes through the soil is a cleansing process, reducing the concentration.
- Install granular activated-charcoal filters on the wells.

Since large carbon filters are expensive to maintain and replace, they are rare on municipal systems. High volume wells are economically brought into compliance by deep drilling. In other cases the large wells are closed for a period of time. In both cases the contaminated water is likely to remain or migrate underground to other wells. So, redrilling only avoids the problem for an indefinite period. Schmidt says, "We don't consider that a total, long-term solution. You just can't go out there and pump deeper water, and pump and pump. It will eventually get polluted."

Schmidt also points out that other, natural water quality problems may be encountered in deep wells—for example, high iron and manganese levels. In such cases treating the water by using a carbon filter helps to clean up the contamination.

Schmidt says, "We want to have a total management program, where farmers and city wells pump out the shallow contaminated water, and that will help protect the deeper water."

Endangered Species

- Rank species according to vulnerability to pesticides
- Establish threshold application rates
- Evaluate application method and timing
- Label/bulletin approach with generic statement on products which may affect endangered species. Generic statement refers to Bulletin which specifies county and map where species located
- Maps - some problems between local vs federal fish and wildlife
- Not planning to exempt home and garden nor forest products

Received 250 sets of comments

- Economics - will do economic analysis about options that will protect endangered species, but
- First consideration is risk to endangered species and compliance with Endangered Species Act

Public involvement - may be one year phase in

Pilot Programs - need plan including evaluation mechanism

Product used incorrectly - Use violation per EPA regulations

Product used correctly but endangered species killed - Endangered Species Act violation

Worker Protection

Public comment period recently closed

380 sets of comments received

About ready for EPA review on changes

Final Regulation possibly this summer

- labeling changes/training

So no enforcement probably until 1991
Still have existing Worker Protection Standards

WORKER PROTECTION STANDARDS

public or information provided to, or otherwise obtained by, the Administrator under this Part shall be governed by Part 2 of this chapter.

(d) *Inability.* (1) In the event of the inability of any person to produce records containing the information required to be maintained, furnished for inspection, or given access to, all other records and information regarding the same shall be provided

(2) Where no such inability exists and any such person fails to give access to and permit copying of such records as required, such failure shall be deemed a refusal to keep records required or a refusal to allow the inspection of any such records or both.

PART 170—WORKER PROTECTION STANDARDS FOR AGRICULTURAL PESTICIDES

Sec
170.1 General.
170.2 Definitions.
170.3 General standard
170.4 State standards, labels and exemptions
170.5 Warnings

AUTHORITY. 7 U.S.C. 136w

SOURCE. 39 FR 16890, May 10, 1974, unless otherwise noted.

§ 170.1 General.

This part contains occupational safety and health standards for farm workers performing hand labor operations in fields after ground (other than those incorporated into the soil), aerial or other type of application of pesticides.

§ 170.2 Definitions.

Terms used in this subpart shall have the meanings set forth for such terms in the Act. In addition, as used in this subpart, the following terms shall have the meanings stated below:

(a) The term "reentry time" means the period of time immediately following the application of a pesticide to a field when unprotected workers should not enter as provided for in § 170.3(b).

(b) The term "farm worker" or "[illegible]" means any person or persons employed in agricultural hand labor in the field

(c) The term "field" means any treated land area, or part thereof, upon which one or more pesticides are used for agricultural purposes, all as specified by this part.

(d) The term "protective clothing" means at least a hat or other suitable head covering, a long sleeved shirt and long legged trousers or a coverall type garment (all of closely woven fabric covering the body, including arms and legs), shoes and socks.

§ 170.3 General standard.

(a) *Application.* No owner or lessee shall permit the application of a pesticide in such a manner as to directly or through drift expose workers or other persons except those knowingly involved in the application. The area being treated must be vacated by unprotected persons.

(b) *Reentry times.* (1) No owner or lessee shall permit any worker not wearing protective clothing (under § 170.2(d)) to enter a field treated with pesticides until sprays have dried or dusts have settled, unless exempted from such requirements, or a longer reentry time has been assigned to that pesticide;

(2) Pesticides containing the following active ingredients have a reentry time of at least the interval indicated:

	Hours
(i) Ethyl parathion	48
(ii) Methyl parathion	48
(iii) Guthion	24
(iv) Demeton	48
(v) Azodrin	48
(vi) Phosalone	24
(vii) Carbophenothion	48
(viii) Metasystox R	48
(ix) EPN	24
(x) Bidrin	48
(xi) Endrin	48
(xii) Ethion	24

(3) The preceding requirements of this part notwithstanding, workers should not be permitted to enter treated fields if special circumstances exist which would lead a reasonable man to conclude that such entry would be unsafe

§ 170.4 State standards, labels and exemptions.

(a) Nothing herein shall prevent a duly authorized state regulatory agency from setting and enforcing more restrictive standards for workers in fields treated with pesticides.

(b) If the lable for a pesticide bears restrictions against workers entering treated fields which are more stringent than those set forth above, the label restrictions shall apply

(c) The restrictions set forth in this part shall not apply with respect to:

(1) Mosquito abatement treatments and related public pest control programs;

(2) Greenhouse treatments which are applied in accordance with labeling directions and restrictions;

(3) Livestock and other animal treatments which are applied in accordance with labeling directions and restrictions;

(4) Treatment of golf courses and similar non-agricultural areas which are applied in accordance with labeling directions and restrictions.

§ 170.5 Warnings.

(a) When workers are expected to be working in a field treated or to be treated with a pesticide, appropriate and timely warning to such workers shall be given. The warning may be given orally and/or by posting warning signs at the usual points of entrance to the field, and/or on bulletin boards at points where the workers usually assemble for instructions. Where any person has reason to believe that a farm worker is unable to read, he shall give the farm worker oral warning and make reasonable effort to ensure understanding of such warning. When required, warnings shall be given in appropriate languages other than the English language Oral warnings should be given in such a manner as to inform workers of areas or fields which should not be entered without protective clothing, the period of time the area or field should be vacated and actions to take in case of accidental exposure

(b) [Reserved]

PART 171—CERTIFICATION OF PESTICIDE APPLICATORS

Sec
171.1 General
171.2 Definitions
171.3 Categorization of commercial applicators of pesticides
171.4 Standards for certification of commercial applicators
171.5 Standards for certification of private applicators
171.6 Standards for supervision of noncertified applicators by certified private and commercial applicators
171.7 Submission and approval of State plans for certification of commercial and private applicators of restricted use pesticides
171.8 Maintenance of State plans
171.9 Submission and approval of Government Agency Plan
171.10 Certification of applicators on Indian Reservations
171.11 Federal certification of pesticide applicators in States or on Indian Reservations where there is no approved State or Tribal certification plan in effect

AUTHORITY 7 U.S.C. 136b and 136w

SOURCE 39 FR 36449, Oct. 9, 1974, unless otherwise noted

§ 171.1 General.

This section deals with the certification of applicators of restricted use pesticides.

§ 171.2 Definitions.

(a) *General.* Terms used in this subpart shall have the meanings set forth for such terms in the Act. In addition, the following definitions are applicable to all aspects of the certification of pesticide applicator program in this part

(1) The term "accident" means an unexpected, undesirable event, caused by the use or presence of a pesticide, that adversely affects man or the environment.

(2) The term "Act" means the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (86 Stat. 973), and other legislation supplementary thereto and amendatory thereof.

(3) The term "Administrator" means the Administrator of the Environmental Protection Agency, or any office or employee of the Agency to whom authority has heretofore been delegated,

91-114 O—87—8

INSPECTION PROCEDURES

INSPECTION PROCEDURES

PURPOSE - TO ENSURE COMPLIANCE WITH FIFRA AND APPLICABLE REGULATIONS

INSPECTOR'S ROLE

ENFORCEMENT PRESENCE

EDUCATION

DOCUMENT SUSPECTED VIOLATIONS

ELEMENTS OF ANY INSPECTION

1. PREPARATION
2. ENTRY
3. OPENING CONFERENCE/INTERVIEWS
4. FACILITY/RECORDS INSPECTION
5. SAMPLING AND DOCUMENTATION
6. CLOSING CONFERENCE
7. REPORT PREPARATION
8. FOLLOW-UP/REFERRALS

PREPARATION

ESTABLISH INSPECTION OBJECTIVES

PEI

MARKETPLACE

USE/MISUSE

DETERMINE SCOPE OF INSPECTION

1-4 HOURS

1-4 DAYS

1-4 WEEKS

OF PERSONNEL/?FORMAL PLAN

BACKGROUND INFORMATION REVIEW

- EPA FILES
- STATE FILES
- THOMAS REGISTER
- DUN AND BRADSTREET REPORTS
- FARM CHEMICALS HANDBOOK
- LOCAL POLICE DEPARTMENT
- STATE INCORPORATION FILES
- NATIONAL PESTICIDE INFORMATION REGISTRY SERVICE (NPIRS)
    - EPA FACT SHEETS
- FIFRA/TSCA TRACKING SYSTEM (FTTS)
    - COMPANY NAME, PESTICIDE PRODUCTS, DATE INSPECTED, VIOLATIONS
- COMPUTER DATA BASES

ENTRY - FIND PERSON IN CHARGE WITH AUTHORITY TO ALL INSPECTION

- INTRODUCTION
- PRESENT CREDENTIALS
- ISSUE NOTICE OF INSPECTION
- MANAGING DENIAL OF ENTRY

OPENING CONFERENCE/INTERVIEWS - DISCUSS LATER

FACILITY/RECORDS INSPECTION

- TRACK INFORMATION THROUGH FACILITY RECORDS
- CHECK RECORDS AGAINST OTHER RECORDS
- INSPECT AREAS TARGETED DURING INTERVIEWS AND RECORDS REVIEW/USE CHECKLIST IF DESIRED

SAMPLING AND DOCUMENTATION

- DOCUMENT ALL INSPECTION ACTIVITIES

- FIFRA/STATE FORMS
- INSPECTOR'S NOTEBOOK

PHOTOGRAPHS

- ESTABLISHING SHOT
- SEQUENCE TO PROBLEM
- CAUSE AND EFFECT
- WHOLE STORY IN PICTURE

SAMPLE IF NECESSARY TO DOCUMENT VIOLATION

- NO UNOFFICIAL SAMPLES
- TALK WITH CHEMIST
- AVOID CONTAMINATION
- PRESERVE CHAIN OF CUSTODY
- OPERATE IN A SAFE AND EFFICIENT MANNER

CLOSING CONFERENCE

- WRITE NECESSARY RECEIPTS
- DISCUSS INSPECTION OBSERVATIONS AND FUTURE EVENTS
  - IDENTIFY FINDINGS AS PRELIMINARY
  - DISCUSS CAVEATS

REPORT PREPARATION

- FORMS
- NARRATIVE
- DOCUMENTARY SUPPORT

FOLLOW-UP/REFERRALS

- STOP SALE
- RCRA VIOLATIONS

0767

* U.S. GOVERNMENT PRINTING OFFICE 1985-571-237

12

U.S. ENVIRONMENTAL PROTECTION AGENCY (REGION VIII)
One Denver Place, 999 18th St., Denver, CO 80202-2413

NOTICE OF INSPECTION

PROGRAM

____ Resource Conservation and Recovery Act (RCRA) Public Law 94-580, as amended
____ Toxic Substances Control Act (TSCA) Public Law 94-469, as amended
____ Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Public Law 92-516 as amended

Date	Inspector #	Daily Seq	Hour IN / OUT	CMO Fac	Facility name	DUNS #

Fac. Func.	Invest. Type	FATES Reason	RCRA.	Street
			Gen ( ) Transp. ( ) TSD ( )	

Facility Representative(s) Title

Phone # ( ) - ( )

City	State	Zip

Reason for Inspection: Entry by Consent ( ) _____ Warrant ( )
____ To determine the extent of compliance with the above referenced law, which may require the collection of samples, documents, and/or photographs.
____ Other (Specify) _____
Violations of above referenced law are suspected from information or complaint. Yes ( ) No ( )

Samples, Documents, and/or Photos collected (describe below)	Medium	Date to Lab
1		
2.		
3.		
4		
5		
6.		

Samples requested and received by facility ( ) Yes ( ) No
If yes: ( ) Duplicate. ( ) Split. ( ) Photos (To be received when processed.)

This inspection has revealed the following probable violations of EPA laws or regulations.

The facts established by this inspection will be reviewed by personnel in the EPA Regional Office.
A final determination of your facility's compliance with EPA regulations will be made as a result of this review
The review may reveal additional violations.

Receipt of this Notice of Inspection is acknowledged.	Signature of Lead Inspector
	Assisting Inspectors (EPA/Contr./State)

a facility came to be included in the schedule because these factors impact inspection objectives and definition of the scope of the inspection, as discussed in Chapter 10.

Levels of Inspection

The intensity and scope of an inspection can range from a quick walk-through inspection that takes less than half a day to an inspection with extensive sample collection that takes up to several weeks to complete. Each program has its own approach to categorizing the different types or levels of inspections that can be conducted; the time involved in each will also vary depending upon the complexity of the facility and of the particular requirement(s) for which compliance is being assessed.

While there is a variety of approaches to categorizing inspections, it is possible to state generally some of the factors involved.

- A "walk-through" level of inspection would generally be limited to walking through a facility, checking only for the existence of control equipment, observing work practices and housekeeping, and checking if there is a records repository. Such inspections help to establish an enforcement presence, and can also be a screening tool to identify facilities for more intensive inspection at a later time.

- A "compliance evaluation inspection" is the most common form of inspection. Depending on the program and the scope of inspection determined for the specific facility being inspected, it might include: visual observations as in the "walk-through," review and evaluation of records, interviews with facility personnel, and other evidence collection activities (including physical sampling in some cases). It might also include detailed review and critique of source monitoring methods and data as well as probing for details about process and control devices that are in place.

- A "sampling inspection" can include some or all of the activities described above, but would always involve pre-planned sample collection. The sample collection might be done to duplicate the source's own sampling and laboratory analysis procedures to double-check actual pollution emission or discharge rates, or the sampling might be done to document the extent of a contaminated area or environmental damages. Sampling inspections are the most resource-intensive; from 25 to 35 person-days may be required, including the use of laboratory analytic services.

legislation. However, since no program has the virtually limitless resources that would be required to inspect all facilities subject to these regulations, programs develop strategies allocating inspections to various segments of the regulated community.

Essentially, there are four reasons for conducting an inspection:

- Routine. By far the most common reason a facility is selected for inspection, routine inspections are conducted at facilities that are members of a class or segment of the regulated universe targeted under a neutral administrative inspection scheme (see discussion below). The Agency has no indication that the facility is in violation in advance of a routine inspection; the inspections are conducted to determine compliance with all (or a priority portion) of the program's requirements.

- For cause. At a facility selected to be inspected "for cause," there is some reason to suspect that an actual violation exists based upon a tip, a complaint, source self-monitoring report or other information, or a referral from another agency. Under these circumstances, EPA may perform an inspection to confirm instances of noncompliance. An emergency may also evoke a "for cause" inspection if the situation is perceived as having the potential to cause harm in the absence of immediate remedial action; such emergencies may or may not involve violations of requirements. One of the principal distinctions between "for cause" and routine inspections is that "for cause" inspections have a particular, and consequently more focused, purpose. The inspector knows what he or she is looking for.

- Case development support. Sometimes evidence in addition to that collected on an initial inspection is needed for continued case development and/or to support prosecutions. On such inspection, inspectors collect evidence in accord with the requirements specified by the case development litigation team.

- Follow up. Follow-up inspections are performed to determine whether a facility found to be in violation during a prior inspection, which resulted in an enforcement action, is now in compliance with the terms of the resultant enforcement action, such as an EPA consent decree or administrative order. Each program allocates a percentage of its inspection resource to follow-up inspections. Such inspections help to ensure the integrity of the enforcement program; if the facility is found still out of compliance, EPA will usually step up to a stronger enforcement action.

Overall Inspection Scheme

The overall inspection schemes developed by each program allocate a proportion of inspections to the categories described above based upon the Agency's identified enforcement priorities and the program's Operating Year Guidance and Annual Implementation Plan documents. These are also stated in an annual summary of enforcement priorities published by the Office of Enforcement and Compliance Monitoring. Each program has a somewhat different approach to

- Copies of records. "Copies" of records include photocopies, close-up photographs of records or computer screens, or "hard copies" of computerized information. They should be dated and initialed by the inspector and assigned an identifying number that is noted in the field logbook. The facility may be given a receipt for the copies; this can also help authentication. Inspectors can also place documents in an envelope, seal the envelope with an official seal, and prepare a chain-of-custody form to begin chain of custody procedures. (See also Chapter 14A).

- Photographs. The inspector should be able to say that a photograph "fairly and accurately represents" what he or she saw on the date and site in question. Field logbook entries should include an identifying number for each picture, what is seen, the date and time, the specific location on the premises, and other descriptive information. The front of the photograph should not be defaced; all information should be written on the back or in attached documents. Chain-of-custody procedures can also be initiated and followed for photographic records, if desired for additional assurance of integrity. (See also Chapter 17B).

Inspection Report

Inspection reports should be written as soon as possible after an inspection or interview. Reports should be thorough, accurate, and cover all major items. They should also be objective and factual, with no legal conclusions. By preparing a report in accordance with these considerations, the inspector virtually ensures that the report will be admissible as evidence. In addition, the inspector should retain the rough notes on which the report is based. The absence of such notes in a given case could result in the exclusion of all of the inspector's testimony.

The inspector should assume that the other side (under Rule 612) will obtain a copy of the report, and that he or she may be cross-examined about it (pursuant to Rule 613(a)), without necessarily being confronted with the contents beforehand. In this context also, the inspector should segregate any recommendations regarding future action from the factual recitations, so that the recommendations may easily be separated if necessary.

The report must be accurate and factual; observations should be verifiable results of first-hand knowledge. Information in the report should be pertinent to the subject of the report; personal comments and opinions should be avoided. Suspected violations should be substantiated with as much factual, relevant information as is feasible to gather. All information pertinent to the subject should be organized in a complete package; documentary support (e.g., photographs, samples) should be clearly referenced. (See also Chapter 19A.)

Exercising Judgment in the Field

Ideally, on each inspection, EPA inspectors would determine compliance with every requirement applying to the facility and every suspected violation would be fully documented. Although EPA's goal is to come as close as possible to this ideal, the realities of time and resource constraints as well as the practical limits on the number of physical samples that can be collected on one trip mean that inspectors must often make judgments about exactly what to inspect at a given facility and how thoroughly.

The scope and objectives of an inspection should be established as part of the inspection planning process. Since most facilities are subject to many different requirements even under one statute, the inspection plan should set out in advance which requirements will be focused on in the inspection and the activities that will be undertaken to determine compliance with them.

Once on the site, the inspection plan serves as a guide to the inspection. Often, however, an inspection turns out to be more complex than anticipated, or multiple violations are observed, or violative conditions not the original focus of the inspection are found. The inspector is then faced with determining whether the original plan should be followed or modified and the degree to which each potential violation should be documented.

While there are no hard and fast rules for making these judgments, the inspector can prepare for them by being familiar with the particular program's enforcement priorities and how serious the Agency considers various categories of violations. As a quick guideline when choices must be made in the field, inspectors should most fully document the more serious violations, being sure to collect the information needed to determine an appropriate enforcement response. This is because, stated generally, the likelihood that the Agency will pursue a formal enforcement action -- and the size of the civil penalty assessment, when appropriate -- increases with the seriousness of the violation. The standard of proof required to prove that a violation occurred also increases with the level of enforcement action taken (informal, administrative, judicial). Likewise, the likelihood of a challenge to the Agency's action increases with the level of action and size of penalty assessment.

Program enforcement response and penalty policies, compliance monitoring strategies, and other planning documents such as the Operating Year Guidance are good sources for information regarding program priorities and the seriousness attached to various categories of violations.

10C REVIEWING AGENCY RECORDS

A focused review of records in Agency files relating to a facility is essential to pre-inspection preparation and to the overall success of compliance inspection efforts. Such a review will save time and minimize inconvenience during an inspection by not requiring examination of information that has previously been made available. The review will also acquaint the inspector with the requirements that apply to the site, as well as important background information, such as facility operations and compliance history. Information relevant to the upcoming inspection can be abstracted from these files and may be documented in the written Inspection Plan. In general, review of Agency records will enable inspectors to:

- o Become familiar with the facility type, size, and operations.
- o Discover inadequacies, inconsistencies, or voids in the information, thus determining the need to request additional information from the facility.
- o Minimize inconvenience to the facility personnel or unnecessary use of on-site time by not requesting information already provided to the Agency.
- o Clarify technical and legal issues before entry.
- o Develop an appropriate Inspection Plan that documents this information and applies it to shaping a methodological design for the most efficient use of inspection time and manpower resources.

Review Considerations: What to Review and Why

The following documents and types of information can be found in Agency/ Regional files and may be useful in planning time and resource allocation, selecting appropriate field techniques, and preparing documents and equipment.

- o General Facility Information. General facility information may include:
  - Maps showing facility location, geographic features, and relationship to surrounding areas.
  - Aerial photographs.
  - Names, titles, and phone numbers of responsible officials or facility representatives.
  - Any special entry requirements.
  - Past, present, and future process operations and production levels.

- Safety equipment requirements.

- Control and other relevant equipment.

- Descriptions of the facility's recordkeeping and filing systems.

This type of information is relevant for addressing several issues, for example:

- The facility location has a bearing on time scheduling and transportation arrangements/costs for the inspection.

- Geographical features may help determine physical sampling plans.

- Personnel and associated responsibilities can be used to determine who to interview with respect to certain issues; e.g., who is responsible for training employees or for self-monitoring data/reports?

- Entry requirements or prior history of refusal to allow entry need to be handled before going on-site; e.g., do you need to get a warrant?

- Other information shapes the inspection, such as what safety equipment EPA inspectors must use on site or what kinds of equipment and recordkeeping systems are in use that might be inspected.

o Permits, Permit Applications, and Special Exemptions from Requirements. Permits provide information on the limitations, requirements, and restrictions applicable to discharges, emissions, and operations; compliance schedules; and monitoring, analytical, and reporting requirements. Applications provide technical information on facility size, layout, and location of pollutant sources; treatment and control practices; contingency plans and emergency procedures; and pollutant characterization types, amounts, and points/locations of discharge or emission. Special exemptions from requirements may have been granted by EPA; in granting the exemption, EPA may have placed additional requirements on the facility.

  This information is critical to orienting the inspector to what to look for on-site, given the priorities established within the scope of the inspection; for identifying the major requirements against which the inspector should review the facility's operations; and for planning the most effective use of time and manpower resources.

o Prior Inspection Records and Reports on Enforcement Proceedings. The following types of information may be available:

  - Compliance history, including reports, follow-up studies, findings, and remedial action.

  - Past conditions of noncompliance.

establishing goals and priorities; however, three factors are central to determining the thrust of compliance and enforcement efforts:

- o The likelihood that a violation in a class or segment of source will present a significant risk.
- o The likelihood that a class or segment of sources will violate environmental laws or regulations.
- o The likelihood that inspections of a class or segment of sources will contribute significantly to ensuring a credible enforcement presence.

In a high-priority class, every member might be inspected. In lower-priority classes, only a small percentage sample would be inspected.

Each EPA program has developed a "neutral" administrative inspection scheme setting out how the regulated community is divided into classes or segments for routine and follow-up inspection targeting purposes. Typical criteria for these segments include type of industry, size of facility, and amount of pollutants handled.

Although under the neutral scheme, classes or segments of the regulated community may be targeted for inspection, the sites within each class or segment must be selected in a non-biased way for inclusion in the inspection process. If sites to be inspected are chosed under a pre-existing general administrative plan that is not subject to the inspectors in the field (unless pursuant to reasonable cause), this is consistent with the findings of the Supreme Court's decision in Marshall vs. Barlow's, Inc., 436 U.S. 307 (1978). Note that actual inspection scheduling also takes into account factors such as geographic and seasonal considerations.

Allocation of Inspections

The bulk of inspections are typically assigned to the category of routine inspections. A significant portion is assigned to follow-up inspections, since such inspections are essential to the integrity of an enforcement program (i.e. violators must know that failure to correct violations in a timely manner will result in further penalty). Nevertheless, limitations on resources do not permit follow-up of every action; therefore, planning for follow-up inspections also involves neutral administrative selection schemes, similar to those employed for routine inspections. Finally, with respect to "for cause" inspections, not all tips or complaints trigger an inspection. Such information must be evaluated against program priorities and goals to determine whether an immediate on-site inspection is warranted, or whether some other follow-up action (e.g., a phone call or other request for information) is the most appropriate initial response. When inspection is determined to be the appropriate response, it may necessitate altering the administratively pre-determined balance among the inspection categories. In that event, typically, it is the lower priority routine inspections that are postponed or deleted from the inspection schedule.

While the information in this guide primarily focuses on routine inspections, it is always important for inspectors to understand the reasons for inspection and how

- Previous enforcement actions.

- Pending enforcement actions, compliance schedules, and/or variances.

Special note should be made of pending enforcement actions, compliance schedules, and any violations observed in previous inspections so the facility can be checked for current compliance in those areas where a history of noncompliance has been documented.

o Self-Monitoring, Other Reports Prepared by the Facility, and Correspondence. Inspectors should review these documents and note any discrepancies with inspection records and reports, permits, or other information. If information is not clearly presented or if any discrepancies exist, the inspector may decide to request additional information from the facility or may pay particular attention to such items during the upcoming inspection as a means of clarifying the information.

Aside from the documents referred to above, which are specific to a given facility and are likely to be found in Regional files, other items of a more generalized nature may be of assistance to the inspector. Included in this category are:

o Laws and Regulations. The various underlying environmental statutes and related regulations establish standards, procedures, controls, and other requirements that may be applicable. Inspectors may use this information to familiarize themselves with the applicable rules. It is useful for inspectors to take copies of the laws and regulations to the inspection site to show and/or distribute to facility officials, if requested.

o Technical Reports, Documents, and References. This includes a range of books, journals, and other publications that provide generic information on industrial process operations, as well as specific data on advantages, disadvantages, and limitations of application associated with available treatment/control techniques. An inspector's knowledge of the process(es) and the associated control equipment at a facility significantly contributes to the success of an inspection, particularly in the area of diagnosis of control problems. It is therefore important to use technical resources to acquire knowledge of specific processes, operations, and maintenance of all types of control equipment, and inspection procedures for various types of control equipment and industrial processes.

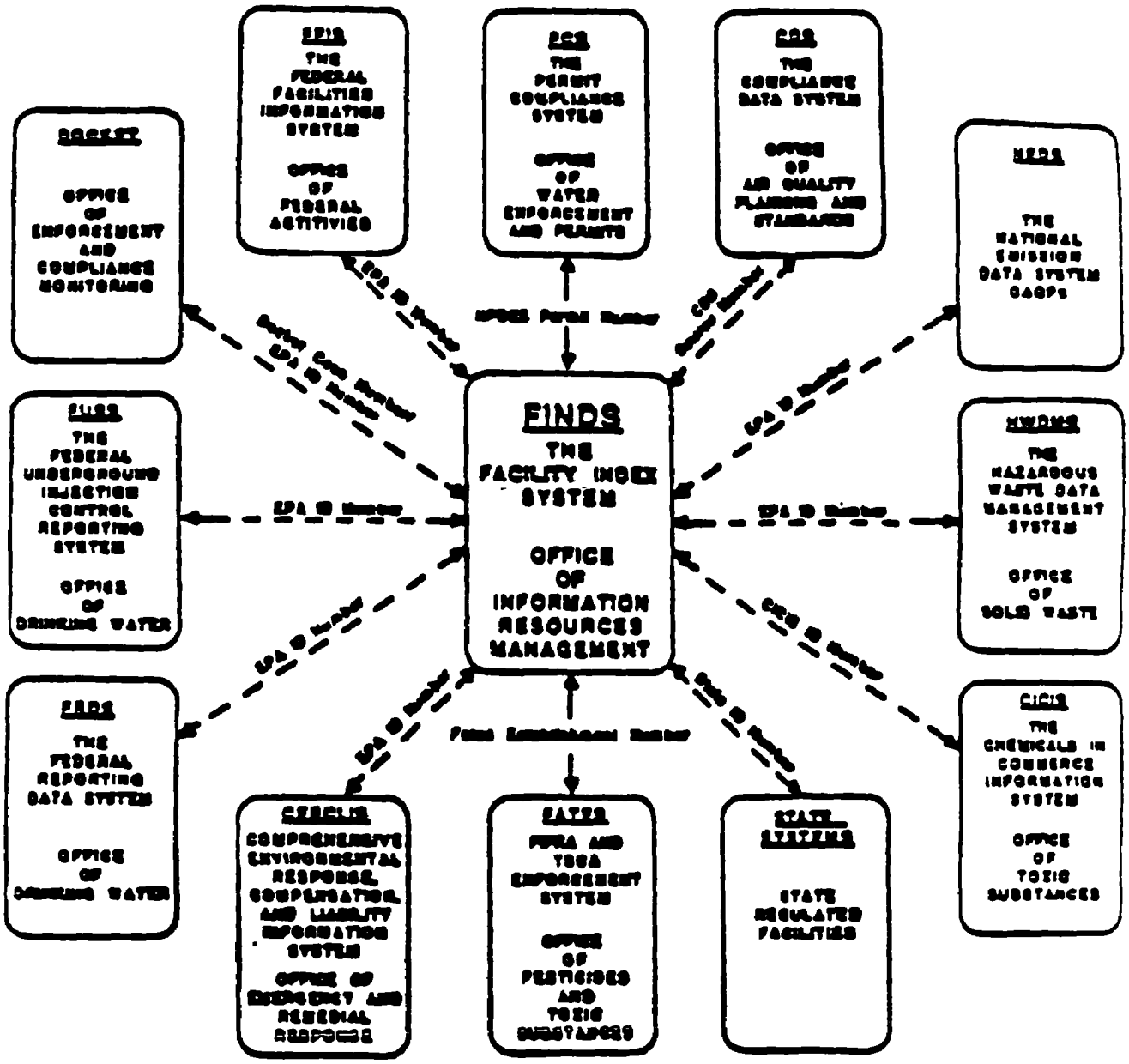
Where to Access Information

A summary of compliance program data systems follows; additional information is included in the Resource Materials.

PROGRAM INFORMATION SYSTEMS (Continued)

Media Program	Information System
Hazardous Waste/RCRA	Hazardous Waste Data Management System (HWDMS): HWDMS contains compliance and enforcement data on compliance monitoring and enforcement actions that do not involve litigation, waste process design type and capacity information, and facility level data. HWDMS also tracks inspections, violations, and compliance activities at Federal facilities.
Pesticides & Toxic Substances/ FIFRA & TSCA	FIFRA and TSCA Enforcement Systems (FATES): FATES consists of five subsystems: pesticide registration and production reporting, inspections and sampling case management, grants information, and contracts inspections.
Toxic Substances/ TSCA	The Chemicals in Commerce Information System (CICIS): CICIS is a computerized database of public and confidential information on all available chemicals in the TSCA chemical inventory. CICIS identified the chemical, case number, manufacturer, volume and confidentiality.
General Enforcement Data/All Programs	The Docket is a computer information system used by OECM to track civil enforcement litigation. The information contained in the system includes case dates, filing dates, violations identified for each statute, and penalties sought.
State Program Information Systems	Many State programs data systems contain inventories of minor facilities.

FINDS


FINDS
THE FACILITY INDEX SYSTEM
OFFICE OF INFORMATION RESOURCES MANAGEMENT
EPIS
THE FEDERAL FACILITIES INFORMATION SYSTEM
OFFICE OF FEDERAL ACTIVITIES
PCS
THE PERMIT COMPLIANCE SYSTEM
OFFICE OF WATER ENFORCEMENT AND PERMITS
CDS
THE COMPLIANCE DATA SYSTEM
OFFICE OF AIR QUALITY PLANNING AND STANDARDS
NEDS
THE NATIONAL EMISSION DATA SYSTEM (AEROS)
RCRIS
THE RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM
OFFICE OF SOLID WASTE
CICIS
THE CHEMICALS IN COMMERCE INFORMATION SYSTEM
OFFICE OF TOXIC SUBSTANCES
STATE SYSTEMS
STATE REGULATED FACILITIES
FATES
FIFRA AND TSCA ENFORCEMENT SYSTEM
OFFICE OF PESTICIDES AND TOXIC SUBSTANCES
CERCLIS
COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY INFORMATION SYSTEM
OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
FRDS
THE FEDERAL REPORTING DATA SYSTEM
OFFICE OF DRINKING WATER
FURS
THE FEDERAL UNDERGROUND INJECTION CONTROL REPORTING SYSTEM
OFFICE OF DRINKING WATER
ASDBS
OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING

- o Inspection Activities and Field Techniques. Once the inspection tasks (derived from the assessment topics) have been established, determination must be made as to which evidence collection technique (i.e., observation records review, interview, samples) is most appropriate for each task, as follows:

  - Observation: List what activities, operations, and/or equipment will be observed; e.g., control and treatment units for spills, leakages, out-of-service conditions and causes.

  - Records: List the records that will be reviewed for compliance, along with the information content and retention requirements of each type of record.

  - Interviews: List the positions of key personnel with whom meetings should be held to address specific assessment topics; e.g., meet with the individual responsible for training employees in emergency procedures.

  - Samples: Develop a sampling plan according to Agency policy and guidance (see Sampling Plan, below).

- o For each of the tasks and their associated inspection activity/field technique, the inspection plan should prioritize what must be accomplished at a minimum, as well as which items might be included if time and resources permit.

- o Sampling Plan. Sampling inspections also require detailed advance quality assurance and logistical planning. Planning for sampling inspections is discussed in detail in Chapter 15B.

- o Other Logistical Considerations.

  - Coordination with State for oversight inspections; notification of State if an inspection is in a delegated or approved program State.

  - Safety requirements (including required Safety Plan).

  - Setting priorities -- how to critically review the contemplated on-site activities and tailor them to match staffing, time, costs, etc.

  - Logistical planning, resources needed, and contingency plans for entry (e.g., legal considerations), opening and closing conferences, and applicable informational/training/technology transfer materials.

CHAPTER 12

PRE-INSPECTION CHECKLIST

No single list of documents and equipment will be appropriate for each inspection. The lists and descriptions below are intended only as a guide to aid inspectors in planning for supplies.

Specific needs will be determined by the requirements of the inspection, the availability of certain equipment, and Regional policies and conditions. (See also Chapter 15B on Planning for Sampling Inspections.)

Inspection Equipment

The kinds of equipment that an inspector carries should be specifically related to the kind of inspection to be undertaken and the inspection plan that was prepared. The inspector is expected to use sound judgement and rely on training and past experience in deciding what equipment is necessary for a particular inspection. The equipment should be well-maintained and checked to see that it is in good condition prior to each inspection.

Inspection Documents and Forms

Documents and forms necessary for the inspection should be prepared in advance of the inspection, whenever possible. Listed below are documents/forms that may be needed. The nature of document preparation may vary with different programs; it is the inspector's responsibility to become familiar with the requisite documents/forms relevant to performance of each inspection.

- o Notice of Inspection. Under some EPA laws, written notices must be presented upon the inspector's arrival at the facility. Portions of this form can be filled out in advance; but the time of inspection and name(s) of facility official(s) are entered at the time of inspection.

- o Compliance Report Form (where appropriate). Some programs have developed forms or checklists to guide inspectors in gathering relevant information.

- o Inspection Confidentiality Notice. This form is used to inform facility officials of their right to claim inspection data as confidential business information [inspections under the Toxic Substances Control Act (TSCA)].

- o Sampling Documents. The following forms relate to physical samples and are used to record and control sample identification and custody. These forms include:

  - Custody Seal(s).

  - Chain of Custody Record.

- o Receipt for Samples and Documents. All samples and documents taken during an inspection are listed on this form.

- o Declaration of Confidential Business Information. This form is used to list all documents and samples taken during an inspection that have been claimed as confidential business information (TSCA only).

- o Copies of the Appropriate Act and of Specific Regulations. Some facility officials may not have copies of the acts or of applicable rules and regulations. Inspectors should have these available for distribution.

- o Agency Outreach Materials. Inspectors should provide current, relevant educational information to facility officials.

Administrative Documents and Forms

Travel Authorizations, telephone numbers of travel and procurement personnel who may need to be contacted, and any forms that may be needed to secure services in the field should be carried along to the inspection. Such documents might include Government Transportation Requests (GTRs) to charter boats or airplanes and Government Bills of Lading for shipping samples.

Safety Equipment

Under Agency policy, no EPA employee may do field work without first completing an approved on-site safety training program. Personnel who must use respiratory protection equipment must also complete specialized training, and program-specific safety training has been developed for field personnel facing particular risks.

EPA policy also requires that a safety plan must be developed for all field activities. Safety plans for the inspection should specifiy the expected hazards to be encountered and needed safety equipment. The safety items listed in the checklist below are intended as a general reminder only, and do not substitute for a tailored list of needed equipment that should be prepared for each inspection.

"Ready to Go" Checklist

Since each inspection is unique, no list of materials, equipment, and forms can be appropriate for all inspections. The checklist below is intended to provide a quick reminder of the types of items that might be needed on a given inspection.

General Equipment

- o Camera
- o Film and flash equipment
- o Pocket calculator
- o Tape measure
- o Clipboard
- o Waterproof pens, pencils, and markers
- o Locking briefcase
- o "Confidential Business Information" stamp
- o Stamp pad
- o Pre-addressed envelopes (e.g., to Document Control Officer)
- o Plain envelopes
- o Polyethylene bags
- o Disposable towels or rags
- o Portable typewriter
- o Portable copying machine
- o Flashlight and batteries
- o Pocket knife

Sampling Equipment

Sampling equipment will vary by program and media; inspectors should follow guidance provided in program-specific materials. Examples of typical sampling equipment follow. (See also Chapter 15B on Planning for Sampling Inspections.)

- o Standard Operating Procedures for program/media involved

  - Crescent wrench, bung opener
  - Siphoning equipment
  - Weighted bottle sampler
  - Bottom sediment sampler
  - Liquid waste samplers (e.g., glass samplers)
  - Auger, trowel, or core sampler
  - Scoop sampler
  - Sample bottles/containers (certified clean bottles with teflon-lined lids)
  - Labeling tags, tape
  - Storage and shipping containers with lids
  - Ice chest
  - Container for contaminated material
  - Hazard labels for shipping samples

Documents/Forms

- o Entry Warrant, if deemed necessary
- o Notice of Inspection
- o Inspection Confidentiality Notice (TSCA)
- o Declaration of Confidential Business Information (TSCA)
- o Receipt for Samples and Documents
- o Chain of Custody Record
- o Official Seals
- o Government Transportation Request (GTRs)
- o Bill of Lading
- o Travel Authorization

Safety Equipment

- o Safety glasses or goggles
- o Face shield
- o Ear plugs
- o Rubber-soled, metal-toed, non-skid shoes
- o Liquid-proof gloves (disposable, if possible)
- o Coveralls, long sleeved
- o Long rubber apron
- o Hard hat
- o Plastic shoe covers, disposable
- o Respirators and cartridges
- o Self-contained breathing apparatus

Emergency Equipment

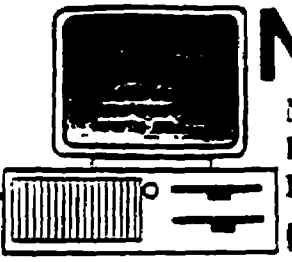
- o Substance-specific first aid information
- o Emergency telephone numbers
- o First-aid kit with eyewash
- o Fire extinguisher
- o Soap, waterless hand cleaner, and towels
- o Supply of clean water for washing

13A GAINING ENTRY

EPA's authority to conduct inspections is discussed in detail in Chapter 7, as are EPA's policy and procedures for consensual entry and for seeking and inspecting with a warrant. It is essential to follow these procedures and to document that they were followed to assure that any information collected during the inspection cannot be challenged as being unlawfully obtained.

Key points associated with beginning entry to a facility for inspection purposes are summarized below; see Chapter 7C for a complete discussion of each.

- o EPA'A policy is to enter with the consent of facility officials.
- o Arrival should be during normal working hours and through the main gate unless special circumstances dictate otherwise.
- o Credentials must be presented whether identification is requested or not.
- o A written Notice of Inspection must be presented and signatures obtained in inspecting under TSCA, FIFRA, or SDWA authority.
- o EPA's inspection authority is broad. It includes authority to take samples, take photographs, make tape recordings, photocopy documents, or otherwise manually or electronically record any information at the facility.
- o If facility officials deny consent, seek to limit the scope of the inspection, or otherwise attempt to place conditions on the inspector's conduct of the inspection, the inspector should leave the premises immediately. The inspector should contact the appropriate EPA official (usually, the inspector's supervisor, who consults with Regional attorneys) and await direction on next steps to take, such as seeking a warrant.
- o When inspecting with a warrant, the inspector must follow carefully the terms and conditions of the warrant.



NPIRS

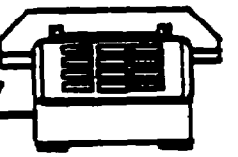
National Pesticide Information Retrieval System

A Central Resource for Pesticide/Hazardous Chemical Information

Gain the latest information on:

- EPA PRODUCT INFORMATION
- STATE REGISTRATION INFORMATION
- TOLERANCE INFORMATION
- EPA FACT SHEETS
- MATERIAL SAFETY DATA SHEETS
- REGISTRATION GUIDELINE INFORMATION
- DESCRIPTIONS OF STUDIES
- EPA's PESTICIDE NEWSLETTER

PURDUE UNIVERSITY
ENTOMOLOGY HALL
W. LAFAYETTE, IN 47907



Revised September 1987

NPIRS National Pesticide Information Retrieval System

A GROWING DATA BASE SYSTEM FOR PESTICIDES/HAZARDOUS CHEMICALS

The National Pesticide Information Retrieval System (NPIRS) was established at Purdue University in 1983 to solve a longstanding need for quick, current and factual information about pesticides. By use of a computer based system and with cooperation from the U. S. Department of Agriculture (USDA), the U. S. Environmental Protection Agency (EPA) and the states, NPIRS is providing the answer to that need.

From the beginning, NPIRS has offered EPA product and tolerance data as well as registration information from several states. Since becoming operational, however, the data base has shown steady growth with many enhancements to the existing EPA product data base, the addition of data from many more states, and the addition of other data bases. More recently, NPIRS has begun providing more and more information about hazardous chemicals in general. In fact, the system is rapidly becoming recognized as a centralized source for pesticide/hazardous chemicals information.

As a membership organization, NPIRS emphasizes user services and user input. User services fall into several broad areas: user documentation, user training (formal and informal) and user assistance. User input is sought through regular contact with individual users as well as through formalized user conferences and meetings of a coordinating/advisory committee.

FEDERAL PRODUCT REGISTRATION DATA

The largest amount of data available on NPIRS consists of federal product data supplied by EPA on approximately 60,000 pesticide products registered by that agency. The majority of these are the "regular" products registered under Section 3 of the amended Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). Included in the total, however, are products registered for Special Local Needs (SLN) within a particular state, Experimental Use Permits, and Emergency Exemptions.

Much product information is available for each of the different types of registrations, including such things as brand or product name, EPA registration number, the name and address of the company which registers the product(s), the type of pesticide involved, the formulation, signal word, and sites and pests for which a particular product is registered. It is also possible to determine if a product is for restricted or general use.

Users can search the product data base using one or more of the above selection criteria to solve a multitude of problems which would be difficult if not impossible to solve by old manual- and label-search methods.

• NPIRS was utilized in a critical situation involving the need for medical authorities to obtain a quick list of hospital disinfectants which might be effective against the AIDS virus. Although the products were not specifically labeled for use against AIDS, it was possible to quickly develop a list of products registered to control certain other viruses and likely to be effective against AIDS.

STATE REGISTRATION INFORMATION

Once a product meets EPA registration requirements and is assigned an EPA registration number for its "master label," the next step for chemical manufacturers, formulators and distributors is to register the product in the states where it is to be marketed. A subset of the information contained on the EPA "master label" (the basis for NPIRS product data) is usually found on the actual product labels found in the marketplace.

State registration information online with NPIRS consists of data obtained by states as part of their state registration programs and provided to NPIRS. State agencies maintain their own computer files of product name, registrant's name and address, state registration number, and year of last registration. State and federal product data may be combined to conduct complex searches.

The number of states with data on NPIRS has increased from six in 1983 to almost 40. NPIRS expects to have data from all states on the system in the near future.

TOLERANCE INFORMATION

Federal tolerance information refers to the amount of pesticide chemical permitted on raw agricultural commodities (food crops) at harvest time. Tolerance information in the NPIRS data base may be searched by chemical, by commodity (or crop), or by Code of Federal Regulations (CFR) reference number. In addition, it is possible to utilize NPIRS to display or print a list of CFR numbers with corresponding chemical names, commodities and tolerances in parts per million.

In conducting a tolerance search by ingredient, all crops for which a tolerance has been established for that particular chemical are displayed and the residue level given in parts per million. In searches by crop, tolerances established for all chemicals are given. Searches by CFR reference number provide both crop and chemical information.

EPA FACT SHEETS

These high level summaries containing information on active ingredients used to formulate pesticide products are added to NPIRS as they are developed at EPA as part of the registration standard setting process.

EPA Fact Sheets include such things as description of the chemical, use patterns and formulations, science findings (including chemical and toxicological characteristics), tolerance assessments, and problems known to occur, EPA's regulatory rationale and major data gaps.

Fact Sheets are issued after publication of a registration standard, registration of a significantly changed use pattern, registration of a product containing a new chemical, or an immediate need for information to resolve controversial issues relating to a specific pesticide or use pattern. Thus updating is accomplished on an "as needed" basis.

• NPIRS provided information to a famous mystery writer who was writing a work of fiction based on use of a certain pesticide chemical to commit a crime.

• NPIRS supplied information in a court case involving use of a pesticide: the attorney called NPIRS from a telephone booth in the courthouse while the trial was in progress!

MATERIAL SAFETY DATA SHEETS

The importance of this data base increased dramatically with the 1987 expansion of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (HCS). The expansion of the HCS means that it now applies to all segments of the workplace rather than just the manufacturing sector.

The standard requires employers to establish programs to transmit information on the hazards of chemicals to their employees by means of container labels, material safety data sheets (MSDS) and training programs. However, the ready availability of an acceptable MSDS built around the areas covered by the standard is considered of primary importance. It is invaluable as "stand alone" information required by the standard as well as for providing the basis for developing employee training programs.

Members of NPIRS will have access to MSDS's which were developed around the OSHA standard, with worker protection and safety of paramount importance. The MSDS Reference File will be updated quarterly. Having access to the NPIRS MSDS program will greatly reduce the burden of collecting, storing, conducting reviews and evaluating the quality of multiple MSDS's and ensuring that each MSDS represents the latest version. Such activities may strain the resources of many companies and may be beyond the capability of others.

NPIRS INFORMATION IS

- ***CURRENT***
- ***ACCURATE***
- ***COMPLETE***

AUTOMATED REGISTRATION STANDARDS/DATA TABLES

This system, when completed, will automate the information contained in Registration Standards and related documentation including the fact sheets, data tables, acceptable use compendia, regulatory rationale, science chapters and bibliography.

As mentioned above, the automated fact sheets are already being added to the data base as completed and the data tables were being loaded into the NPIRS data base in early 1987. Once available, the automated data tables, along with other explanatory material, should clearly spell out in an easily understood format the requirements for registering a pesticide product in the United States.

Specifically, the data tables will cover such things as: product and residue chemistry, environmental fate, toxicology, toxicological effects, efficacy and exposure.

DESCRIPTION OF STUDIES

The Pesticide Document Management System (PDMS) is a bibliographic data base which describes all types of studies which have been submitted to EPA in support of the registration of pesticides. References to approximately 165,000 studies are contained in this data base. Effective in the fall of 1987, NPIRS users will be able to conduct searches through the PDMS to determine the kinds of studies submitted for a particular active ingredient chemical and companies submitting the studies.

The PDMS is expected to be an invaluable resource for pesticide chemical producers

responding to EPA's accelerated re-registration program as well as those seeking new registrations. The data base also identifies health effects data which may be available from EPA and sought by individuals and groups desiring more detailed information on chemicals used in the formulation of pesticide products. Abstracts of the various types of studies will eventually be put on line with NPIRS, beginning with the "Tox One-Liners," as they become available from EPA.

OPP's PERIODIC NEWSLETTER

Titled "REPORT from OPP," this periodic newsletter from EPA's Office of Pesticide Programs (OPP) contains important information about cancellations and suspensions, new chemicals, special reviews pending and in progress, public hearings, Experimental Use Permits, Special Local Needs information, enforcement policies and actions, and tolerance information.

Using the electronic search capabilities of NPIRS, users are able to keep up with EPA's regulatory actions and avoid the need for storing and conducting manual searches of back issues of the newsletter.

For More Information Write or Call:

NPIRS User Services Manager
Purdue University
Entomology Hall
West Lafayette • IN 47907
317•494-6614

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING

A DESCRIPTION OF AUTOMATED INFORMATION SYSTEMS ACCESSIBLE BY NEIC

NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
INFORMATION MANAGEMENT BRANCH
Denver, Colorado

June 1988

CONTENTS

AGENCY INTERNAL INFORMATION SYSTEMS CURRENTLY ACCESSIBLE BY NEIC

Aerometric Information Retneval System (AIRS)
Chemicals in Commerce Information System (CICIS)
Compliance Data System (CDS)
Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)
Consent Decree Tracking System
Docket System
Emergency Response Notification System (ERNS)
Enforcement Document Retrieval System (EDRS)
Facility Index System (FINDS)
Hazardous Waste Data Management System (HWDMS)
National Emissions Data System (NEDS)
NPDES Industrial Permit Ranking System
Permit Compliance System (PCS)
Potentially Responsible Parties System
Records of Decision System (RODS)
Site Enforcement Tracking System (SETS)
STORET
Superfund Financial Assessment System (SFFAS)
TECHLAW Evidence Audit System

AGENCY INFORMATION SYSTEMS NOT CURRENTLY ACCESSIBLE BY NEIC

Federal Reporting Data System (FRDS)
FIFRA/TSCA Tracking System (FTTS)

CONTENTS (cont.)

PUBLICLY AVAILABLE EXTERNAL INFORMATION SYSTEMS CURRENTLY ACCESSIBLE BY NEIC

Bibliographic Retrieval Service (BRS)
Chemical Information System (CIS)
DataTimes
DIALOG Information Services, Inc.
Dun and Bradstreet
Groundwater On-Line (GWOL)
Justice Retrieval and Inquiry System (JURIS)
NEWSNET
NEXIS/LEXIS
National Library of Medicine (NLM)
VU/TEXT
WESTLAW

RESTRICTED ACCESS INFORMATION SYSTEMS

Criminal Docket
Criminal Investigative Index System (CII)
National Crime Information Center (NCIC)
National Law Enforcement Teletype System (NLETS)

DEPARTMENT OF AGRICULTURE
DIV. OF REGULATORY SERVICES
ANDERSON BLDG., PIERRE, SD 57501

PESTICIDE

NOTICE OF INSPECTION

NAME (Owner, Operator or Agent)	TITLE	SIGNATURE
Richard Donley	Applicator	Richard Donley

FIRM NAME (Number, Street, City, State and Zip Code)
Farmers Union Oil Co.
Box 217
Bryant, S.D. 57221

SIGNATURE OF INSPECTOR	DATE	TITLE
Phil Johnson	2-8-88	Sr. Agriculture Inspector

REASON FOR INSPECTION

☐ FOR THE PURPOSE OF INSPECTING AND OBTAINING SAMPLES OF ANY PESTICIDES OR DEVICES PACKAGED, LABELED, AND RELEASED FOR SHIPMENT, AND SAMPLES OF ANY CONTAINERS OR LABELING FOR SUCH PESTICIDES OR DEVICES IN PLACES WHERE PESTICIDES OR DEVICES ARE HELD FOR DISTRIBUTION, SALE OR USE UNDER STATE OR FEDERAL LAWS

☒ FOR THE PURPOSE OF INSPECTING AND OBTAINING COPIES OF THOSE RECORDS SPECIFIED BY STATE OR FEDERAL LAWS

☐ FOR THE PURPOSE OF INSPECTING SITES WHEN PESTICIDES ARE BEING USED TO COLLECT DATA ON THE USE OF PESTICIDES AND TO DETERMINE WHETHER PESTICIDES ARE BEING USED IN COMPLIANCE WITH STATE OR FEDERAL LAWS

☐ FOR THE PURPOSE OF INSPECTING SITES WHERE PESTICIDES HAVE BEEN USED TO DETERMINE WHETHER THE PESTICIDES WERE USED IN COMPLIANCE WITH STATE OR FEDERAL LAWS

☐ DEALER ☒ LICENSED DEALER ☒ OTHER applicator

COMMENTS

Audit Restricted Use Pesticide sales records.

Received permission to inspect from Dick Donley

Office - WHITE Inspector - PINK Firm - CANARY

38

DEPARTMENT OF AGRICULTURE
Division of Regulatory Services
Anderson Building, 445 East Capitol
Pierre, South Dakota 57501

RESTRICTED USE PESTICIDE DEALER RECORD AUDIT

For Verification of Compliance With ARSD 12:56:10:06

NAME (Dealer) Richard A. Donley — LICENSE NUMBER 102

FIRM NAME (Number, Street, City, State and Zip Code) Farmers Union Oil Co - Box 217, Bryant, S.D. 57221

SIGNATURE OF INSPECTOR Phil Johnsen — DATE 2-8-88 — TIME 11:30 a.m.

SIGNATURE (Dealer or Agent) Richard Donley

NOTE If Not In Compliance is checked below specify the reason under the comment section.

1. **Name address and license/certification number of private or commercial applicator.**
   ☒ In Compliance ☐ Not in Compliance

Comments: _____

2. **Name and license/certification number of applicator corresponds to actual department licensee.**
   ☒ In Compliance ☐ Not in Compliance

Comments: _____

3. **Date of sale.**
   ☒ In Compliance ☐ Not in Compliance

Comments: _____

4. **Quantity of pesticide sold.**
   ☒ In Compliance ☐ Not in Compliance

Comments: _____

FEB 1988 RECEIVED S. D. DEPT. OF AGRICULTURE

5. **Trade name of pesticide sold.**
   ☒ In Compliance ☐ Not in Compliance

Comments: _____

6. **EPA Registration number of pesticide sold.**
   ☒ In Compliance ☐ Not in Compliance

Comments: _____

7. **Are restricted use products sold to non-certified individuals?**
   ☐ Yes ☒ No

If yes, list these individuals. (Obtain copies, if possible.)

_____

_____

_____

Office—White Inspector—Canary Firm—Pink

DEPARTMENT OF AGRICULTURE
Division of Regulatory Services
Anderson Building, 445 East Capitol
Pierre, South Dakota 57501

Spray Record Audit

For Verification of Compliance With ARSD 12:56:07

NAME (Applicator): Adam Heilman
CERTIFICATION/LICENSE NUMBER: 298
FIRM NAME (Number, Street, City, State and Zip Code): Farmers union oil co., Hosmer S.D.
SIGNATURE OF INSPECTOR: Janis Brandner
DATE: 11-17-87
TIME: 11:25
SIGNATURE (Applicator or Agent): Adam Heilman

NOTE If Not In Compliance is checked below specify the reason under the comment section.

1. **Name and address of person for whom pesticide was applied.**
   ☒ In Compliance ☐ Not in Compliance
   Comments: _____

2. **Size and location of site where pesticide was applied.**
   ☐ In Compliance ☒ Not in Compliance
   Comments: location of site not listed

3. **Pest treated for.**
   ☐ In Compliance ☒ Not in Compliance
   Comments: Pest treated for is not listed

4. **Crop, site or commodity treated.**
   ☐ In Compliance ☒ Not in Compliance
   Comments: The crop sprayed is not listed

5. **Person or firm who applied pesticide.**
   ☒ In Compliance ☐ Not in Compliance
   Comments: _____

6. **Trade or brand name and common name of pesticide applied.**
   ☐ In Compliance ☒ Not in Compliance
   Comments: Brand should be listed

7. **Company name appearing on the product label.**
   ☐ In Compliance ☒ Not in Compliance
   Comments: Brand or company should be listed

8. **Wind direction and velocity, temperature, time of day and date of application. (Day, month and year)**
   ☐ In Compliance ☒ Not in Compliance
   Comments: wind direction, velocity, temp and time of day not listed

9. **Volume and concentration—pounds, gallons or percent active ingredient per unit.**
   ☒ In Compliance ☐ Not in Compliance
   Comments: _____

10. **Name and address of applicator.**
    ☒ In Compliance ☐ Not in Compliance
    Comments: _____

Office—White Inspector—Canary Firm—Pink

40

DEPARTMENT OF AGRICULTURE
Division of Regulatory Services
Anderson Building, 445 East Capitol
Pierre, South Dakota 57501

Pesticide Use Investigation/Storage & Disposal

NAME (Applicator, Dealer)	TITLE	CERTIFICATION/LICENSE NUMBER
Jim Lutter	Owner	464

FIRM NAME (Number, Street, City, State and Zip Code)

Valley Spraying Service HCR 1 Box 4 Gann Valley, SD

SIGNATURE OF INSPECTOR	DATE	TIME
Bud Berven	October 5, 1987	9:50 AM

☒ Applicator ☒ Dealer ☐ Other _____

Storage

1	Are Pesticide products stored away from food or feed?	(YES) NO
2.	Is there labeling on all the containers?	YES (NO)
3	Do storage conditions meet the requirements stated on the pesticide containers?	(YES) NO
4.	Is condition of storage containers satisfactory?	(YES) NO

Comments #2 - One barrel of Defol 6 without label attached, applicator has copy of label in his label book. Label had weathered off.

Mixing/Loading

1	Are label directions being followed?	(YES) NO
2	Is protective clothing being worn by personnel?	(YES) NO
3	Is pesticide contamination visable on ground?	YES (NO)

Comments _____

Clean Up

1	Is there a mechanism for rinsing?	YES (NO)
2	Is there a mechanism for disposal of rinse liquid?	YES (NO)
3	Is equipment flushed between applications on business site?	YES (NO)
4	Are there rinsate containment storage tanks present?	YES (NO)

Comments Rinse not stored, used on last application site or on one of applicator's own fields.

Container Disposal

1	Are label directions followed?	(YES) NO
2	Are all empty containers triple rinsed?	(YES) NO
3	Are empty pesticide containers punctured and stored properly?	(YES) NO

Comments: Plastic containers are burnt on site. Until this year bulk 2,4-D has been used, this year applicator has been using barrels, applicator has barrels piled up & is not sure how he will dispose o Barrels not punctured.

Office—White Inspector—Canary Firm—Pink

DEPARTMENT OF AGRICULTURE
DIV. OF REGULATORY SERVICES
ANDERSON BLDG., PIERRE SD 57501

ESTABLISHMENT INSPECTION REPORT

1. INSPECTOR NAME	2. DATE OF VISIT	3. ESTAB. REGISTRATION NO.
Brad Berven	November 9, 1987	10140-SD-1

4 ESTABLISHMENT NAME AND ADDRESS (Including street, city, state, ZIP code, county and phone number)	5 RELATED FIRMS
Sebest Bait Plant P.O. Box 306 Mitchell, SD 57301	N/A

6 TYPE OF ESTABLISHMENT	7 TYPE OF OWNERSHIP	8a TOTAL ANNUAL SALES	8b PERCENT PESTICIDES
Pest. Prod. Est.	Sole Prop.		100%

9 NAMES AND TITLES OF PRINCIPAL OFFICERS, PARTNERS OR OWNERS ADDRESS

Ida Sebesta - Owner - P.O. Box 306 Mitchell, SD 57301
Ingval H. Jensen - Manager - RR1 Letcher, SD 57359

10 PERSONS INTERVIEWED (Give name, title, phone number and responsibility)

Ingval H. Jensen - Manager - RR1 Mitchell, SD 605-248-2440
Gerald J. Podhradsky - Employee - Plankinton, SD 605-996-6131

11a. PHYSICAL SAMPLES COLLECTED		11b DOCUMENTARY SAMPLES		11c. LABELS REVIEWED WITHOUT SAMPLES
EPA REGISTRATION NO	SAMPLE NO.	EPA REGISTRATION NO	SAMPLE NO.	EPA REGISTRATION NO
10140-4	27-B-88			
10140-5	28-B-88			

12 REMARKS. Total annual sales information unavailable today
Scales are checked by private scale company. Lot numbers not necessarily assigned to each container, however each pallet of product is marked as to date of manufacture.

13 SIGNATURE OF INSPECTOR

Brad Berven

Office - WHITE Inspector - PINK Firm - CANARY

42

DEPARTMENT OF AGRICULTURE
DIV. OF REGULATORY SERVICES
ANDERSON BLDG., PIERRE, SD 57501

PESTICIDE

NOTICE OF INSPECTION

NAME (Owner, Operator or Agent)	TITLE	SIGNATURE Fred Meyer

FIRM NAME (Number, Street, City, State and Zip Code)
Sodak Pest Control
Box 681
Mitchell, SD 57301

SIGNATURE OF INSPECTOR	DATE	TITLE
Burl Berven	December 18, 1987	Senior Inspector

REASON FOR INSPECTION

- [X] FOR THE PURPOSE OF INSPECTING AND OBTAINING SAMPLES OF ANY PESTICIDES OR DEVICES PACKAGED LABELED, AND RELEASED FOR SHIPMENT AND SAMPLES OF ANY CONTAINERS OR LABELING FOR SUCH PESTICIDES OR DEVICES IN PLACES WHERE PESTICIDES OR DEVICES ARE HELD FOR DISTRIBUTION, SALE OR USE UNDER STATE OR FEDERAL LAWS
- [X] FOR THE PURPOSE OF INSPECTING AND OBTAINING COPIES OF THOSE RECORDS SPECIFIED BY STATE OR FEDERAL LAWS
- [X] FOR THE PURPOSE OF INSPECTING SITES WHEN PESTICIDES ARE BEING USED TO COLLECT DATA ON THE USE OF PESTICIDES AND TO DETERMINE WHETHER PESTICIDES ARE BEING USED IN COMPLIANCE WITH STATE OR FEDERAL LAWS
- [ ] FOR THE PURPOSE OF INSPECTING SITES WHERE PESTICIDES HAVE BEEN USED TO DETERMINE WHETHER THE PESTICIDES WERE USED IN COMPLIANCE WITH STATE OR FEDERAL LAWS

☐ DEALER ☐ LICENSED DEALER ☒ OTHER licensed commercial applicator

COMMENTS

Consent for inspection granted by Fred Meyer

Pesticide Use Investigation

Office - WHITE Inspector - PINK Firm - CANARY

PESTICIDE USE/MISUSE INVESTIGATION REPORT

Department of Agriculture
Division of Regulatory Services
Anderson Bldg. Pierre, SD 57501

1 PERSON INTERVIEWED OR SOURCE OF INFORMATION

a NAME: Fred D. Meyer
b ADDRESS: Sodak Pest Control, Box 681, Mitchell, SD 57301
c TELEPHONE: 605-996-4131

2 OPERATOR OR APPLICATOR

a NAME: Fred D. Meyer
b ADDRESS: Sodak Pest Control, Box 681, Mitchell, SD 57301
c TELEPHONE: 605-996-4131
d CERTIFICATION OR LICENSE NO: 174

3 SITE OF APPLICATION

a NAME: Holiday Inn of Mitchell
b ADDRESS: West I-90 Access Road, Mitchell, SD 57301
c TELEPHONE: 605-996-6501
d TYPE OF BUSINESS: Lodging Est.
e SITE TREATED: Crack & crevice spray applied at saunas, garbage cans, rest rooms, pool pump enclosure, etc
f TARGET PEST: Cockroaches and Silverfish
g DATE AND TIME OF APPLICATION: 12-18-87 10:00 AM
h WEATHER AT TIME OF APPLICATION (Wind, temperature humidity rain, etc., list source of information): N/A
i LOCATION OF SITE: Same as 3a

4 PESTICIDE APPLIED (if more than one, list all items of 4 & 5 under 9)

a BRAND NAME	b EPA REG NO	c BATCH NO OR LOT NO	d GEN OR UNCLASSIFIED USE / RES USE
Demon WP Insecticide	10182-71	N047058H	X / ☐

e TYPE OF FORMULATION
☐ DUST ☐ EMULSION ☐ GRANULAR ☐ LIQUID ☐ FLOWABLE POWDER X WETTABLE POWDER ☐ SOLUBLE POWDER ☐ OTHER (specify)

5 RATE OF APPLICATION

a METHOD OF APPLICATION
☐ GROUND ☐ AERIAL X OTHER (Specify) Handheld B & G Sprayer - Crack & Crevi
b DILUTION RATE
2/3 oz. Demon WP + 2 gallons water
c DILUTED MATERIAL APPLIED PER UNIT (Gallons Acre): N/A
d ACTUAL ACTIVE PER UNIT (Lbs. Acre): .1% Concentration Spray Mix

6 SAMPLES COLLECTED (List collection reports involved by sample number)
29-B-88 and 30-B-88

7 CONSEQUENCES OF USE (List any unusual results or adverse effects or violations resulting from treatment)
None Observed.

8 NATURE OF REPORT (Include any explanatory remark(s)) routine use investigation
☐ SPILL ☐ UNLICENSED X OTHER
☐ FIRE ☐ DRIFT
☐ SITE ERROR ☐ RUNOFF

WAS AN APPLICATION OBSERVED BY INVESTIGATOR? X YES ☐ NO

DEC 1987 RECEIVED S. D. DEPT. OF AGRICULTURE

9 DATE OF INVESTIGATION	10 TIME	11. INSPECTOR (Signature)	12. TITLE
12-18-87	11:15 AM	Fred Meyer	Senior Inspector

Office - WHITE Lab - CANARY Inspector PINK Applicator/Dealer - GOLDENROD

DEPARTMENT OF AGRICULTURE
DIV. OF REGULATORY SERVICES
ANDERSON BLDG. PIERRE, SD 57501

PESTICIDE SAMPLE COLLECTION REPORT

THE FOLLOWING SAMPLE WAS COLLECTED AND RECEIPT IS HEREBY ACKNOWLEDGED PURSUANT TO STATE AND FEDERAL LAWS

DATE SAMPLED	☒ INVESTIGATION ☐ PRODUCER ESTABLISHMENT ☐ MARKET PLACE		SAMPLE NUMBER
12-18-87			29-B-88
CONTAINER/SAMPLE SIZE	NO SAMPLED	TYPE ☐ USE DILUTION ☒ FORMULATION ☐ RESIDUE	DATE OF REPORT
1 lb / 1 ounce	1		12-18-87

PRODUCT NAME: Demon WP Insecticide

LOT NUMBER	NO ON HAND	EPA REG NO	EPA EST NO
NO4T058H	3	10182-71	5905-AR-1

MANUFACTURER OR REGISTRANT (Name and Address)
ICI Americas Inc
Agricultural Chemicals Division
Wilmington, Delaware 19897

AGENT/OWNER (Name and Address)
Sodak Pest Control
Box 681
Mitchell, SD 57301

SAMPLE COLLECTED AND PREPARED IN THE FOLLOWING MANNER
Sample scooped from product container and placed into sample jar. Jar marked 29-B-88. Foil placed under jar cap. Jar placed into double poly bags with outside bag inverted, knotted and sealed with EPA seal marked 29-B-88.

ACKNOWLEDGMENT OF ☐ PRODUCER ☐ REGISTRANT ☐ DEALER ☒ OR OTHER OWNER OF PRODUCT SAMPLED

THE UNDERSIGNED ACKNOWLEDGES THAT THE SAMPLE SHOWN ABOVE AS OBTAINED FROM PESTICIDES OR DEVICES THAT WERE PACKAGED, LABELED, AND RELEASED FOR SHIPMENT OR SALE, OR HELD FOR USE, RECEIVED UNDER THE SUPPLIER AND CARRIER DATE PROVIDED ABOVE

SIGNATURE (Owner, Operator, or Agent)	TITLE (Owner Operator or Agent)
X	

☐ DUPLICATE SAMPLES REQUESTED AND PROVIDED	☒ DUPLICATE SAMPLES NOT REQUESTED	SAMPLES WERE ☐ PURCHASED ☒ GRATIS

SIGNATURE OF INSPECTOR
Brad Berven

INGREDIENTS	PERCENTAGE	REMARKS
Active Ingredient: Cypermethrin		
(±)α-cyano-(3-phenoxyphenyl)		
methyl (±)-cis,trans-3-(2,2-		
dichloroethenyl)-2,2-dimethyl		
cyclopropanecarboxylate*	40.0%	
Inert Ingredients	60.0%	
Total	100.0%	
*Cis/trans ratio: 45/55 ± 10		

DEC 1987 RECEIVED S.D. DEPT. OF AGRICULTURE

Office - WHITE Lab - CANARY Inspector - PINK Agent Owner GOLDENROD

DEPARTMENT OF AGRICULTURE
DIV. OF REGULATORY SERVICES
ANDERSON BLDG. PIERRE, SD 57501

PESTICIDE SAMPLE COLLECTION REPORT

THE FOLLOWING SAMPLE WAS COLLECTED AND RECEIPT IS HEREBY ACKNOWLEDGED PURSUANT TO STATE AND FEDERAL LAWS

DATE SAMPLED	☒ INVESTIGATION ☐ PRODUCER ESTABLISHMENT ☐ MARKET PLACE		SAMPLE NUMBER
12-18-87			30-B-88
CONTAINER/SAMPLE SIZE	NO. SAMPLED	TYPE ☒ USE DILUTION ☐ FORMULATION ☐ RESIDUE	DATE OF REPORT
6 ounce			12-18-87

PRODUCT NAME: Dilution containing the pesticide Demon WP insecticide

LOT NUMBER	NO ON HAND	E P A REG NO	E P A EST NO
N/A	N/A	N/A	N/A

MANUFACTURER OR REGISTRANT *(Name and Address)*

N/A

AGENT/OWNER *(Name and Address)*

Sodak Pest Control
Box 681
Mitchell, SD 57301

SAMPLE COLLECTED AND PREPARED IN THE FOLLOWING MANNER

Sample obtained from spray nozzle after application was completed. Jar marked 30-B-88. Foil placed under jar cap. Jar placed into double poly bags with outside bag inverted, knotted & sealed with EPA Seal marked 30-B-88.

ACKNOWLEDGMENT OF ☐ PRODUCER ☐ REGISTRANT ☐ DEALER ☒ OR OTHER OWNER OF PRODUCT SAMPLED

THE UNDERSIGNED ACKNOWLEDGES THAT THE SAMPLE SHOWN ABOVE AS OBTAINED FROM PESTICIDES OR DEVICES THAT WERE PACKAGED, LABELED, AND RELEASED FOR SHIPMENT OR SALE, OR HELD FOR USE, RECEIVED UNDER THE SUPPLIER AND CARRIER DATE PROVIDED ABOVE.

SIGNATURE *(Owner, Operator, or Agent)*	TITLE *(Owner, Operator, or Agent)*
X [signature]	[signature]
☐ DUPLICATE SAMPLES REQUESTED AND PROVIDED ☒ DUPLICATE SAMPLES NOT REQUESTED	SAMPLES WERE ☐ PURCHASED ☒ GRATIS

SIGNATURE OF INSPECTOR: [signature]

INGREDIENTS	PERCENTAGE	REMARKS
Formulation information according to collection report 29-B-88		Dilution Information .66 ounce Demon WP mixed with 2 gallons water (.1% Solution)

DEC 1987 RECEIVED S. D. DEPT. OF AGRICULTURE

Office - WHITE Lab - CANARY Inspector - PINK Agent Owner GOLDENROD

SOUTH DAKOTA DEPARTMENT OF AGRICULTURE
Regulatory Services Division
Anderson Bldg., 445 East Capitol
Pierre, South Dakota 57501
Telephone: (605) 773-3724

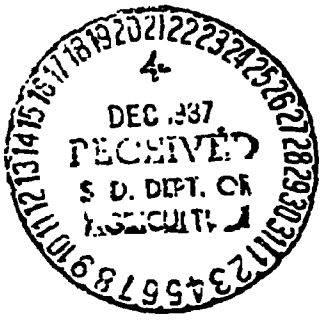
INSPECTION FINDINGS

OBSERVATIONS AND FINDINGS REVIEWED WITH PERSON IN CHARGE
(NOTE RESPONSE OR COMMENTS GIVEN BY THE PERSON IN CHARGE)

Pesticide Use Investigation conducted with Fred Meyer of Sedak Pest Control on December 18, 1987. (Report Forms Attached)

Also conducted inspection of this dealers storage area. This inspection revealed that this applicator has on hand three pesticides that are unregistered.

One of these unregistered pesticides is Diphacinone Concentrate. Label for this product states that is product is formulating. Applicator uses this concentrate to make a grain bait which is then used only by this applicator in servicing his accounts.



A COPY OF THIS FORM WAS GIVEN TO: Fred Meyer

DATE: December 18, 1987 INSPECTOR: Brad Beruen

White - Office Canary - Firm Pink - Inspector

Attachment 5

Department of Agriculture

DIVISION OF AGRICULTURAL REGULATIONS AND INSPECTION
Anderson Building, 445 East Capitol
Pierre, South Dakota 57501
Phone 6057773-3724

Voluntary Statement

I made the following voluntary statement of fact to Brad Berven (Pesticide Inspector) of the South Dakota Department of Agriculture on July 21, 1987 (Date)

On Wednesday evening, July 15, 1987. we checked our 40 acre soybean field near the highway and noticed the top leaves were curling. We had just checked this field the afternoon of the day before and h[ad] not noticed anything like this then. We had noti[ced] an airplane spraying for our neighbor, Ernest Rezac on the morning of July 15, 1987. We tal[ked] to Ernest Rezac who told us Doug Wiechmann ha[d] sprayed a wheat field for him that mornin[g]. We have contacted Mr. Wiedmann, who at first told us he would come out and look but h[e] not. On July 20, 1987 Charles mix county agen[t] Dan Dvorak come out and looked at the fiel[d] and told us the symptoms fit 2,4-D damage. We have talked to our neighbors and to o[ur] knowledge no one else was spraying in the are[a] at that time. We do remember there was a sligh[t] westerly breeze that day.

I, the undersigned have either written the above statement or reviewed it and, hereby swear and affirm that the above statement is a true and accurate account of the facts as they are known to me in connection with the subject matter of the statement.

JUL 1987
RECEIVED
S. D. DEPT. OF AGRICULTURE

Lyle J. Koupal — Signature – Witness — July 21, 1987 — Date

Lyle Koupal — Printed Name — (605) - 384 - 3379 — Phone Number

RR1 Box 13 Dante SD 57329 — Address

Office—White Witness—Canary Inspector—Pink

48

Department of Agriculture
Division of Regulatory Services
Anderson Bldg., 445 E. Capitol Ave.
Pierre, SD 57501

Notice And Report Of Inspection

NAME (Owner, Operator or Agent)	TITLE Asst Mgr.	SIGNATURE [signature]
FIRM NAME (Number, Street, City, State and Zip Code) Knox Lumber 440 So Grange Sioux Falls, SD		
SIGNATURE OF INSPECTOR Virgil Ginning	DATE 4/5/88	TIME 2:45 PM

Distribution Center Inspection Report **Product Category**

	Feed sat	Feed unsat	Animal Remedies sat	Animal Remedies unsat	Fertilizer sat	Fertilizer unsat	Soil Amend. sat	Soil Amend. unsat	Seed sat	Seed unsat	Pesticide sat	Pesticide unsat
1 Current Licensing/Permit	X	X	X	X			X	X				
2. Product Registrations	X				X				X	X		X
3. Labeling of Products	X				X						X	
4. Storage and Handling of Products	X				X						X	
5 Invoice/Records												
	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no
6. Were laws and regulations discussed?												
7. Was corrective action discussed?												

APR 1988 RECEIVED S. D. DEPT. OF AGRICULTURE

Note If unsatisfactory or yes is checked above specify the reason under the remarks section below

Remarks: Granted permission to inspect premises.

Found 1 unregistered pesticide, Made out Notification to Mfg.

Office - WHITE Inspector - CANARY Firm - PINK

SOUTH Dakota

Department of Agriculture

DIVISION OF AGRICULTURAL REGULATORY SERVICES
Anderson Building, Pierre, South Dakota 57501
Phone 605/773-3724

NOTIFICATION OF UNREGISTERED PRODUCTS

DATE November 3, 1987 DEALER Lakeview Veterinary Clinic

PRODUCT CATEGORY: ☐ Fertilizer ☐ Feed Add. Mitchell SD

☒ Pesticide ☐ Remedy ☐ Soil Amendment

MANUFACTURER: Vet Labs Limited Inc.

Address

City Lenexa State KS Zip 66215

BRAND NAME	PRODUCT NAME	AMOUNT ON HAND
#1) Vet Labs	Four-Way Screwworm Bomb	0-10 oz
[illegible] Reg # 11715-94-5645		[illegible]

State Law requires registration of these products prior to their distribution in South Dakota. Unless these products are registered, a **STOP SALE ORDER** will be issued to your various dealers in the state covering all unregistered products.

Please complete the enclosed application in duplicate and return with **ONE SET** of labels and required fees. A certificate or registration will be issued to you for the products approved.

Please contact the undersigned if you have any questions.

Feed & Remedy Activity
Specialist

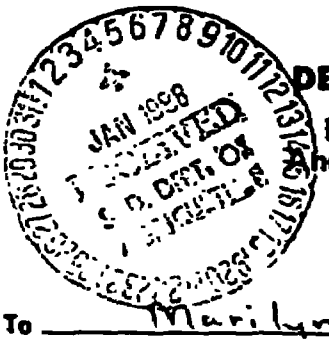
Fertilizer Activity
Specialist

Pesticide Activity
Specialist

Verne Brakke

FOR:

50



SOUTH DAKOTA
DEPARTMENT OF AGRICULTURE
Division of Regulatory Services
Anderson Building, 445 East Capitol
Pierre, South Dakota 57501

STOP SALE ORDER

Issued To Marilyn Hansen
(Name of Dealer or Person)

FIRM NAME *(Number, Street, City, State and Zip Code)*
Lakeview Veterinary Clinic
P.O. Box 59
Mitchell, SD 57301

MANUFACTURER
Firm Name *(Number, Street, City, State and Zip Code)*
Vet Labs Limited Inc
12340 Santa Fe Drive
Lenexa, KS 66215

DISTRIBUTOR
Firm Name *(Number, Street, City, State and Zip Code)*
Unavailable at this time

PRODUCT AND BRAND NAME
Vet Labs Four-Way Screw worm Bomb
EPA Reg # 11715-94-5645

INSP., SAMPLE NO.	LAB. NO.	LOT NO.	AMOUNT ON HAND
—	—	7F55	9-10 oz aerosols

Invoice No. _____ Date _____, 19____

The above described is being offered for sale in violation of the SD Commercial Pesticide Law for the following reason: product is not registered with the SD Department of Agriculture

It is illegal to remove this Four-Way Screw worm Bomb from the premises for any purpose whatever (even for return to the dealer) until it has been released in writing by an inspector, or some other authorized person after said authorized agent has determined that the law has been complied with. When the law has been complied with and you wish to secure release, or if you wish to return the same to the dealer, contact the State Department of Agriculture, Pierre, South Dakota.

Delivered on December 31, 19 87 Signed Rud Berven
Signature of Inspector

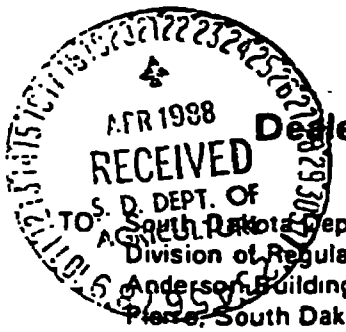
at 1:45 PM (hour) to:

Marilyn Hansen Title Office Manager
(Signature of person to whom given)

COMMENTS: Notification of Unregistered Product written on November 3, 1987

Office - White

APR 1988
RECEIVED
S. D. DEPT. OF AGRICULTURE



Dealer's Request For Release From Stop-Sale Order

TO: South Dakota Dept. of Agriculture
Division of Regulatory Services
Anderson Building, 445 East Capitol
Pierre, South Dakota 57501

Date April 20, 1988

Gentlemen:

I, Jim Pravecek representing Bomgaars Supply at Wagner, SD

do hereby apply for Release from Stop-Sale and for authority to dispose of:

3 - 12½ lb (amount) of WHB Beef + Dairy Cattle Du.. (commodity)

WHB Specialty Products Co. (manufactured by) of Alton, IA (address)

placed under stop-sale by the State of South Dakota on or about 20th day of April, 1988 under Inspection No. — with the agreement that said commodity will be handled only in the manner authorized in writing by the Secretary of Agriculture, and that all required receipts and affidavits will be sent to him upon his request.

Corrections will be made in the following manner:

Product will be returned to distributor.

Signed: Jim Pravecek

Release of this commodity will be subject to inspection and approval of the Secretary.

For Office Use Only:

The commodity was released on April 20, 1988

By: Bruce Berwen, Senior Inspector

PRODUCER/ESTABLISHMENT INSPECTIONS

A PESTICIDE ESTABLISHMENT INSPECTION (Use Federal Forms) -[illegible]-

1. Identify yourself (show identification - federal).

2. Ask for and deal with the responsible person in charge (they may turn you over to someone else).

3. Issue a Notice of Inspection and explain why you are there.

   A. Review labels with accepted labels.

   B. Check products ready for shipment, distribution and/or sale.

   C. Check those records required to be kept by law.

4. Get the information needed to fill out the Pesticide Establishment Report.

5. Explain that you may take samples and ask if duplicate samples are wanted. If they want payment, try to use a voucher or have them billed.

6. Proceed with the inspection by going to those areas where the products are released for shipment and/or sale and check the products.

7. Pull the samples of those pesticides you choose in the following order:

   A. Violative if possible.

   B. From EPA Region for routine analysis.

   Always initial, date, and put your organization initials on the case, drum, or other container from which you collect a sample. Example: JLD, 04-15-79, EC

8. Give the Receipt for Samples to the person who accompanied you or showed you where the pesticide products were if you were not accompanied.

9. Make sure you have enough information for the Narrative.

10. Ask to see some of the records they are required to keep.

Forms Always Needed:

1. Notice of Inspection

2. Establishment Inspection Report

3. Narrative (Discussion with Management)

Additional Forms Needed When Samples Are Collected:

1. Receipt for Samples

   A. All samples may be listed on one receipt.

2. Collection Report (one report for each sample)

PESTICIDE ESTABLISHMENT INSPECTION, continued

Other Attachments May Include But Not Limited To:

1. Photographs
2. Bin Labels
3. Advertising
4. Affidavits
5. Quarantine or Seizure Order

Before leaving, make sure you have the necessary information needed t

1. Pesticide Establishment Report
2. Narrative
3. Collection Report

QUESTIONS FOR PRODUCING ESTABLISHMENT INSPECTIONS

The following list of questions is to facilitate a pre-inspection discussion with management. The answers to these questions will assist in the preparation of a thorough inspection report.

Identify all of the pesticide product registrations the establishment holds with the U.S. EPA.

Determine what pesticide products are produced at the establishment.

Does the establishment perform QA/QC tests on products?

Are retain samples kept per batch? If yes, for how long?

Are batch codes used? If yes, explain the code.

Does the establishment private label for other firms?

Are manufacturing agreements in place?

Is another establishment private labeling for this firm? If yes, who?

Does the establishment report annual production to the U.S. EPA?

Does the establishment distribute products produced elsewhere?

Does the establishment maintain a complaint file?

Are adversed effects reported to US EPA?

Are production records maintained? (including product name, EPA Reg. No, batch code and amount per batch)

Are inbound and outbound shipping records maintained?

Do outbound records include: brand name, quantity, batch code, name and address of consignee, date shipped and the name of originating carrier?

Does the firm export any production?

Does the firm import pesticides?

Are disposal records maintained?

What types and amounts of wastes or containers are held for disposal?

What type of disposal practice is used?

Are proper storage procedures being followed?

STOCK AND DEALER INSPECTIONS

REFERENCES: EPA INSPECTION MANUAL SECTION 8 AND REGULATIONS
40 CFR 169.3(b)

OBJECTIVES: TO ENSURE RESTRICTED USE PESTICIDES ARE PROPERLY LABELED, ARE BEING SOLD ONLY TO PROPERLY LICENSED INDIVIDUALS AND FIRMS, AND PROPER DISTRIBUTION RECORDS ARE BEING MAINTAINED

AUTHORITY: FIFRA SECTIONS 8,9 AND 12(a)(2):B) ALLOW THE INSPECTION OF BOOKS AND RECORDS REQUIRED UNDER THE ACT. STATE/LOCAL LAW SETS LICENSING, RECORDKEEPING AND DISTRIBUTIVE REQUIREMENTS FOR PESTICIDE DEALERS IN ADDITION TO FIFRA, IF ANY.

BRING TO INSPECTION:
PROPER IDENTIFICATION
NOTICE OF INSPECTION
RECEIPT FOR SAMPLES
COLLECTION REPORT
COPY OF FIFRA/STATE LAW/LOCAL LAW
EPA INSPECTOR'S MANUAL
RESTRICTED USE PESTICIDE LIST
CAMERA (ASA 400 OR 1000 FILM)

PREPARATION: BE AWARE OF THE TYPE OF INVENTORY THAT MAY BE PRESENT. REVIEW RUP LIST. IF DEALER IS A LONG DISTANCE AWAY, YOU MAY WISH TO MAKE APPOINTMENT ONE OR TWO DAYS IN ADVANCE OF THE INSPECTION.

PROCEDURE:
1. LOCATE THE MOST RESPONSIBLE PERSON (USUALLY THE DEALER'S LICENSE HOLDER) AND PRESENT YOUR ID
2. ISSUE NOTICE OF INSPECTION
3. EXPLAIN PURPOSE AND SCOPE OF INSPECTION
4. INSPECT AND INVENTORY RESTRICTED USE PESTICIDES (PHOTOGRAPH LABELING TO SHOW PROPER LABELING)
5. RECORDS INSPECTION:
   a. HOW DOES DEALER VERIFY PROPER CERTIFICATION?
   b. DOES PHYSICAL INVENTORY MATCH BOOK INVENTORY?
   c. DO DISTRIBUTIVE RECORDS CONTAIN ALL REQUIRED ITEMS?
   d. IS DISTRIBUTION LIMITED TO PROPERLY LICENSED PARTIES?

   OBTAIN COPIES OF A REPRESENTATIVE SAMPLE OF RECORDS TO DEMONSTRATE a. THROUGH d. ABOVE
6. OBTAIN STATEMENTS TO DOCUMENT OR EXPLAIN ANY APPARENT DISCREPANCIES OR VIOLATIONS
7. COLLECT ANY DESIRED SAMPLES (VIOLATIVE/FROM LOCAL REGION FOR ROUTINE ANALYSIS)
8. FILL OUT COLLECTION REPORTS FOR ANY SAMPLES

9. ISSUE RECEIPT FOR SAMPLES
10. DISCUSS FINDINGS, FOLLOWUP AND ANY POTENTIAL VIOLATIONS

NARRATIVE TO CONTAIN: ALL ITEMS MENTIONED IN THE PROCEDURE SECTION, PLUS DISCUSSION OF OPERATION AND ANY DEFICIENCIES NOTED

Chapter Nine

PRODUCER AND MARKETPLACE ESTABLISHMENT INSPECTIONS

AUTHORITY

Section 9(a) of FIFRA, as amended (7 U.S.C. 136g) provides the basic authority for establishment inspections. It authorizes an inspector to enter, at reasonable times, any establishment or other place where pesticides or devices are held for distribution or sale, for the purpose of inspecting and obtaining samples of any pesticides or devices packaged, labeled, and released for shipment, and samples of any containers or labeling for such pesticides or devices. Section 12(a)(2)(B) makes it unlawful to refuse to allow any entry, inspection, copying of records, or sampling authorized by Sections 8 and 9 of FIFRA.

POLICY

It is Agency policy that the main thrust of the establishment inspection program will be at the producer level, with a secondary supporting inspection program at the marketplace level. All inspections should be conducted at reasonable times, which is defined as normal working hours when the company ordinarily is open for business.

Because Section 9(a) does not provide mandatory access to manufacturing areas (including areas where technical material is stored and areas where manufacturing, formulating, or repackaging is done), it is EPA policy not to conduct inspections in these areas.

PRODUCER ESTABLISHMENT INSPECTIONS

Objectives

Under the 1988 Amendments to Section 19, the Administrator is to promulgate requirements for additional data on methods for safe storage and disposal of excess quantities of pesticides and recalled or suspended pesticides to be sent to EPA in support of the pesticide's registration. Section 9 inspection authority had been expanded to any place where suspended or cancelled pesticides are being held to determine compliance with Section 19.

FIFRA regulations regarding establishment inspections were promulgated for the following reasons:

- To ensure industry compliance with product registration, formulation, packaging, and labeling requirements before the products are distributed to the channels of trade;

- To collect and develop evidence to support legal actions when violations are found;
- To determine whether the books and records required pursuant to Section 8(a) and the regulations are being maintained; and
- To determine whether procedures for the disposal and storage of pesticides, pesticide containers, and pesticide-related wastes are being followed.

Inspector's Obligations and Procedures

Upon arrival at the establishment, the inspector should (1) introduce himself or herself to the owner, operator, or agent in charge of the facility in a professional manner, (2) present his/her credentials, (3) issue the owner, operator, or agent in charge a completed Notice of Inspection (EPA Form 3540-2), and (4) state the reason for the inspection and any suspected violations. Explain the purpose of the inspection and the statutory authority for such inspections.

Discussion with Management

The inspector should obtain the necessary relevant information to complete the Establishment Inspection Narrative Report. This information includes, but is not limited to, the following:

- EPA Establishment Number
- The name, address, and telephone numbers of the firm
- Names and titles of principal officers, partners, or owners
- Related firms
- Persons interviewed (name, title, phone number, and responsibility)
- Guarantees and labeling agreements
- Imports and Exports
- Manufacturing/batch codes
- Number of pesticides registered and number of pesticides produced
- Consignees for pesticides produced but not available for sampling

Conducting the Inspection

Scope of the Inspection

The inspection and sampling at any producer establishment should be completed in a timely manner and is limited to (1) any pesticides or devices packaged, labeled, and released for shipment and/or sale and samples of any containers or labeling for such pesticides or devices; and (2) all records required pursuant to Section 8 of the Act.

If parts of the premises to be inspected are used for living quarters, the inspection thereof may be conducted only if the owner or operator is fully agreeable. However, if the owner or operator objects, a warrant must be obtained to inspect. (See Chapter 17, Warrants.) If the business operation is physically separated from the living quarters, a warrant is not required.

The Agency assumes the right to take photographs of any pesticide or device being inspected that is labeled and released for shipment in lieu of obtaining samples of such labeling or container. If management objects to the use of cameras in their establishment, the inspector should request that the material to be photographed be moved to a nonsensitive area of the establishment (such as the loading dock).

Sampling

Prior to sampling, determine whether the owner or operator in charge wants duplicate samples A stock survey of all the products released for shipment should be made. Label reviews should be conducted as described in Exhibit 9-5 and official samples may be collected from pesticides that are packaged, labeled, and released for shipment. Prepare duplicate samples in the same manner as official samples (see Chapter 11). Upon request, restore the pesticide stocks to an orderly condition after inspection and sampling.

Records

It is expected that the records inspection program will be made an integral part of the producer inspection program. Records should, therefore, be examined whenever a producer establishment inspection is made. The scope of such an investigation will vary according to circumstances. For the most part, it may be confined to determining whether the required records are being maintained in an up-to-date manner and for the time periods required by the regulations. In-depth inspections of certain records should be undertaken only when the inspector has a reasonable suspicion that there has been a violation, or when the inspector has evidence of a violation and is trying to determine the magnitude of the violation.

Refer to Chapter 8 for more detailed instructions on books and records inspections.

Close-out Discussion with Management

The inspector should give the owner, operator, or agent in charge of the establishment a copy of the completed and signed Receipt for Samples (EPA Form 3540-3) for any samples taken. The owner, operator, or agent in charge should also be notified that the results of analyses will be furnished, if and when analyses are made.

The results of the inspection should be discussed with management. Any discrepancies noted during the inspection should be brought to the attention of the management so that immediate corrective action may be taken. The inspector should explain that violations may be found by the laboratories and/or regional office.

Be sure to note in the Inspection Report any voluntary corrective actions that have already been undertaken.

MARKETPLACE INSPECTIONS

Objectives

Marketplace inspections are to be conducted with the following objectives in mind:

- To detect and obtain samples of any unregistered or misbranded pesticides being marketed;
- To determine whether restricted-use pesticides are being sold in accordance with the Act;
- To review advertising material, accompanying literature, and other labeling to determine whether any false or misleading claims are being made for the product;
- To obtain samples of those products that were unavailable for sampling at the producer's establishment;
- To follow-up on recalls, stop sales, suspensions, and cancellations;
- To obtain samples of products subject to deterioration; and
- To determine whether supplementary Sections 18 and 24(c) labeling has been provided by registrant/producer.

Inspector's Obligations and Procedures

The inspector should seek the most responsible individual available at the inspection site and present his/her credentials to that person. The owner, operator, or agent in charge should then be issued a Notice of Inspection (EPA Form 3540-2), stating the reason for the inspection and any suspected violations. The inspector should explain the purpose of the inspection and the statutory authority for such an inspection.

Once entry has been gained, the inspector should survey the pesticides being offered for sale as follows:

- Review the labels and/or labeling (see Exhibit 9-5);
- Inquire whether firm has supplemental Sections 18 and 24(c) labels and whether they are provided to those consignees receiving the products. Obtain copies for review upon return to your station;
- If a violation is discovered, collect a sample (see Chapter 11);
- If the label violation is serious enough that it may create a hazard, the regional supervisor should be called immediately to discuss the advisability of placing a Stop Sale, Use or Removal Order on the misbranded product. (See Chapter 12 for instructions on issuing Stop Sale Orders.);
- If a cancelled or suspended product is encountered, this fact should be brought to the attention of the inspector's supervisor, who would then determine the appropriate course of action; and
- Voluntary corrective actions should be noted in the Inspection Report.

When To Conduct Marketplace Inspections

In general, marketplace surveillance should be scheduled by seasonal demands. For example, during the growing season, feed, seed, and fertilizer outlets are good sources of agricultural pesticide products. Spring and summer are the best times for swimming pool concerns. During the winter months, urban outlets could be surveyed for household pesticide products. Marketplace inspections should be coordinated with other inspectional activities.

Places to Inspect

An inspector must always remain alert to the distribution pattern of pesticides in his/her area. These pesticide distributors, both wholesale and retail, should be kept under surveillance to be sure that only registered and properly labeled pesticides are being sold. The following lists some suggested distribution points for inspecting pesticides:

Animal Health and Veterinarian Suppliers
Barber and Beauty Supply Dealers
Chemical Suppliers
Chicken Hatcheries
Dairy Equipment and Supply Dealers
Medical and Dental Suppliers
Feed, Seed, and Fertilizer Dealers
Hotel and Restaurant Suppliers
Janitorial Supply Dealers
Paint Dealers
Pest Control Operators
Swimming Pool, Spa, and Waterbed Dealers
Wholesale Grocers
Lawn and Garden Supply Dealers

Additional leads to new sources of nonregistered pesticides include the following:

Dealers (question dealer regarding others in the same business)
Local newspaper advertisements
Trade journals
Yellow Pages telephone directories
Information from state officials

BULK REPACKAGER INSPECTIONS

With the growing trend for pesticides to be shipped and held in bulk quantities (more than 55 gallons liquid or 100 pounds solid), uniform inspection procedures are needed for facilities that handle bulk pesticides. Most bulk establishments handle agricultural herbicides; however, other industries use bulk quantities of chemicals such as sodium hypochlorite and quaternary ammonium disinfectants.

Objectives

The primary objectives of the bulk repackager inspections are to (1) ensure industry awareness of its obligations for packaging, labeling, and recordkeeping, (2) document violations, and (3) verify compliance with annual production reporting requirements of Section 7 of FIFRA.

Bulk Facilities Inspections

If the facility receives bulk quantities of pesticides intended to be dispensed into a customer's spray tank for subsequent use, the inspection should proceed as a marketplace inspection. If the facility receives pesticides in bulk quantities (under contract to the basic registrant) and subsequently repackages the product (without alteration) into other labeled tanks for the purpose of distribution, the inspection should proceed as a producer establishment inspection.

Inspector's Obligations and Procedures

The inspector should seek the most responsible individual available at the inspection site and present his/her credentials to that person. The owner, operator, or agent in charge should then be issued a Notice of Inspection (EPA Form 3540-2), stating the reason for the inspection and any suspected violations. The inspector should explain the purpose of the inspection and the statutory authority for such an inspection.

Particular items to check at a bulk site include, but may not be limited to, the following:

- Labels on all bulk tanks;
- If the firm is repackaging, verify the maintenance of a manufacturing contract between the firm and the basic registrant;
- Conduct label review in accordance with Exhibit 9-5;
- Sample, as appropriate, in accordance with established procedures (Chapter 11);
- Review sales invoices to verify transfer is occurring in bulk quantities; and
- If the firm is a repackager, verify the status of the firm's establishment registration.

PREPARING THE INSPECTION REPORTS

Establishment Inspection Report

A narrative report (Establishment Inspection Report, EIR) should be completed for each producing establishment inspected. The purpose of the narrative report is to capture sufficient information to portray accurately what is taking place at the establishment with regard to pesticide production. The format of the report may vary, but the content should include at a minimum the information listed in the Discussion with Management. In addition, the FIFRA Investigation Summary (EPA Form 8580-7), FTTS Sample Report, or your region's current sample collection report may be used.

Marketplace Inspection Report

The FIFRA Investigation Summary Report (Form 8580-7), the FTTS Inspection Report, or your region's current sample collection report may be used for each inspection conducted and sample collected. This report is acceptable for routine nonviolative inspections. Where for-cause inspections were conducted and/or suspected, violative samples were collected, a brief narrative report in memorandum form should also be completed.

Investigation Summary

US ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

EPA FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT
INVESTIGATION SUMMARY

9. Facility Name (Producer/Dealer/User): Good Earth Chemical Co.

1 INVESTIGATION IDENTIFICATION

Date	Inspector Number	Daily Sequence	2. Region/State
11-14-88	F3001	01	09

3. Inspecting Org.	4. Facility Function	5. Investigation Type
F ☒ S ☐	PD	GPR

6. Reason for Investigation	7. Referral Agency	8. Warrant Required
FCP	FDA	Yes ☐ No ☒

10. Street: 711 Industrial Street
11. City: San Francisco
12. State: CA
13. ZIP Code: 94105
14. Establishment Number: 90000-CA-01

SAMPLE INFORMATION

17. Sequence Number	18. State Sample No.	19. Product Code	20. EPA Registration Number	21. Project Code	22. Sample Medium	23. Date Collected	24. Sample Type	25. Data Shipped
01		01	90000-1	A-5	PES	11-14-88	-	PEI

15. DUNS Number: -
16. SIC Codes: -

26. Lot or Other Code Numbers: 50 cases/12/1 lb. cans coded "7011"

27. Sample Identification: (Aerosol can) "Good Earth Pyrethrin Insecticide ... 16 oz. .. Pyrethrin 1.5%, Piperonyl Butoxide 0.50%, Petroleum Distillate 98.00% .... Good Earth Chemical Co., San Francisco, CA 94105 ..."

28. Amount Before Sampling: 50 cases/12/1 lb. cans

29. Description of Sample: 4/16 oz. aerosol cans taken, 1 each from 4 previously unopened cases.

30. Sample Preparation: Labels idfd. "11148830010101, Subs. 1/4, JRD". Cans polybagged in inverted polybag and sealed with EPA seal idfd. "11148830010101 John R. Doe".

31. Related Samples: None

32. Reason for Collection: Suspected contamination with Parathion.

OTHER FACILITIES

33. Producer	34. Establishment Number	35. DUNS Number
Good Earth Chemical Co.	90000-CA-01	-

36. Street	37. City	38. State	39. ZIP Code
711 Industrial Street	San Francisco	CA	94105

40. Shipper	41. City	42. State	43. ZIP Code
N/A			

44. Dealer	45. City	46. State	47. ZIP Code

RECORDS

48. Original Records	49. Region Copy	50. Sample Copy
EPA,NEIC-DEnvar Pest.cide Lab	San Francisco, CA	NEIC Lab

51. Sample Delivered To	52. Date	53. Bill of Lading Number
Consolidated Freightway	11-15-88	--

54. Credentials Presented	55. Notice of Inspection	56. Receipt for Samples	57. Sample Cost	58. Collection Station
XX	XX	☐	$8.00 c☒ v☐ s☐	San Francisco

59. Remarks: Report of Analysis to: John R. Doe, manager.

60. Inspector's Name: John A Smith
61. Inspector's Signature: John A Smith

EPA Form 8500-7 (3-82) Replaces EPA Form 3540-7 which is obsolete. INSPECTION FILE

FTTS Samples

FTTS SAMPLES

*INSPECTION DATE:__/__/__ *INSPECTOR NUMBER:_____

*INSPECTION SEQ:_____ *SAMPLE SEQ:_____ DATE SAMPLE COLLECTED:__/__/__

LAB NAME:_____

SAMPLE MEDIUM:_____ VIOLATIVE: Y or N

DATE SAMPLE SENT/DELIVERED:__/__/__ DATE RESULTS RECD:__/__/__

PRODUCER NAME/COLLECTION LOCATION:_____

_____

PRODUCT NAME:_____ REG NO:_____

AMOUNT:_____ LOT #:_____

SAMPLE DESCRIPTION:_____

_____

SAMPLE DELIVERED TO:_____ SEALED: Y or N

---

*SAMPLE SEQ:_____ DATE SAMPLE COLLECTED:__/__/__

LAB NAME:_____

SAMPLE MEDIUM:_____ VIOLATIVE: Y or N

DATE SAMPLE SENT/DELIVERED:__/__/__ DATE RESULTS RECD:__/__/__

PRODUCER NAME/COLLECTION LOCATION:_____

_____

PRODUCT NAME:_____ REG NO:_____

AMOUNT:_____ LOT #:_____

SAMPLE DESCRIPTION:_____

_____

SAMPLE DELIVERED TO:_____ SEALED: Y or N

FTTS Inspections

FTTS INSPECTIONS

*INSPECTION DATE:____/____/____ *INSPECTOR NUM:_____ *INSPECTION SEQ:_____

*LEGISLATION IND:_T or F_ *INSPECTION TYPE:____

*REGION/STATE:____ INSPECTOR NAME:_____

*REASON FOR INSPECTION:____ REFERRAL TYPE:____ *NUMBER OF SAMPLES:____

DATE RPT RECD:__/__/__ WARRANT REQUIRED:_Y or N_ FED FACILITY:_Y or N_

CBI:_Y or N_ NUMBER SCHOOLS:____ SCHOOL TYPE:_____

*FACILITY FUNCTION:_____ EPA ESTAB:_____

REMARKS:_____

---

*SITE NAME:_____

*SITE ADDR:_____

*SITE CITY:_____

*SITE STATE:_____ *SITE ZIP:_____

SITE DUNS:_____ SITE COUNTY:_____

SITE SIC CODES:_____ _____ _____ _____ _____ _____

*PARENT CO NAME:_____
*PARENT CO ADDR:_____
*PARENT CO CITY:_____
*PARENT CO STATE:_____ *PARENT CO ZIP:_____

_____ _____
INSPECTOR'S SIGNATURE DATE

Establishment Inspect ..n Narrative Report

Date of Visit_____ Estab. Registration No._____ Inspector's Signature_____

Person(s) Interviewed:_____Title_____Phone_____

_____Title_____Phone_____

Establishment Name & Address:

_____

_____

_____

Phone Number_____

Related Firms:

_____

_____

_____

_____

Names & Titles of Principal Officers

_____

_____

_____

_____

Does the Firm Perform QA/QC Tests on Products?___yes___no

Are Retain Samples Kept Per Batch?___yes___no Time Held_____

Are Batch Codes Used?___yes___no If yes, explain code___

_____

_____

Does the Firm Private Label for Others?____yes____no

Are Manufacturing Agreements in Place?___yes___no

Did Inspector Look At Manufacturing Agreement?___yes___no

Is Another Firm Private Labeling for This Firm?___yes___no

If yes, Who_____

Does Firm Distribute Products Produced Elsewhere?__yes__no

Does Firm Maintain Complaint File? ____yes____no

Are Complaints Reported to US EPA?____yes____no

Is Legal Counsel Retained?____yes ____no

Are Guarantees Given and Received?___yes___no

Are Production Records Maintained?___yes___no Including:

Product Name___yes___no EPA Reg. No.___yes___no

Batch Code___yes___no Amount Per Batch___yes___no

Are Shipping Records Maintained?____yes____no

Do Shipping Records Include: Brand Name___yes___no

Quantity__yes__no Name & Address of Consig.__yes__no

Date Shipped__yes__no Name of Orig. Carrier__yes__no

Does Firm Export Any Production?___yes___no If yes, is

Firm in Compliance with Export Regulations?__yes__no

Does Firm Import Pesticides?___yes___no If yes, are

These Products in Compliance with FIFRA?___yes___no

Are Disposal Records Maintained?___yes___no

Identify Types and Amounts of Wastes or Containers Held

for Disposal and Type of Disposal Practice Used _____

_____

_____

Establishment Inspection Narrative Report - Page 2 Inspector's Initials _____

EPA Reg. No. of Pesticides Registered	Prod		PL& RFS		Sample No.	D/P		CRP		LR		This section is to be filled in only when the products are not available for sampling at the producer			
												Consignee	Address	Date Ship.	Invoice No.
XXXXXXXXXXXXXXXXXXXXXXXX	Y	N	Y	N	XXXXXXXXX	XXX		Y	N	Y	N	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXXXXX	XXXXXXXXXX
1)															
2)															
3)															
4)															
5)															
6)															
7)															
8)															
9)															
10)															
11)															
12)															
13)															
14)															
15)															
16)															
17)															
18)															
19)															

Conducting the Labeling Review

Producer Establishment Inspections

When a producer establishment inspection is being conducted, a *word-for-word* comparison with the registered label, when available, should be made of all labels being reviewed. The inspector should ascertain compliance with all stipulations of the letter of acceptance.

The inspector may extend label comparisons to "bin" labels at the discretion of his/her supervisor. *Official samples may only be collected from products that are packaged, labeled, and released for shipment.* However, a "bin" labeling review can provide a valuable background for follow-up sampling at consignees and obtaining voluntary corrective action at the producer level.

Marketplace Inspections

When conducting label reviews, the inspector must be aware of labeling requirements and be alert for products that may be violative. The following paragraphs list some of the things an inspector should be aware of:

Product Name, Brand, or Trademark.

Name of Manufacturer, Registrant, or Person for Whom Manufactured. If the product is not produced by the registrant, the name must be qualified by "packed for ...," "distributed by ...," "sold by ...," or a similar statement.

EPA Registration Number. The EPA Registration Number may be listed as "EPA Registration No. XXXX-XX," "EPA Reg. No. XXXX-XX," or "EPA Reg. No. XXXX-XX-YYYY." (The "YYYY" is the supplemental registrant's company number.)

EPA Establishment Number. The EPA Establishment Number may appear in any location on the label or immediate container; however, it must appear on the outside container or wrapper of the package if the EPA Establishment Number on the immediate container cannot be clearly read through the outside wrapper or container. It must be listed as "EPA Est. XXXX-(state abbreviation)-XX," or "EPA EST NO. XXXX (state abbreviation)-XX."

Net Content Statement. The net contents must be given in units commonly used in the United States (*i.e.*, pounds, ounces, pints, quarts, gallons). Metric units may also be listed. Liquid units must be used if the product is liquid, and weight units must be used if the product is solid, semisolid, or viscous. Contents must be expressed in terms of the largest unit present.

Ingredient Statement. The ingredient statement usually appears on the front panel. The names used for each ingredient shall be the accepted common name, if there is one, followed by the chemical name. The common name may be used alone if it is well known.

NOTE: The ingredient statements for products containing arsenic must have a substatement giving the percentage of total and water-soluble arsenic, each calculated as elemental arsenic.

Warning or Caution Statements. The signal words, "Danger," "Warning," or "Caution," and the statement "KEEP OUT OF THE REACH OF CHILDREN" must appear on the front panel of the label. Any substances in quantities highly toxic to humans must bear all of the following on the label: (1) a skull and crossbones, (2) the word "POISON" in red on a contrasting background, and (3) a statement of practical treatment. In addition, the label must contain precautionary statements necessary to prevent injury to humans and the environment.

Directions for Use. Directions for using the product must include the following: (1) the site of application, (2) the rate of application, (3) instructions for frequency and timing applications, (4) restrictions and warnings, (5) any other pertinent information necessary for the protection of the public, and (6) target pest.

Legibility of Labeling. Product labeling must be clearly legible and easy to read by a person with normal vision. All required label or labeling text shall appear in the English language. However, the Agency may require or the applicant may propose additional text in other languages as is considered necessary to protect the public. When additional text is necessary, all labeling requirements will be applied equally to both the English and other language versions of the labeling.

Disclaimer Statements. Labeling disclaimers that negate or distract from required labeling information are not acceptable. The following are examples of unacceptable and acceptable disclaimers:

- **Unacceptable.** "The information furnished hereon is provided gratuitously by the manufacturer, who assumes no responsibility whatsoever for the effectiveness or safety of this product, regardless of whether or not it is used as directed."

- **Acceptable.** "Seller makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and/or handling of this material, when such use and/or handling is contrary to label instructions."

Statement of Use Classification. All RUP products must have the RUP statement on the top center of the label.

If a review of "bin" labels, for which there is no product packaged, labeled, and released for shipment, reveals a discrepancy, it should be brought to the attention of the management. Names and addresses of consignees of the misbranded product should be obtained to follow up the investigation and collect samples of the product.

Marketplace Inspections

Samples should be collected of all products found with violative labels or labeling. The inspector should exercise care in obtaining the proper shipping records that cover all of the products in stock.

If the inspector is unsure of any label or labeling or if a serious violation has been discovered, he/she should call his/her supervisor while still in the vicinity of the establishment. The supervisor may have access to information on the product that would help to decide whether to have the product sampled or even stop sale the product.

Accompanying Labeling

Copies of accompanying labeling initiated and dated by a responsible company representative should be collected and documented.

When violative labeling is collected, it should be documented with an affidavit signed by a responsible individual of the firm, which clearly states the relationship of the labeling to the goods, including the following:

- Description of Labeling. Describe briefly each piece of literature by name and also the manner in which the literature was received. State the quantity of such labeling on hand.
- Location of Labeling. Report the location of each piece of literature and how much of each is on hand.
- Methods of Distribution. Determine how the labeling is distributed (*i.e.*, accompanied product, shipped under separate cover).
- Source of Labeling. Was the labeling sent to the dealer by the shipper of the product or was it prepared by the dealer himself? If received from the shipper of the product, document the shipment of the labeling. If prepared by the dealer, determine whether the producer provided the text.
- Instructions to Dealer. The manufacturer or shipper sometimes provides sales promotion instructions to the dealer. Obtain copies of such instructions, if available, as well as any verbal instructions on how to use them.

INTERVIEW TECHNIQUES

EFFECTIVE INTERVIEWING

OPENING CONFERENCE

- FIND THE RIGHT PERSON(S)
- DISCUSS INSPECTION OBJECTIVES AND SCOPE
  - GENERAL VERSUS SPECIFIC
- RESOLVE ISSUES
  - PHOTOGRAPHS
  - DUPLICATE SAMPLES
  - RECORDS
  - TIME/SPACE
- PROVIDING INFORMATION
- PLANNING MEETINGS WITH PERSONNEL
  - CONSIDER LOCATION

INTERVIEW TECHNIQUES

- ENLIST COOPERATION
- HAVE GOALS/AREAS TO BE DISCUSSED
- ASK QUESTIONS YOU ALREADY KNOW THE ANSWER TO
- TAKE WHAT IS FREE
- LEAARN FACILITY OPERATIONS
- VERIFY LACK OF RECORDS/REGULATORY SHORTCOMINGS

QUESTIONING TECHNIQUES

- SEVEN W's
- GENERAL TO SPECIFIC
- NOTETAKING/ CHECKLISTS
- ROLES
- DOCUMENTATION
  - STATEMENTS
  - AFFADAVITS

13B OPENING CONFERENCE

Once credentials and required notices have been presented, the inspector can proceed to hold the opening conference with facility officials. During this meeting, the inspector presents an overview of the inspection plan and queries facility officials to gain a fuller understanding of the facility's organization, to obtain current information regarding facility operations and processes, and to clarify any key issues or ambiguities identified during the process of planning the inspection. This section addresses the inspector's role in conducting the opening conference, together with relevant meeting agenda items. This section concludes with a discussion of mid-course adjustments that may be needed in response to information divulged during the opening conference.

The Inspector's Role During the Opening Conference

The opening conference establishes a forum for the exchange of information between EPA inspection personnel (and by extension, the Agency) and facility officials. This information exchange should focus on, but not be limited to, the inspection itself. The inspector should be aware of several principles that can increase the effectiveness of the opening meeting:

- Gain an early rapport.
- Start the meeting on a positive and professional note.
- Prepare and use any supporting information that will enhance the discussion; e.g., a copy of the Act, technology transfer materials, or other resources.
- Acknowledge that the inspection may disrupt daily facility routines, but assert that reasonable efforts will be made to minimize such disruptions.
- Listen carefully and be willing to answer facility officials' questions. But, do not permit yourself to be maneuvered into bending EPA policies/ procedures or overstepping your authority in an attempt to accommodate facility representatives. For example, do not give opinions that are "shot from the hip" about whether facility practices, as described during the discussion, are acceptable and will be found in compliance.

A cooperative working relationship developed during this opening meeting can set the tone for the remainder of the inspection. It also can be used as the foundation for strengthening Agency-industry relationships. If approached properly, the opening conference provides an ideal opportunity for the inspector to function as a public relations liaison and educator.

From the perspective of both the Agency and the regulated community, the inspector is well-positioned to serve as a source of regulatory information. As

such, the inspector should provide tactful help before, during, and after the inspection. Areas of particular concern include:

- Voluntary compliance.
- Overview of the law.
- Specific regulation requirements.
- Help with facility-specific problems.
- Agency outreach efforts.
- Other sources of assistance.

Meeting Agenda Items

The opening conference should be used to inform facility representatives of the general purpose and scope of the inspection and the requisite logistical arrangements. At the same time, the inspector should use the meeting to refine an understanding of the facility's operations and practices so that an assessment can be made of the necessity to make mid-course adjustments to the Inspection Plan.

Statement of Purpose

An outline of inspection objectives will inform facility officials of the purpose and scope of the inspection, and may help avoid misunderstandings. The EPA inspector should explain the anticipated post-entry inspection activities in general terms. This discussion should avoid providing the facility representatives with the precise focus of the inspection. There are two reasons to emphasize the general purposes, while avoiding the specific focus of activities:

- Providing facility representatives with the specifics may create a situation whereby they use that knowledge as essentially advance notification, and contrive some appearance of compliance (or hide violations) in those areas they now know will be subject to scrutiny.

- The use of a general description of purposes minimizes the likelihood that facility officials, once having consented to the inspection as generally described, will withdraw consent based upon their perception that the inspection includes more than they understood and agreed to (or at least, did not refuse).

  Conversely, the use of specifically focused statements of purpose may circumscribe the nature of a facility's consent. That is facility representatives may incorrectly perceive that they are agreeing only to those items mentioned and, by extension, onto to any others. Such perceptions could contribute to misunderstandings later on.

Understanding Facility Operations and Practices

The opening - conference permits inspection personnel to query facility representatives about current operations and practices, as well as organizational accountability and personnel, that may not have been included (or requires clarification) in Agency records. The key areas to address are (as adapted from the "Environmental Auditing Skills and Techniques Workbook," Arthur D. Little, Inc. for the Edison Electric Institute):

- The nature of the operations. The inspector should establish what activities take place from an operational standpoint; what materials are used; and what the environmental implications are.

- The major facility environmental programs. The inspector should query what programs are in place at the facility, such as effluent sampling, analysis and reporting, training, inspection and maintenance of pollution control equipment, emergency response, etc.

- The applicability of environmental regulations. Verify that facility operations and programs have not changed in such a way as to alter the regulations or requirements that apply to the site. For instance, the inspector may learn that a facility has recently obtained a new permit to store wastes onsite or that it no longer has PCBs onsite. Such information will permit the inspector to review and revise the Inspection Plan, if necessary, by shifting the emphasis of planned activities, deleting inappropriate activities, and/or adding new activities that were not initially considered relevant.

- Key responsibilities, authorities, and accountabilities. The inspector should establish who is responsible for: specific environmental activities, communicating the chain-of-command in case of emergencies, developing environmental performance measures, etc. In addition, it is important to clarify what authorities have been specifically delegated, and how accountabilities are established and maintained.

  A telephone directory or a chart showing how the facility is organized can be requested. The above information will assist the inspector in determining which individuals are knowledgeable about specific areas and who should be interviewed.

Logistical Arrangements

Logistical requirements and arrangements should be addressed in the opening conference to minimize delays and avoid mis-understandings. Relevant considerations include:

- Accompaniment. It may be beneficial to encourage a facility official to accompany the inspector during the inspection (or selected parts of it) to describe the facility and its principal operating characteristics and, where appropriate, to indicate which processes, records, etc., should be claimed as confidential business information.

- Safety requirements. The inspector should determine what OSHA and facility safety regulations will be involved in the inspection, and should be prepared to meet these. Note, however, that EPA typically has its representatives use the same safety equipment that is actually used by employees. EPA has the right to and does decline to undergo the safety training that facilities require of their employees, with the exception of site-specific mine safety training required under EPA order 1440.4.

- Order of inspection. A discussion of the order in which operations will be inspected will help eliminate wasted time by allowing officials time to make records available and start up intermittent operations.

- List of records. A list of records to be inspected will permit officials to gather and make them available for the inspector. If, however, the inspector has any reason to believe that such "advance warning" will tempt facility representatives to "sanitize," withhold portions, or destroy records, such a list should be prepared for inspector use only, but not for submission to facility officials.

- Meeting schedule. Based upon the planned inspection activities and the inspector's understanding of facility personnel responsible for key assessment topic areas, a schedule of meeting times can be developed. This will permit key personnel to clear time to meet with the inspector.

- Duplicate samples. For three of the EPA administered statutes (CERCLA, FIFRA, and RCRA), facilities have a right to receive a duplicate of any physical sample (liquid or solid) collected for laboratory analysis. If these circumstances apply, the inspector should inform facility officials of their right to duplicate samples during the opening conference. Officials should indicate at that point their desire to receive duplicate samples so that arrangements can be made to secure these samples during the inspection.

Mid-Course Adjustments to Inspection Plan

After the opening conference, the inspector (or inspection team) should have sufficient information to decide whether any fundamental changes to the inspection plan, which was developed prior to arriving onsite, are necessary. If the opening conference did not uncover any information that requires adjustment of anticipated activities, then the solo inspector or team should proceed as planned. However, if the opening meeting provided information that is critical to meeting inspection objectives, but was not originally anticipated, then onsite activities should be adjusted accordingly. For example, if the facility is found to be a generator of large quantities of hazardous waste (and this was not expected during the planning stage), then it may make sense to concentrate more on hazardous waste management activities than originally planned.

When reviewing the inspection plan, the inspector should bear in mind that changes in the scope of the inspection must be accommodated within the constraints of available resources, such as time and manpower. Particular attention must be paid to the initial sampling plan, as well as to the development

of an altered sampling plan, to ensure that any unforseen additions to the inspection can accomplished utilizing the sampling equipment that has been brought onsite.- Additionally, if the sampling plan is subjected to revision, care should be exercised in the selection of "new" representative sampling sites and in reviewing appropriate procedures for sample collection. If the inspection is being conducted as a team effort (rather than by a solo inspection), review of the inspection plan should also focus attention on:

- Appropriateness of Task Assignments, Given the Modifications to Planned Activities. Based upon the information gathered to date, the appropriateness of inspection assignments should be re-evaluated. Since each inspector will have prepared for his assigned role in the onsite activities, it may not be effective to switch assignments once onsite. However, it may be appropriate to shift the emphasis or to shift additional team member support to assessment areas that, upon review, appear understaffed.

- Confirm Time Availability. Since the team is actually assembled onsite, where first-hand observations of facility size, layout, and complexity are possible, it is important to re-check whether inspection activities can actually be completed in the allotted time and whether each team members' task assignments are reasonable given time and scheduling constraints. A review of the finalized sampling plan is essential to developing an accurate assessment of such issues.

CHAPTER 16

INTERVIEWS

Interviews are a highly valuable, but often under-utilized, means of gathering information during an inspection. Oral and written statements obtained from facility personnel are usually admissible evidence. An inspector with good interviewing skills can elicit information and develop important facts that might otherwise be missed.

While written materials cannot replace practical experience for learning and improving interviewing skills, the techniques presented in this section can help shorten the training time needed to become a successful interviewer. Many of these techniques are designed to ease the tension and anxiety that plant managers and employees may experience at the thought of being interviewed by an EPA enforcement official. Other techniques are designed to aid inspectors in composing questions that will more effectively elicit useful information.

The section begins with a discussion of statements as evidence, including procedures for how to prepare a written statement. This is followed by a discussion of the steps in planning and conducting interviews, questioning techniques, and some suggestions for creating an atmosphere conducive to a productive interview.

16A STATEMENTS AS EVIDENCE

Oral or written statements obtained during an inspection are generally admissible in court under exceptions to the "hearsay evidence" rules. Statements made by a company employee or statements are examples. Even when statements made during an inspection interview are not admissible, statements are still useful for cross-examination purposes or to develop leads for investigation.

- Criminal investigations. While most EPA inspectors do not normally become involved in criminal investigations, note that even statements obtained at the scene of a criminal investigation during the execution of a warrant are legal. The Fifth Amendment privilege against self-incrimination applies only to in-custody interrogation. Questions to witnesses not in custody do not require the reading of rights prior to questions.

Documenting the Interview

A written record should be made of each interview. As applicable in the particular circumstances, this may be in the form of an affidavit, a verbatim record of questions and answers, unsworn statements, or informal notes. Some people are inhibited by the sight of an inspector taking notes, while others may feel that the inspector's failure to take notes indicates a lack of interest in them and in what they have to say. In the final analysis, the inspector must evaluate the individual in each interview to determine the correct approach.

Notetaking

It is important to take accurate field notes; however, it is equally important that the notetaking or documentation process be unobtrusive and not interfere with the interview process.

If the interviewee's pace is too fast, wait for appropriate breaks in the conversation and "backtrack" by reviewing salient points. Try slowing the conversation by deliberately slowing the delivery of questions. Experts have found that when a strong rapport is established between two individuals engaged in conversation, the pace of one influences the other. Only as a last resort should the inspector ask the interviewee to slow down a bit. Keep in mind that such a request, no matter how reasonable, asks the interviewee to abruptly change pace and usually tends to dampen somewhat the enthusiasm that is causing the heightened speed of the conversation. Avoid frequent interruptions or asking for an answer to be repeated. If two inspectors are present, a useful technique is for one to ask questions and the other to take notes.

Use of Tape Recorders

Inspectors frequently ask whether or not they can use tape recorders or electronic recording devices during an interview. There are no legal barriers to the use of tape recording equipment by the inspector solely for the purpose of recording his/her own observations during the inspection. Also, the ispector may record an interview, if it is done with the knowledge and consent of the interviewee. However, if a given investigation requires tape recording individuals without their knowledge, the inspector must consult with the Office of Regional Counsel. Otherwise, the inspector may violate criminal statutes which prohibit such actions.

If the information given by the interviewee seems especially significant, the inspector should attempt to obtain a signed, written statement according to procedures discussed below.

Inspectors can obtain formal written statements from persons who have personal, first-hand knowledge of facts pertinent to a suspected violation or have knowledge of information that a third party known by name may be able to provide or who have information whose source is not clearly known. The principal objectives of obtaining a statement are to record in writing, clearly and concisely, relevant factual information so that it can be used to document an alleged violation. This statements of facts is signed and dated by the person who can testify to those facts in court, and it may be admissible as evidence.

Procedures for Obtaining Written Statements

In taking statements, the following procedures and considerations should be applied.

- Determine the need for a statement. Will it provide useful information? Is the person making the statement qualified to do so by personal knowledge?
- Ascertain all the facts and record those which are relevant regardless of the source.
- In preparing a statement:
  - Use a simple narrative style; avoid stilted language.
  - Narrate the facts in the words of the person making the statement.
  - Use the first-person singular ("I am manager of....").
  - Present the facts in chronological order (unless the situation calls for other arrangements).
- Positively identify the person (name, address, position).
- Show why the person is qualified to make the statement.

- Present the pertinent facts.

- Have the person read the statement and make any necessary corrections before signing. If necessary, read the statement to the person in the presence of a witness.

  - All mistakes that are corrected must be initialed by the person making the statement.

- Ask the person making the statement to write a brief concluding paragraph indicating that he read and understood the statement. (This safeguard will counter a later claim that the person did not know what he was signing.)

- Have the person making the statement sign it.

- If he refuses to sign the statement, elicit an acknowledgement that it is true and correct. Ask for a statement in his own handwriting ("I have read this statement and it is true, but I am not signing it because...."). Failing that, declare at the bottom of the statement that the facts were recorded as revealed and that the person read the statement and avowed it to be true. Attempt to have any witness to the statement sign the statement with his name and address.

- Provide a copy of the statement to the signer if requested.

16B - STEPS IN PLANNING AND CONDUCTING INTERVIEWS

While each interview will be different because of the dynamics between the individuals involved and the topics to be covered, there are several basic steps to an interview.

- Planning. In this step, topics to be covered and information needed from the interviews is decided, individuals to be interviewed identified, and time and places for the interviews scheduled.

- Conducting. This step includes introductions, discussion of the interviewee's position and responsibilities, more detailed questioning on specific points, and summarizing to assure accuracy.

- Documenting. This step, which happens in part concurrently with the conducting step, includes note-taking, and when appropriate, obtaining a written statement.

Planning the Interview

Outline the "Unknowns"

The inspection plan sets out the objectives of the inspection. An outline of topics for which interview information is likely to be needed will help identify individuals who should be interviewed. An outline of questions or topic areas should be prepared to assure that all needed information is solicited.

Identify Interviewees

In addition to facility managers who can describe company operations and policy generally, it is useful to interview directly the persons who are carrying out the various regulatory responsibilities (e.g., record keeping, operation, and maintenance) to determine what facility practices are. Others may also be interviewed to flesh out the details of a suspected violation. In most cases, it is desirable to interview every person thought to have relevant information. Often, at least a preliminary list of individuals who should be interviewed can be developed during the opening conference with facility management.

Scheduling and Logistics

To the extent possible, without subverting the purpose of the interview or the inspection, try to schedule the interview at a time that is convenient for the interviewee. Generally, it is most comfortable for the interview to take place in the interviewee's own work area (e.g., in the plant area rather than in a conference room). A schedule for interviewing various facility personnel can often be worked out during the opening conference.

Set Objectives for the Interview

Before each interview, identify the specific reason that the individual is to be interviewed, that is, the individual's relationship to the information being sought and what he or she is likely to know. Jotting down key questions in advance can help assure that the objectives of the interview are met.

Conducting the Interview

Initial Contact

The first contact between the inspector and interviewee sets the tone. While each inspector will develop his or her own style for establishing rapport, it usually is helpful to begin by explaining the purpose of the inspection and interview. After initial exchanges, the interview shifts to more specific questions.

Overview of Interviewee's Job

Begin by asking the employee to explain his or her responsibility as it relates to the topics being reviewed in the inspection. These introductory questions are useful even in a very short interview because it helps put the interviewee at ease and may trigger questions that would otherwise not have been asked.

Gather Detailed Information

At this stage, follow up with probes designed to answer the compliance questions raised in the inspection plan. Questions should be specific and concrete to elicit the most useful answers. (See discussion on Questioning Techniques which follows.)

Summarize the Information

After each phase of the interview, recheck to see that all the "unknowns" on the pre-interview list have been satisfactorily explored, and that all clues of additional information have been explored. Consider whether there is any conflicting information that deserves a request to be shown what the interviewee means. Next, mentally rearrange the information obtained so that the details follow one another in a logical continuity. Then summarize the interview by stating all important details in proper sequence. Stop after each statement of segment or the summary and ask the interviewee to verify the correctness of your interpretation. If the interviewee indicates any disagreement, the discrepancy should be corrected before proceeding.

Documenting the Interview

As discussed in detail in the previous section, the interview should be fully documented. This is normally done by taking careful notes; in some cases, inspectors may seek to obtain formal, written, and signed statements. The interview may also be tape recorded.

16C QUESTIONING TECHNIQUES

Questions are the principal tools of interviewing. The quantity and quality of information obtained from interviewees will usually be proportional to the inspector's skill in formulating and asking questions.

Some of the fundamental characteristics of good question construction are:

- Make questions short and confined to one topic.
- Make questions clear and easily understood.
- Use neutral words.

Types of Questions

The Seven "W's"

When complete answers to the seven questions below are obtained, the issue being explored is usually resolved satisfactorily. These questions are basic to all interviews.

- What? (What happened?)
- When? (When did it happen?)
- Where? (Where did it happen?)
- Why? (Why did it happen?)
- How? (How did it happen?)
- Who? (Who was involved?)
- Which? (Which one reviewed the records?)

The questions "Why?" and "Why not?" are the most powerful and are of great value in interviews.

Precise Questions

The precise question is one that calls for a specific or an exact answer. It limits the requested answer to definite items of information. Precise questions help keep the discussion and pattern of thinking moving toward a particular goal Usually they will extract the desired information quickly and with minimum effort.

The following questions are increasingly precise in ascending order:

- What did you do?
- What did you do when you were growing up?
- What did you do last year?
- What did you do yesterday afternoon?
- What did you do at about 3:15 yesterday afternoon?
- What did you do about getting home when you missed the 3:15 bus yesterday?

Extended Answer Questions

Questions should generally be framed to require a narrative answer. Soliciting "yes" or "no" answers usually restricts the information that the subject may be inclined to give and usually is inadequate to completely answer the inquiry. Questions requiring a "yes" or "no" answer frequently are leading or suggestive. They may be acceptable when summarizing or verifying information, but should not be used when seeking new information.

Leading Questions

Leading or suggestive questions are those which suggest the desired answer, assume something to be fact which has not been established as a fact, or embody a fact and require a simple negative or affirmative answer. Leading or suggestion questions tend to influence the answers given by the interviewee and should be avoided while asking for original information and monitoring inspection. Leading questions can be useful in getting a particular answer or in refreshing an individual's memory; they are frequently used in cross-examination to test or break down previous statements.

Examples of leading questions in order of their suggestiveness:

- Did you see a _____?
- Didn't you see a _____?
- Didn't you see the _____?
- Wasn't there a _____?

Questions to Avoid

- Double or Triple Negative Questions. Questions or statements involving double or triple negatives are confusing and often suggest an answer opposite to the correct one. They should never be used. Examples: Didn't he have no dinner? Couldn't you see him neither?

- Complex Questions. Complex questions and statements are those that are too complicated to be easily understood, cover more than one subject or topic, require more than one answer, or require a complicated answer. Example: Where did you get the truck and how did you load the drums in it?

Question Sequencing

An issue is an occurrence, situation, or subject in an inspection that needs to be explained or resolved. Issues are generally resolved by sequences of questions. As a rule, a separate sequence is required to resolve each issue. The sequence of questions should push towards the resolution of the issue.

General to Specific

The most efficient means of resolving an issue is to have the questions cover it by progressing from the GENERAL to the SPECIFIC. Seek general information on the setting of an event before exploring details. Determine what was done before exploring how it was done.

Reaching Backward

Questions will progress more logically with less risk of omissions if transition is used to connect thought. To do this, start with known information and work toward areas of undisclosed information. An efficient method of achieving this sequence is to mentally reach backward over the known information and frame the next question as the logical continuation of the facts previously related.

The following illustration portrays use of the "known to unknown" sequence orientation before proceeding to the next question. Statements that are enclosed in (parentheses) are the unspoken thoughts of the interviewer as he prepares to frame each new question:

Q: (You said earlier you sent to Mudville.) Now what means of transportation did you use?
A: A car.
Q: (If you sent in a car?) Who drove?
A: I did.
Q: (You drove a car to Mudville.) Was anyone with you?
A: Two guys went with me.
Q: (You drove a car with two passengers.) What were their names? Etc.

Estimates of Quantities

Interviewees rarely give the right answer the first time asked for the number or quantity of anything. To determine more specifically time or quantities of space and material, the following types of question sequences may be of value.

- Change of Reference Point. When descriptions of quantities are complicated or hard to understand, they frequently can be simplified by changing the reference point. Examples:

  An interviewee may describe the location of an illegal discharge pipe as four miles east, one and one-half miles south, and two miles southeast of town. It is difficult to comprehend exactly where this location is. If guided, the interviewee may be able to simplify by advising that it is one-half mile downstream from the Long Lake Town Hall, on the river.

  It does not mean much to mention a large quantity of hazardous waste. If the interviewee will convert the amount to 60 barrels or a truckload, it gives a clearer picture of the quantity.

- Comparison. When descriptions of quantities are vague or indefinite, they can often be made more specific by comparing them with similar items of known quantity. Examples:

  Was he taller than I am?
  Which one was the largest?
  What share of the pizza did you get?

  In some cases where quantities are persistently given in generalities, it is productive to bracket the probable amount by suggesting quantities and by enlarging or sub-dividing the suggested quantity to get the interviewee to more specifically agree on an amount. Example:

  Q: How far away was Smith when you first saw him?
  A: He was a long ways down the road.
  Q: About how far would you say?
  A: I don't know -- quite a ways.
  Q: Do you know how long a mile is?
  A: I'm a pretty good judge of distance.
  Q: How far would you say it is from here to City Hall?
  A: About two miles.
  Q: That is a good estimate. Now, would you say Smith was more or less than a mile away when you saw him?
  A: Much less.
  Q: Was he more or less than a half mile away?
  A: Less.
  Q: Was it more or less than a quarter mile?
  A: More, I think.
  Q: Would you say it was closer to a quarter mile or more nearly a half mile?
  A: It was closer to a quarter mile.
  Q: Then would it be correct to say the distance was a little more than a quarter of a mile?
  A: That would be about right.

Applying Interviewing Techniques

Free Narrative

Free narrative is an orderly continuous account of an event or incident given with or without prompting. It is used to get a quick resume of what a person knows or is willing to tell about a matter. Usually it can be initiated by requesting the individual to tell what he knows about the matter.

Frequently, the interviewee must be kept from digressing, but use a minimum of interruption and do not be too hasty in stopping him from wandering in the narration. He will sometimes give valuable clues while taking about things that are only partially related to the matter under consideration. Be careful not to erroneously interpret deviations from the anticipated narrative as wandering.

Systematic Questioning

Systematic questioning (termed "direct examination" in legal proceedings) is designed to bring out a connected account of an event or an incident. In an interview, its purpose is to elicit new information or to fill in details omitted during free narrative. Following are tips for eliciting more details in the interview.

- Begin by asking questions that are not likely to cause interviewee to feel threatened.
- Ask the questions in a manner that will develop the facts in the order of their occurrence or in some other systematic order.
- Ask only one question at a time and frame the questions so that only one answer is required by each question.
- Give the interviewee ample time to respond. Do not rush him.
- Try to help him remember but do not suggest answers, and be careful not to imply any particular answer by facial expressions, gestures, methods of asking questions, or types of questions asked.
- Repeat or rephrase questions again and again if needed to get desired facts.
- If answers are not perfectly clear, have the interviewee explain them again.
- Give the interviewee time to qualify his answers.
- Separate facts from inferences or opinions.
- Recognize conflicting information and learn when to say "show me."
- Get all of the facts. Almost everyone can provide more information that he initially recalls or admits knowing.
- After the interviewee has given a narrative account, ask questions Answers to little things will frequently contain clues to previously unreported information of interest.
- After each segment of the interview, ask the interviewee to summarize his information and then follow up by a resummarization and have the interviewee verify the correctness of the statements.

Cross-Examination

Cross-examination is exploratory questions designed to test the reliability of or to break down the previous statements of interviewees. It is generally not used by inspectors in routine inspections; cross-examination is mostly associated with criminal investigations. It is used to test previous statements for correctness,

resolving conflicting information, determining completeness, filling in evaded details, evaluating the judgment of interviewees, and undermining the confidence of those who lie.

16D CREATING A PRODUCTIVE INTERVIEW ATMOSPHERE

The most productive interviews are those in which the interviewee feels comfortable and respected. The following suggestions were adapted from "Environmental Auditing Skills and Techniques Workbook" prepared by the Edison Electric Institute.

Attitude and Approach

If the interviewer comes across as professional, courteous, genuine, and non-threatening, the interviewee is more likely to provide candid information.

- Be courteous. The interviewee is more likely to give a positive response if he feels respected. Acceptance of the interviewee's statements in a matter-of-fact way can reduce threat. The inspector's choice of words can also influence the tone of the interview. For example, "You seem very determined," is a less threatening comment than "You are very stubborn."

- Use an appropriate voice tone and inflection. Each interview should be conducted in a tone of voice that will be perceived as soft, friendly, and gentle.

- Do not jump to conclusions. An interview can quickly turn sour if the inspector indicates that he or she has drawn a negative (or positive) conclusion. Conclusions regarding compliance status are not likely to rest solely on interview statements; further, it is Agency policy not to indicate inspection conclusions on-site. Also creating a poor atmosphere is making a quick notation in the field logbook accompanied by a statement such as "Thank you, that's all I need." A better approach is to say, "If I understand you correctly, you are saying you do have a plan, but it has not been approved by a professional engineer. Is that correct?"

The Interview Setting

A poor interview setting can detract substantially from an effective interview The following suggestions can aid in setting a comfortable atmosphere for the interview.

- Go to the interviewee's work area. People are most comfortable in their own work place. Except for the rare situation where it is completely impractical, conduct the interview in the interviewee's own work area.

- Make sure the interviewee feels that there is sufficient privacy. Only the interviewee knows whether he or she feels constrained by other employees who may be nearby or within earshot. Give the interviewee a chance to opt for some place more private.

- Make sure both people are "on equal ground." Both the inspector and interviewee should be on equal ground, that is, seated or standing together in a comparable way.

- Try to keep it "one-on-one." Whenever possible, try to avoid having two or three inspectors "gang up" on an individual. If more than one inspector is present, only one should ask the questions; the other(s) should take notes.

- Minimize distractions. Noise and interruptions are the most common distractions. If there is a high level of noise, ask if it would be all right to find a quieter place. If there are constant telephone calls, explain in a polite and respectful way that uninterrupted time is needed and suggest that a secretary take calls.

Non-Verbal Communication

Much of the information exchanged during an interview is done non-verbally. Communication is a composite of meanings, expressed through gestures, facial expressions, voice inflection, and posture as well as through speech. Following are a few suggestions regarding non-verbal communication that can aid in interviews.

- Shake hands. Start each discussion by shaking hands with the interviewee, to show respect and make him or her feel more comfortable.

- Maintain eye contact. Eye contact often connotes interest in, and attention to, what the interviewee is saying. It may also aid the inspector to distinguish body language that presents a different message than what is being spoken.

- Keep the right distance. Sit at a comfortable distance from the interviewee. Generally, a distance of three to five feet is appropriate.

- Non-verbal statements. Recall that an interviewee's gestures and responses or lack or response to what someone else says can be statements or adopted statements by the interviewee. Watch for and note these.

Common Shortcomings in Interview Skills

The shortcomings described below are common even among experienced interviewers. They can interfere with and reduce the effectiveness of the interview process.

- Asking Leading Questions. Inspectors often ask questions that unintentionally "lead" the interviewee toward desired answer. The form might be something like: "You do clean the filter after each operation,

don't you?" or "You would inform the spill coordinator if a spill were to occur?"

The basic task of the inspector is to gather information, and this is usually done by phrasing questions in a manner that produces the most information. The "Seven W" words elicit these best. Avoid questions that suggest the desired answer, and avoid questions that can be answered by a simple "yes" or "no."

- Telegraphing. Inspectors sometimes unintentially "telegraph" their evaluation of the interviewee's response -- favorable or unfavorable-- through gestures, facial expressions, or speech. Examples of verbal telegraphing are: "You must be kidding", "Is that all you do", and "Doesn't anyone important ever look at these records?" Frowns, scowls, and other non-verbal signals can equally telegraph signs, but are harder to control.

- Fear of Silence. When encountering a period of silence during an interview, some interviewers tend to rephrase the pending question, or put forth a new question, while the interviewee is attempting to formulate his or her reply to the first question. Give the interviewer adequate time to respond. Silence is rarely as long as it seems.

INSPECTION CRITERIA

STORAGE	Location:	- *Potential hazard to environment, i.e., on flood plain, creek banks, fault line.*
	Security:	- *Fenced/locked, access limited.*
	Shelter:	- *Covered or inside; well ventilated.*
	Warning Signs:	- *Posted pesticide or chemical warning signs (i.e., DANGER POISON).*
	Housekeeping:	- *Pesticides separated by type; neat, orderly; properly labeled.*
MIXING/ LOADING	EQUIPMENT:	- *Functional; reduces exposure to pesticides.*
	Safety:	- *Label directions followed?* - *Protective clothing worn by personnel?*
APPLICATIION EQUIPMENT	Type:	- *Number and kind.*
	Condition:	- *Repair record.* - *Maintenance facility.*
CLEANUP	Containers:	- *Mechanism for rinsing; disposal of rinse liquid.*
	Mix/Load Equipment and Aircraft:	- *Equipment cleaned between applications?*
CONTAINER DISPOSAL	Procedures:	- *Label directions followed?*
		- *Triple-rinsed and offered for scrap or recycle?*
		- *Actions reported or observed (i.e., burn barrels.)*
CONTAINER DISPOSAL SITES	Drums:	- *Policy on pesticide drums?*
		- *How are drums handled?*
		- *Who brings drums to site?*
	Location:	- *Potential hazard to environment.*
	Security:	- *Fenced, locked, access limited.*
	Warning Signs:	- *Posted pesticide or chemical warning signs.*
RECORDS	Procedure:	- *Pesticide inventory.*
		- *Recordkeeping.*
	Certification:	- *Owner/applicator* - *Other employees.*

WORKER PROTECTION STANDARDS	Farmer:	- *Name; crop; pesticide last applied when, by whom?*
		- *How soon did workers re-enter field?*
		- *Who warns workers or posts fields?*
		- *What info did applicator give farmer?*
		- *Does farmer understand Worker Protection Standards for Agricultural Pesticides? Offer farmer a copy.*
	Applicator:	- *Verify above info and advise of responsibility to make reasonable effort for posting/notification when using restricted-use pesticides.*
APPLICATION OBSERVATION	Overspray:	- *When is spray turned on/off with respect to ends of field?*
	Drift:	- *What can you see on/off field during application with respect to pesticide mist?*
	Flight Pattern:	- *Direction of passes and trimming.*
	Weather:	- *Wind speed/direction, air temperature; relative humidity.*
	Safety:	- *Field workers, houses, cars, power lines, other obstacles. How does applicator handle these potential problems?*

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING

EPA-330/9-89-003-R

MULTI-MEDIA COMPLIANCE AUDIT PROCEDURES

March 1989

NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
Denver, Colorado

Pesticides

Pesticides are regulated by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

The following list is for use in conjunction with the checklist in Appendix L and specific storage/use/disposal requirements found on pesticide labels. FIFRA requires a written notice of inspection and written receipt for samples and documents collected. Additional information is available in the EPA Pesticides Inspection Manual which has been revised and is being reprinted in 1989.

- Determine types and registration status of all pesticides produced, sold, stored and used at the facility, particularly if any are restricted or experimental use pesticides.

- Determine use(s) of each pesticide.

- Determine certification status of facility/handlers.

  - Verify who certifies facility/pesticide handlers (EPA, State, DOD).
  - Determine if commercial or private application.
  - If restricted-use pesticides are used, check if pesticide applicators are authorized to use these pesticides.
  - Check expiration dates on licenses/certificates.

- Review applicable records

  - Check previous audit records and complaints.
  - Check application records.
  - Check restricted-use pesticides records (must be kept at least 2 years). Document suspected violations accordingly.
  - Check inventory records.
  - Check training records.
  - Check equipment repair records.

- Inspect storage, mixing/loading and container disposal areas

  - Check bulk storage areas for compliance with Federal/State rules.
  - Check location, ventilation, segregation, shelter, and housekeeping of pesticide storage/handling areas. Check security, fire protection and warning signs, as may be required by State regulations.
  - Check mixing equipment/procedures for reducing handlers' exposures to pesticides.
  - Check for safety equipment/procedures/use.

- Check container cleanup and disposal procedures.

- Pesticide waste disposal

  - Check to see that pesticides are disposed of in accordance with applicable label and RCRA requirements.

- Determine measures taken to ensure worker safety

  - Check pesticide use records for re-entry time limit notation.
  - Check pesticide use records for record of informing farmer or warning workers and/or posting fields.
  - Provide farmer and/or applicator copy of current worker protection standards.

- Observe actual pesticide application

  - Observe mixing/loading and check calculations for proper use dilution.
  - Observe when spray is turned on/off with respect to ends of field.
  - Watch for drift or pesticide mist dispersal pattern.
  - Note direction of spraying pattern and trimming techniques.
  - Record wind speed and direction, air temperature and relative humidity.
  - Observe application with respect to field workers, houses, cars, power lines, and other obstacles.
  - Determine if applicator and assisting personnel are wearing safety gear required by the label.

Water Supply

Public drinking water supply systems (i.e., serve at least 25 people) are regulated by the Safe Drinking Water Act (SDWA), as amended October 31, 1988.

Appendix L
PESTICIDE INSPECTION CHECKLIST

INTERVIEW/RECORDS

1. Are pesticides used at the facility? Yes____ No____

   a. Circle general types used:

   Algacides Insecticides Fungicides Herbicides Rodenticides
   Other _____

2. Are any restricted use pesticides used at this facility? Yes____ No____

3. Are pesticides applied by facility personnel? Yes____ No____

4. Are pesticides handlers certified? Yes____ No____

   a. Circle type of certification:

   EPA State DOD Other _____

   b. Are pesticide handlers authorized for restricted use pesticides? Yes____ No____

   c. Are licenses/certificates current (not expired)? Yes____ No____

5. Has the facility pesticide program been inspected before? Yes____ No____

   a. Circle by whom:

   EPA State DOD Other _____

   b. General results _____

   _____

6. Does the facility have application records? Yes____ No____

7. Has the facility filed restricted use pesticide reports? Yes____ No____

8. Does the facility have inventory records? Yes____ No____

9. Are target pests indicated on application records? Yes____ No____

   a. Are the pesticides used registered for use against the target pest? Yes____ No____

Appendix L (cont.)

10. Are pesticide handlers' training records current? Yes____ No____

a. Types of training _____

_____

STORAGE

1. Is the storage area located on a flood plain? Yes____ No____
2. Is the storage area fenced? Yes____ No____
3. Is the storage area kept locked? Yes____ No____
4. Are pesticides stored under cover? Yes____ No____
5. Is the area well ventilated? Yes____ No____
6. Is the area posted with pesticide or chemical warning signs (i.e., DANGER - POISON)? Yes____ No____
7. Are pesticides separated by type? Yes____ No____
8. Are the pesticides properly labeled? Yes____ No____
9. Are pesticides stored in other than original containers? Yes____ No____

a. Explain, if yes. _____

_____

MIXING/LOADING

1. Is there a mixing/loading area? Yes____ No____
2. Is the mixing/loading equipment functional? Yes____ No____
3. Does the equipment help reduce the handlers exposure to pesticide? Yes____ No____
4. Are label directions followed? Yes____ No____
5. Is protective clothing worn by handlers? Yes____ No____
6. Does protective clothing look used? Yes____ No____
7. Is there a mechanism for rinsing containers? Yes____ No____

Appendix L (cont.)

8. How is rinse liquid disposed of? _____

_____

9. Is spray equipment cleaned between applications? Yes____ No____

a. How is rinse liquid disposed of? _____

_____

CONTAINER DISPOSAL

1. Are label directions followed? Yes____ No____
2. Are empty containers triple rinsed? Yes____ No____
3. Are containers offered for scrap or recycle? Yes____ No____
4. Are containers punctured or crushed to help prevent improper reuse? Yes____ No____
5. Are drums given away for burn barrels, etc.? Yes____ No____
6. Is there a container disposal site at the facility? Yes____ No____
7. Is the site fenced and locked? Yes____ No____
8. Are there pesticide or chemical warning signs posted? Yes____ No____

WORKER PROTECTION STANDARDS

1. Does responsible party keep application records? Yes____ No____
2. Does responsible party know when workers re-enter fields? Yes____ No____
3. Does responsible party warn workers and/or post fields? Yes____ No____
4. Is responsible party informed by applicator when re-entry restrictions apply? Yes____ No____
5. Does responsible party understand current worker protection standards? Yes____ No____
6. Does applicator notify responsible party when using RUPs? Yes____ No____

7. Does applicator post fields when using RUPs? Yes____ No____

APPLICATION OBSERVATION

1. Is spray turned on/off outside of the target field? Yes____ No____
2. Is drift of pesticide mist visible off of the target field? Yes____ No____
3. Is the application pattern recorded? Yes____ No____
4. Are weather measurements taken? Recorded? Yes____ No____
5. Are measures taken to ensure safety of field workers? Yes____ No____
6. Is the application planned to minimize drift to houses, schools, cars, etc.? Yes____ No____

REPORT PREPARATION

REPORT PREPARATION

OBJECTIVES

- TELL THE STORY
- DOCUMENT VIOLATIONS
- SATISFY SUPERVISOR, CASE PREP OFFICER, ATTORNEYS
- PROVIDE BASIS FOR FUTURE REFERENCE

WRITTEN INVESTIGATION REPORT

WHO, WHAT, WHY, WHEN, WHERE AND HOW

1. INTRODUCTION/FACTS
   - DATE, TIME AND LOCATION OF INSPECTION
   - NAME OF FIRM/RESPONSIBLE PARTY INFO
   - PURPOSE/TYPE OF INSPECTION
   - LIST OF INSPECTION EVENTS
2. FINDINGS
   - EXPLAIN INSPECTION EVENTS
   - DISCUSS DOCUMENTS,SAMPLES, INTERVIEWS, PHOTOS, ETC.
3. SUMMARY
   - SUMMARIZE PROBLEMS IDENTIFIED
   - LIST SUPPORTING DOCUMENTATION
4. ATTACHMENTS
   - STATEMENTS OR AFFIDAVITS
   - RECORDS AND LABELING
   - PHOTOGRAPHS
   - SAMPLE COLLECTION REPORTS
   - SAMPLE ANALYSIS RERPORTS

WRITE TO EXPRESS — NOT TO IMPRESS

WRONG

Next I went to the warehouse where I discovered several drums on a forklift headed for the warehouse.

RIGHT

I observed drums being transported to the warehouse.

KEEP IT SIMPLE

WRONG

Several of these drums were placed on a forklift by the workers who were on duty at the time and taken to the warehouse that I have already described.

RIGHT

I observed drums being transported to the warehouse.

KEEP THE READER IN MIND

WRONG

The A14 tank contained material more than 90 days after the "D" line shut down.

RIGHT

The out-of-service degreaser was storing hazardous wastes greater than 90 days after the unit ceased to be used for manufacturing.

WHO?

WRONG

The degreaser mechanic.

RIGHT

Elvis Ferguson, Operations Manager.

WHAT?

WRONG

If there had been a fire, no firefighter equipment could have been carried down the narrow aisle.

RIGHT

The aisle space between the drums was 16 inches wide.

WHEN?

WRONG

Mr. Ferguson called me and told me the hose had ruptured at 10:30. When I arrived, it was overflowing.

RIGHT

Mr. Ferguson called me at 10:45 a.m. He told me that the hose had ruptured at 10:30 a.m. When I arrived at 11:00 a.m., the secondary containment was overflowing.

WHERE?

WRONG

The tank behind the warehouse.

RIGHT

The 1000 gallon tank used to store chloride catalyst prior to recycling.

WHY?

WRONG

They ship drums to the warehouse because the storage area is so small.

RIGHT

Mr. Ferguson stated that drums are taken to the warehouse because storage area B is too small. Measurements indicate that storage area B is large enough to contain 6 drums. Plant records indicate that 8 drums a day are generated by the detergent 2 production line.

HOW?

WRONG

Appropriate drums are used to avoid corrosion.

RIGHT

The facility neutralizes hydrochloric acid on detergent line #1 in plastic "poly" drums.

AVOID THE "IT" HABIT

WRONG

I inspected tank A, still B, and lagoon C. It was overflowing and its secondary containment was indadequate.

RIGHT

I inspected tank A, still B, and lagoon C. Lagoon C was overflowing. The secondary containment around lagoon C was not capturing all of the overflow.

AVOID CARELESS PRONOUNS

WRONG

Mr. Ferguson and Mr. Johnson walked to the warehouse with me. He said they transported drums across a road.

RIGHT

Mr. Ferguson and Mr. Johnson walked to the warehouse with me. Mr. Johnson said the company transported drums across Scioto River Road.

BE CONCISE

WRONG

Write your sentences as short as you possibly can and avoid obtruse terminology.

RIGHT

Use short sentences and avoid unnecessarily complicated terms.

HANDOUT 17-2
GAS TANK FIRE REPORT #1

Date of Inspection: July 4, 1974 at 0100 hours

Location of Inspection: The Ace Auto Wreckers Yard,
222 First Street, Richmond, California

Nature of Suspected Violation: Open fire in violation of Regulation 1 consisting of gasoline and gasoline tank

Owner George Peterson

Inspector: Jane Robinson, Environmental Inspector,
Department of Environmental Control

INSPECTOR'S REPORT

I. Introduction: While on routine patrol on July 4, 1974, R/I noted dense smoke coming from the Ace Auto Wreckers Yard on First Street in Richmond, California.

II. Observations: R/I proceeded to the above location and observed an open fire in a gasoline tank of an auto which was being wrecked. R/I contacted the owner, Mr. George Peterson, for an explanation of the cause of ignition.

III. Statements: Mr. Peterson stated that an employee was removing a gasoline tank from an auto while another employee was cutting on the front of the same vehicle with a cutting torch. A spark from the cutting torch ignited the contents of the gas tank. The fire suppression equipment was inadequate, consisting of a one-inch water hose too short to reach the burning auto.

IV. Conclusions: In R/I's opinion Mr. Peterson was negligent in that the gas tank was not removed from the auto before torch cutting began. Additionally, fire suppression equipment was inadequate. R/I recommends a Health and Safety Code 24361 complaint by the local district attorney.

HANDOUT 17-3
GAS TANK FIRE REPORT #2
(Revised Report)

Date of Inspection: July 4, 1974 at 0100 hours

Location of Inspection: The Ace Auto Wreckers Yard,
222 First Street, Richmond, California

Nature of Suspected Violation: Open fire in violation of Regulation 1 consisting of gasoline and gasoline tank

Facility/Other Participants: George Peterson (sole owner of wrecking yard)
222 First St., Richmond, CA

Thomas Brown, #4 Sutton Place, Lafayette, CA

Frank Fitzgerald, Room 38, Hotel Don,
Richmond CA

Inspector: Jane Robinson, Environmental Inspector,
Department of Environmental Control
939 Ellis Street, San Francisco, CA

INSPECTOR'S REPORT

I. Introduction: At 12:35 P.M. on July 4, 1974 while on routine patrol at 23rd and Macdonald in Richmond, Robinson/Inspector (R/I) noted a dense smoke coming from the north Richmond wrecking yard area. A narrow plume of dense, black smoke appeared to extend several hundred feet into the air.

II. Observations: R/I proceeded in the direction of the smoke and traced the source to the "Ace Auto Wrecking Yard" at 222 First Street, Richmond California. R/I arrived at that location at 0100 hours and observed that the plume of smoke continued to extend several hundred feet into the air and had not appeared to diminish in density or height. As R/I approached the wrecking yard two male adults were observed near the burning vehicle. One of the males had a cutting torch and was working on the front left portion of the vehicle. Upon pulling into the driveway of the lot in R/I's blue State vehicle (with the State seal on each door), the male with the cutting torch was observed to extinguish the torch and both men walked away from the area of the fire in the opposite direction from R/I.

When R/I first arrived at the scene, the entire vehicle appeared to be giving off dense black smoke. Some flames (approximately one foot high) were observed in the area of the gas tank.

R/I approached the male who had been operating the cutting torch (later identified as Frank Fitzgerald and asked him "how did the fire get started?" Mr. Fitzgerald stated "you'd better ask the boss, he was here but walked

into the office when you drove up." R/I went to the office, which was located approximately 50 feet north of the burning vehicle and located a Mr. George Peterson in the office. R/I asked Mr. Peterson how the fire got started. Mr. Peterson stated "Frank (Frank Fitzgerald) was cutting up the car and Tom (later identified as Thomas Brown) was pulling the gas tank and the fire just somehow started. Nothing unusual, it happens all the time."

Upon R/I's request, Mr. Peterson ordered Mr. Brown and Mr. Fitzgerald to put out the fire with buckets of water obtained from a faucet on a wash basin in the back of the office. The car was extinguished at approximately 1:30 p.m. after numerous buckets of water had been thrown on the fire for a period of about 15 minutes. The fire department was not called as there was little chance the fire would spread. The area within 50 feet of the burning vehicle was clear.

R/I asked Mr. Peterson why no effort had been taken to put out the fire until R/I requested it. Peterson stated "we usually just let the cars burn out unless you guys come around. It's much quicker than stripping the vehicle by hand."

After the fire was extinguished R/I observed that the vehicle that had been burning was a 1955 Edsel which had been turned on its right side with the bottom of the vehicle facing the driveway entrance to the yard. The seats and upholstery and other flammable materials had been removed from the vehicle.

R/I examined the yard for firefighting equipment and observed one one-inch hose approximately 20 feet in length connected to a faucet approximately 100 feet from the scene of the fire. R/I checked the water in the faucet and determined that the water pressure was extremely low. There were no fire extinguishers or any other firefighting equipment in evidence on the lot.

III. Additional Evidence: R/I took the following Instamatic photographs:

1) photograph of plume from 23rd and Macdonald when smoke first observed:
2) photograph of fire taken upon arrival at the yard; and
3) photograph taken while employees were extinguishing fire with buckets of water.

An overhead sketch of the yard showing the location of the fire is attached to R/I's report. The photographs will be processed upon request.

IV. Conclusions: Based on R/I's observations and statements made by the employees and the owner, Mr. Peterson, it is R/I's conclusion that the fire was most likely intentionally set in order to expedite the stripping of the vehicle and that no effort was made to put out the fire until R/I arrived on the scene. Further, there was inadequate firefighting equipment at the location to handle any possible fires.

19A THE INSPECTION REPORT

The results of all work done by an inspector are finally expressed in some form of written report. Although one measure of an inspector's success in enforcement is the quality of his reports, many inspectors do not appreciate the importance of report writing. Proper documentation of an inspection is a key aspect of an inspector's job. Government officials and attorneys who review the report must have all the facts to make appropriate and effective decisions. Well written reports create an impression of a well conducted inspection, and facilitate the report review and decision making process.

The purpose of the inspection report is to present a factual record of an inspection, from the time when the need for the inspection is perceived through the analysis of samples and other data collected during the inspection. An inspection report must be complete and accurate, because it will provide the basis for potential enforcement actions and may become an important piece of evidence in litigation. The length and format of inspection reports may vary based on program and individual office policy and practice.

The objective of an inspection report is to organize and coordinate all evidence gathered in an inspection in a comprehensive, usable manner. To meet this objective, information in an inspection report must be:

- o Accurate. All information must be factual and based on sound inspection practices. Observations should be the verifiable result of first-hand knowledge. Enforcement personnel must be able to depend on the accuracy of all information.

- o Relevant. Information in an inspection report should be pertinent to the subject of the report. Irrelevant facts and data will clutter a report and may reduce its clarity and usefulness.

- o Comprehensive. The subject of the report (i.e., any suspected violations) should be substantiated by as much factual, relevant information as is feasible. The more comprehensive the evidence, the better and easier the prosecution task.

- o Coordinated. All information pertinent to the subject should be organized into a complete package. Documentary support (photographs, statements, sample documentation, etc.) accompanying the report should be clearly referenced so that anyone reading the report will get a complete, clear overview of the subject.

- o Objective. Information should be objective and factual; the report should not draw conclusions.

- o Clear. The information in the report should be presented in a clear, well-organized manner.

- o Neat and Legible. Adequate time should be taken to allow the preparation of a neat, legible report.

Inspection reports are normally prepared by the inspection team leader, with the assistance of the inspection team members. After an inspection has been completed there is a psychological letdown. Reporting what happened during the inspection may then seem a burdensome chore, but the inspector's job is not finished until the report is complete and the official files are in order. Remembering the simple rule that "no job is complete until the paperwork is finished" will assist the team in planning and conducting the inspection so that the report will accurately portray the findings of the inspection.

Elements of an Inspection Report

No single standard EPA inspection report format exists; the specific information needs will vary depending on the program and regulatory requirements involved. While the format and exact contents of the inspection report vary, the report should always contain enough information that the reader can determine the following:

- o The specific reason for the inspection;

- o Who participated in the inspection;

- o That all required notices, receipts, and other legal requirements were complied with;

- o What actions were taken during the inspection, including the chronology of these actions;

- o What statements, records, physical samples and other evidence was obtained during the inspection;

- o What observations were made during the inspection; and

- o The results of sample analyses related to the inspection.

Although the specific information requirements in a given inspection report will depend on the type of inspection and what was found, most reports will contain the same basic elements:

- o Inspection Report Forms

- o Narrative Report

- o Documentary Support

Inspection Report Forms

Individual inspection report forms, developed for most regulatory programs, are designed to collect standard, reviewable information about an inspection. Inspection report forms are only one aspect of a complete report and should by no means be considered to be sufficient documentation of the inspection in themselves. They function as guides to ensure that all basic data are being collected, and are generally completed as the inspection progresses. Individual items on these forms often need clarification and elaboration; inspectors normally use the field logbook for this information.

In cases where inspection report forms are unavailable, inappropriate, or not comprehensive, the inspector should have recorded pertinent information in the field logbook. This information should be used in the narrative of the Inspection Report to clarify and expand upon the information from the Inspection Report Forms.

Narrative Report

The narrative portion of an inspection report should be a concise, factual summary of observations and activities, organized in a logical, legible manner, and supported by specific references to accompanying evidence (documentary support). A work plan will simplify preparation of the narrative and will help ensure that information is organized in a usable form. Basic steps involved in writing the narrative report include:

- o Reviewing the information
- o Organizing the material
- o Referencing accompanying material
- o Writing the narrative

Reviewing the Information. The first step in preparing the narrative is to collect all information gathered during the inspection. The inspector's field logbook and all Inspection Report Forms should be reviewed in detail. All evidence should be reviewed for relevancy and completeness. Gaps may need to be filled by a phone call or, in unusual circumstances, a follow-up visit.

Organizing the Material. Organization of the information can take many forms, depending on the case, but should present the material in a logical, comprehensive manner. The narrative should be organized so that it will be understood easily by the reader.

Referencing Accompanying Material. All evidence (e.g., copies of records, analytical results, photographs) that accompanies a narrative report should be clearly referenced so that the reader will be able to locate them easily. All support documents should be checked for clarity prior to writing the report.

Writing the Narrative Report. Once the material has been reviewed, organized, and referenced, the narrative can be written. The purpose of the narrative report is to record factually the procedures used in, and findings resulting from, the evidence-gathering process. In this report, the inspector should refer to routine procedures and practices used during the inspection, but should describe in detail facts relating to potential violations and discrepancies. The field logbook is a guide for preparing the narrative report.

If the inspector has followed the steps presented in this manual, the report can develop logically from the organizational framework of the inspection. In preparing the narrative, simplicity should be a prime consideration:

- Use a simple writing style; avoid stilted language.
- Use an active, rather than passive approach: (e.g., "He said that ..." rather than "It was said that...").
- Keep paragraphs brief and to the point.
- Avoid repetition.
- Proofread the narrative carefully.

Note Regarding Standard Operating Procedures. When the inspector has followed Standard Operating Procedures (SOPs) precisely in gaining entry, taking samples, etc., this can be easily noted in the report (e.g., "following standard procedures, Joe Smith gained entry to..."). If there were any unusual circumstances or deviations, however, these should be included in the report in more detail.

Confidentiality Considerations and Procedures

All documents and other materials that have been claimed confidential business information are stored with the Document Control Officer as prescribed in the Toxic Substances Control Act-Confidential Business Information (TSCA-CBI) Security Manual. The inspector may review these documents when preparing the inspection report, but they must be handled under the strict security measures imposed for TSCA-CBI.

In preparing the inspection report, it is recommended that TSCA-CBI be referenced in a non-confidential manner (i.e., by Document Control Number and a general description of the information contained in the document). An alternative is to include the information, but to treat the entire inspection report as a confidential document. If the latter alternative is selected, the report should be logged in with the Document Control Officer, ensuring that only persons cleared for access are permitted to review it.

- Confidential Field Notes

The procedures for taking field notes (see Chapter) require that potentially confidential information should be only referenced in the logbook; the information itself should be placed on separate sheets of paper. The purpose of these

procedures is to reduce the risk of breach of confidentiality associated with the field logbook.

In the event that confidential business information does appear in the logbook, those pages should be photocopied and the photocopied pages logged in with the Document Control Officer. The confidential business information in the logbook should then be obliterated in such a manner as to make it unreadable.

To ensure that the photocopies of the obliterated pages can be used in an enforcement proceeding, they must be carefully identified in the following manner:

- The inspector and a witness should initial and date a spot on the page that will not need to be obliterated.

- A photocopy of the logbook page should be made. This photocopy should be logged in by the Document Control Officer along with a statement by the inspector which reads:

  "The undersigned certifies that this is a true copy of a page from my field notebook from the inspection of (facility, address) on (date). The original notebook pages were obliterated by me to protect confidential business information."

  Inspector's Signature Date
  Witness' Signature Date

- Confidential business information on the logbook pages should be obliterated; the identifying initials and date should remain.

Tips for Writing an Effective Inspection Report

This section presents guidance in preparing effective inspection reports. The style of these reports should be clear, concise, accurate, factual, fair, complete, and logical. Inspection reports should not contain flowery phrases, levity, superlatives, or unnecessary verbiage. Remember, the purpose of an inspection report is to convey the facts determined during an inspection to a reader whose course of action will depend upon its contents. This communication is not complete until the reader understands precisely what was intended and is willing to take action. To provide this communication, a report must be readable and must inspire confidence in the reviewers. Written communication does not have the advantages of facial expressions, voice tones, or gestures to get a message across and to interpret how it is being received. Therefore, the report must be written so as to eliminate the possibility of erroneous conclusions, inferences, or interpretations. It will become part of the permanent records for the inspected facility, along with the inspector's field logbooks, samples, formal statements, photographs, drawings, maps, printed matter, mechanical recordings, electronic recordings, and copies of records. A well written report will serve as a summary of these other records.

In general, three rules apply to preparation of good inspection reports.

- o Write to express, not to impress. Just relate the facts and evidence that are relevant to the compliance situation; don't tell about the inspection.

- o Keep it simple. Organize complicated matters and state them in simple, direct terms.

- o Keep the reader in mind. If the writer doesn't sweat, the reader will, and the more effort the reader expends in comprehension of the meaning and relationships of the words used, the less energy will be available for understanding the thoughts behind the words.

The following sections provide a summary of the essential elements of good reports and organizing the writing process.

Essentials of Good Reports

Fairness, accuracy, completeness, conciseness, clarity, and organization are all essential characteristics of well written and effective inspection reports. Prepare the report with these characteristics in mind, and keep them in mind during each phase of reviewing and rewriting. Although, by themselves, these characteristics will not ensure a well written report, they are essential.

- o Fairness. Inspection reports must be entirely objective, unbiased, and unemotional. Avoid distortion by being aware of the emotional tone of words. For example, note the difference in implication between "planning" and "scheming." Rumors or gossip should be included only if it is material to the inspection and is clearly identified as hearsay. If you can quote someone exactly, do so; otherwise paraphrase the statement as accurately as possible. A report may mention a person's race, religion, or political persuasion only if it is relevant and material. Never make offensive remarks or use offensive slang in making reference to anybody's race, religion, or ethnic origin.

- o Accuracy. Be exact. Say precisely and accurately what you mean to say in plain language. Precision depends on diction, phrasing, and sentence structure. Avoid exaggerations. One small exaggeration may cast doubt on the accuracy of other statements in the report. For example, do not state that something was obvious; just state the facts. Omit opinions, conclusions, and inferences. (Opinions may be expressed in rare circumstances to clarify meaning, but they should be clearly identified as nonfactual information. For example, "this act indicated his knowledge" is a conclusion and should be clearly identified as such.) The report should present facts so clearly that there is no need for conclusions or interpretations.

State facts so that inferences can be drawn from them, but do not let inferences replace facts. For example: If you saw someone loading bags marked "toxic chemicals," do not write that you saw a person loading toxic chemicals. You only saw someone loading bags marked toxic chemicals. A frequent error found in reports is to substitute the word "signature," which by definition means signed by.

> Inference: The compliance reports were signed by John Doe.
> Fact: The compliance reports were signed, "John Doe."

Avoid superlatives. Any attempt to strengthen a report in this way actually weakens it, as reviewers tend to doubt its objectivity.

Accuracy means truthfulness. The accuracy of all findings and computations must be verified before the final report is submitted. A typographical error in date or time may cast doubt on other facts in a report.

- Completeness. Include all information that is relevant and material. Completeness implies that all the known facts and details have been reported, either in the text of the report or in an exhibit, so that no further explanation is needed and the reviewer will be convinced that the inspection was thorough and comprehensive. Include in the body of the report only those parts of exhibits that are material to the inspection and are necessary to give the reader a complete understanding of the compliance matter involved. Exhibits should contain complete statements or data.

- Source. Always report the source of evidence. When possible, make inspection reports interview oriented (i.e., report statements made by interviewees). For example, do not say that the exhaust stack was black if you did not see it. Write, "John Jones said that the exhaust stack he saw was black." Explain how the interviewee acquired the knowledge you are reporting, and tell how you obtained the information.

- Exhibits. The report should be complete in that it is one single document. Original or duplicate copies of laboratory reports, affidavits, correspondence and other documents should be submitted as exhibits to the original report. These exhibits should be consecutively numbered in the order that they are mentioned in the body of the report. Exhibits are best introduced parenthetically. For example, "J.M. Dale told me (Ex. 1, Statement), I do not ...'."

- Testing Completeness. Test the report to ensure that it answers the questions who, what, how, when, where, and why related to the compliance situation.

  - The first time they are mentioned in a report, all individuals should be identified completely by their first, middle and last names. If the person has no middle name or initial, indicate this by the use of (NMN) or (NMI) between the first and last names.

- The report should clearly indicate what happened and how it happened, no more and no less. The chronology of occurrences should be stated clearly. The report also should indicate the date and time the happening occurred or an approximation if the exact time is unknown. Do not place the date or time in the middle of a sentence, as this causes ambiguity. The date and time an event occurred should be placed either first or last in a sentence, as appropriate.

- The location of the occurrence should be identified as a definite place, to the exclusion of all other places. The place should be so clearly identified that no confusion or misinterpretation is possible.

- Why a situation occurred is particularly significant with respect to violations where intent is an element of the offense. In such cases, the report should set forth the facts bearing on intent with such clarity that there is no need for conclusions or opinions within the report.

o Conciseness. Conciseness does not mean omission. It is the avoidance of all that is elaborate or not essential. Conciseness is not what you say, but how you say it. Conciseness means omitting unnecessary words; it does not mean omitting facts, detail and necessary explanation. It is not the same as brevity. If clarity and completeness require a detailed explanation, do not hesitate to use it.

Readers like short sentences and short paragraphs with plenty of white space in between. Remember that all sentences in a paragraph are related to each other and express a unit of thought. Use tables to describe a group of items having similar characteristics. Results of sample analyses, observation times, record inspections, and similar information should almost always be reported in table form.

Write plainly. Use active verbs whenever possible. The active voice gives force to writing. If you write like you talk, you probably will avoid excessive use of the passive voice. Do not write, "A low drive was hit by Eddie Murray." Instead, use the active voice, like you talk: "Eddie Murray hit a low drive."

Avoid repeating the same material in several sections of the report. Also, avoid redundant phrases such as: repetitive and redundant, approve and accept, null and void, part and parcel, ways and means, basic essentials, disappear from sight, while at the same time, revert back, pure and simple, and gross exaggeration.

o Clarity. Inspection reports must be written clearly to avoid misinterpretations. Clear writing leads to clear thinking and vice versa. Order your thoughts; select those most useful to the reader; arrange them logically; and select the words that will best convey your thoughts to the reader.

Everything in the report must be relevant and essential to the main purpose of the report, and its relevancy and material nature must be evident to the reader. Each sentence, paragraph, and division or part must represent a unit of thought and help establish the main point of the report; which usually is an alleged violation of the law. The unity of the report is enhanced by the use of topic headings, especially for major parts of the report. Such headings should succinctly describe what is contained in the particular part of the report.

The careless use of personal pronouns is a frequent cause of ambiguity. If the use of a pronoun may result in ambiguity, use a noun. Avoid the use of the pronoun "It" and the word "There" as substitutes for precise word selection. For example, say "We should do ...", rather then "It should be done ...", and "Changes have been made ...", rather then "There have been changes."

Use specific and concrete expressions rather than general or abstract statements. Poor writing often reflects a failure to select words which paint a clear mental picture. If you write that you took three water quality samples, the meaning is not clear. But if you write, "I took one effluent sample from Station E-1, one ground-water sample from station G-1, and one sample from a nearby river at station R-1," the reader understands clearly.

Although in English grammar classes we have been taught to use ingenuity and imagination, to be original, and to avoid repeated use of the same words in our writing, inspection reports are not essays or literary works. If necessary, repeating use of a word or sentence structure is acceptable, if this uniformity increases clarity. Remember, the purpose is to communicate clearly, not to entertain.

Punctuate to make the meaning easy to understand. For example, consider the different meanings of the following three sentences: The employee said the foreman is a blockhead. The employee said, "The foreman is a blockhead." "The employee," said the foreman, "is a blockhead."

In presenting a series of thoughts or actions, parallel construction helps clarify meaning. For example, write "collecting, depositing, and reporting revenue", instead of "collection, depositing, and the reporting of revenue."

- Organization. An inspection report should be structured to allow a logical order and coherence in the presentation of facts. This means that the relation of each event to the main idea and to the events immediately preceding it in the report must be unmistakable. Otherwise, it is quite likely that the reader will not understand the significance of the event. Since the report writer cannot insert his conclusions or lead the reader by drawing inferences, he must depend upon facts that are so clearly stated and so logically arranged that the reader is certain to understand. Each violation, event, or circumstance should be narrated in full before the writer passes on to the next facet of the report. Most reports about criminal violations, for example, begin with the gist of the crime. Then they present the pertinent evidence of the alleged violator's connection with the violation.

The events that occurred often are reported in chronological order (the order in which they occurred). However, in some instances the significance of each event or item of evidence may be understood better by some other arrangement. Usually, all evidence from a single source should be presented before introducing information from another source.

In any report some facts and events are more important than others, and the writer wants to emphasize them so the reader is certain to notice them. In an inspector's report this cannot be done by comments of the writer, but it can be accomplished by careful selection and placement of words, phrases, and paragraphs, and by priority of organization. Place important words or phrases at the beginning or end of the sentence, and important sentences at the beginning or end of the paragraph. Emphasis also can be accomplished by some device which makes the important item different from other items. For example:

- Emphasize a sentence by indentation or by making it a separate paragraph.

- Emphasize paragraphs by leaving margins wider than those of the other, less important paragraphs.

- Emphasize important names, words, or phrases by capitalizing or underlining them. (This technique, however, should be used sparingly; otherwise the element of differentness, and hence emphasis, is lost).

Organizing the Writing Process

Preparation of the initial draft of a report is difficult without a clear idea of the objective of the report, its subject, the methods used in the inspection, and the results of all data collection efforts. Once this information is all available, however, developing the initial draft can still present a significant obstacle. An outline for the narrative portion of the inspection report that can be adapted for *most* situations appears at the end of this section. The following tips for preparing a draft are also intended to aid in preparing the report.

Each writer has a personal style in draft preparation. Effective styles allow authors to use POWER in preparing reports. The idea of POWER is simply stated as a structure for writing: Plan, Organize, Write, Evaluate (edit), and Rewrite.

- o Plan. The first step in writing is to determine your objective. Why are you writing? What is the purpose of this report? Have a clear understanding of the elements of the situation involved when you answer these questions. Many good inspectors begin to plan their reports when they begin planning the investigation. By thinking about how the facts must be reported to make a clear report, they improve both the quality of their reports and their inspections.

Prepare a detailed topic outline with topic headings that distinguish between major sections and minor topics. Include in the outline a brief reference to each supporting exhibit. An outline not only lessens chances of omitting necessary facts, but also assists in recognizing irrelevant details and achieving a logical arrangement.

- Organize. Most of the facts of an investigation are in memorandums, field notes, documents, etc. that were gathered during the inspection. Arrange this material in the order you developed in the topic outline. From this bulk of material you can refine the topic outline and then build the body of the report.

- Write. In writing the report, remember that the format of your narrative report is determined by its purpose and by Agency policy. Refer to your office's directives and official sample reports or copies of other well-written reports to determine the format of the particular type of report you are writing. Use the writing process to evaluate the information being presented. Be willing to revise the topic outline to improve structure and clarity.

- Evaluate. After you have written a draft of the report, put it aside for a while, preferably at least overnight. Then analyze the report form the viewpoint of the reviewer and answer the following questions:

  - What is the report trying to communicate?

  - Has it fulfilled the purpose of the inspection?

  - Can supervisors and reviewers make correct decisions based on this report?

  - Does it answer the questions who, what, when, where, why and how?

  - Are any further inquiries necessary?

  - Is it readable?

  - Is it fair, concise, complete, accurate and logical?

  - Is any part ambiguous?

  Proofread the report to check for the following problems:

  - Inconsistency in format or style,

  - Unnecessary repetition,

  - Inappropriate tone,

- Omission of pertinent information, and

- Typographical errors.

At this point, it is often helpful to have the report reviewed by a colleague who has knowledge of the inspection or investigation. A second party can often identify problem areas more readily than the primary author, who may become too close to the material to be an objective evaluator.

o Rewrite. After evaluating the draft, rewrite or revise those portions of the narrative that do not respond to the questions used in evaluation. Upon completion of this process, the official draft of the inspection report will be circulated for official reviews and a copy of this draft will be kept in the official files. Be certain the report is an accurate representation of the complete situation.

Narrative Report Outline

While the specific information items will vary, the following outline for the narrative portion of an inspection report can be adapted to most situations.

Introduction

The introduction should briefly present all relevant background information about the conduct of the inspection and summarize the findings of the inspection.

o General Information

- State the purpose of the inspection and how the facility came to be inspected (i.e., neutral scheme, follow-up, for cause).

- State the facts of the inspection (i.e., date, time, location, name of the agent-in-charge, etc.).

- Participants in the inspection.

o Summary of Findings

- Give a brief, factual summary of the inspection findings.

o History of Facility

- List the status of the facility (i.e., corporation, propreitorship, partnership, state agency, non-profit organization, etc., and where incorporated).

- Give the size of the organization based on inspector observations or agency records.

- List the type of operations performed at the facility under inspection.

- List names and titles of facility officials interviewed. List the name(s) of official(s) responsible for day-to-day operations at the facility.

Inspection Activities

The body of the report should present the chronology of inspection in the same order that the inspection was conducted. Be certain to insert all observations when appropriate and to cover the following topics when appropriate.

o Entry/Opening Conference

- Describe the procedures used at arrival, including presentation of credentials and written Notice of Inspection, and to whom they were presented.

- Describe any special problems or observations if there was reluctance on the part of facility officials to give consent, or if consent was withdrawn or denied.

- If special procedures were necessary, such as obtaining a warrant, describe the procedures.

- Summarize the topics discussed during the opening conference.

- Note presentation of any other required notices (e.g., the TSCA Inspection Confidentiality Notice) and the officials to whom they were presented.

- Note if duplicate samples were requested.

o Records

- List the types of records reviewed, noting the reasons for their review, and referencing documents that were borrowed or copied.

- Describe any inadequacies in recordkeeping procedures, or if any required information was unavailable or incomplete.

- Note if recordkeeping requirements were being met.

o Evidence Collection

- Note and reference any statements taken during the inspection.

- Describe and reference photographs taken during the inspection if they were relevant to possible discrepancies.

- Reference any drawings, maps, charts, or other documents made or taken during the inspection.

- o Physical Samples
  - Describe the purpose for which samples were obtained.
  - Describe the exact location from which they were obtained.
  - Describe sampling techniques used. They may be referred to as standard operating procedures (SOPs), if SOPs were followed exactly. If there were deviations from SOPs explain why and what was done.
  - Reference controlled identification procedures.
  - Describe the physical aspects of the sample (color, texture, viscosity, etc.).
  - Describe chain of custody procedures used in sample handling.
  - Summarize results of laboratory analysis (include actual data in the appendix).
- o Closing Conference
  - Note and reference receipts for samples and documents given to facility officials.
  - Note procedures taken to confirm claims of confidentiality and Receipts for Confidential Business Information.
  - Note any recommendations, referrals, etc., made to facility officials.

Attachments

Supporting information should be attached to the report, to ensure that reviewers have all of the data needed to fully evaluate the compliance situation. All of these attachments should be fully referenced in the body of the report.

- o List of Attachments
  - Prepare a list of all documents, analytical results, photographs, and other supporting information attached to the report. A general index list, rather than detailed descriptions will aid case development personnel in locating specific documents.
- o Documents
  - Attach copies of all documents and other evidence collected during the inspection. All documents should be clearly identified.
  - In cases where documentary support items cannot be included easily with the report, it may be possible to substitute descriptive information.

- o Analytical Results

  - Attach sample data and quality assurance data. This may be presented as tables here, with pertinent information summarized in the body of the report.

CASE PREPARATION AND PRESENTATION

2 Inspection File Review

To ensure the validity and quality of documentary evidence for an administrative or judicial enforcement proceeding, the RCDO must review the evidence for objectivity, adequacy, and proper identification. In some instances the RCDO will need an enforcement case review, which could include the verification of the sample's pesticide registration and labeling status, as well as an interpretation of laboratory test results. In all cases, the RCDO must verify that all procedural safeguards were implemented so as not to prejudice a possible enforcement action.

Substantiation of Each Violation

In most cases, a violation will be substantiated through a combination of evidential sources. The RCDO's review must seek to substantiate each possible violation from the evidence supplied by the inspector. Whenever necessary, the RCDO should obtain from the inspector additional evidence or clarification of existing evidence.

Controlled Identification of Each Sample

An important aspect of any review by the RCDO is the determination that all samples were properly collected and accurately and completely identified.

Whenever a sample is taken, the inspector prepares a Collection Report (EPA Form 3540-7), which describes the sample collection process. Information required for the report includes:

- Type of sample;
- Sample number, subsample number;
- Date of collection;
- Collection method;

- Description of sample (including quantity collected, color, texture, viscosity, etc.);
- Duplicate samples (if provided); and
- Description of procedures for sealing sample.

Each ID Jacket will also be identified by a sample number. The RCDO should check the number to see if it corresponds to the ID number on the Collection Report Form.

All samples that are to be used as evidence should be sealed with the official EPA seal (EPA Form 7500-2). The seal is placed on the sample container by the inspector to help preserve the integrity of the sample.

A written receipt (EPA Form 3540-3) describing the sample obtained by the inspector is issued to the appropriate facility representative whenever a sample is taken. The receipt may also be used to verify that a duplicative sample was given the facility. The ID Jacket may not always include a copy of the receipt. If an enforcement action is considered, a copy may be obtained from the Inspection Report that was filed with the Regional Office.

The two types of samples commonly collected are official and investigational.

Official Samples. These include samples or documents of pesticides or devices that, if violative, serve as a basis for legal action. In general, an RCDO should ensure that an official sample:

- Was collected only from material that had been "packaged, labeled, and released for shipment" (see Glossary);
- Was representative of the lot from which it was obtained; and
- Was identified and officially sealed so as to maintain its continuity and integrity as court evidence.

Official samples include:

- Producer/Marketplace Samples. Actual samples of a pesticide or pesticidal device collected by an inspector at the producer, wholesale, or retail level.
- Documentary Samples. Copies of the label and/or labeling and copies of any records showing shipment of the product and the responsible parties.
- Post-Seizure Samples. Actual samples collected from a lot of merchandise that is in the custody of a U.S. court. A court order must be entered before sampling, and these actions must be carried out in accordance with such orders.

- Induced Samples. Actual samples of pesticides or pesticidal devices that are not obtained by EPA official procedures (e.g., notice of inspection, collection report, etc.). These samples are usually requested by mail. An induced sample is the least desirable method of obtaining a sample and should be used only when the other methods have been exhausted.

- Import Samples. Actual samples of pesticides or pesticidal devices that are offered for importation into the United States from a foreign port. Proper documentation for import shipments should include Customs entry papers, foreign invoices, and records showing movement from the port of entry.

- Use Samples. Actual samples of the pesticide that are collected during a use inspection. This type of sample may be field collected from a formulated pesticide, diluted pesticide, or as a residue from plant material, animal tissue, soil, water, etc.

Investigational Samples. These include samples of pesticides or devices collected for special investigation or information purposes. These samples need not be collected from lots or stocks that have been packaged, labeled, and released for shipment. No legal action can be taken on investigational samples.

3 Review of Adequacy of Evidence

Initial Review of the ID Jacket

Once the RCDO has received the ID Jacket, its contents must be reviewed in the context of the following considerations:

- Adequacy of the documentation (see below);
- Significance of violation (see Chapter Five for Level of Action Policy); and
- Violative history of the firm (see Chapter Five for Level of Action Policy). Violative history may be obtained from the FIFRA and TSCA Enforcement System (FATES).

Adequacy of the Documentation

The initial phase of the review will focus on two aspects of the documentation:

- That all necessary documentation and samples have been provided; and
- That the documentation is adequate to prove the substance of the violation as indicated by the results of the inspection.

The purpose of the review is to develop a recommendation for action on the violation; either to proceed with an enforcement action or to dismiss the violation as not worthy of prosecution.

In some instances, review will indicate possible violations not documented by the inspection. In these cases, the RCDO should seek to secure the additional documentation for the new violation. For example, this may require futher consultation with the inspector or forwarding the file to Headquarters for an enforcement case review. When a violation is discovered that is unrelated to the initial suspected violation, that new violation should be pursued as a new action.

Contents of the ID Jacket

The ID Jacket should normally contain the following items:

Label of a Pesticide or Device. The label should either be an actual copy (or photocopy) or a typewritten copy. The label should be identified by sample number, date of collection, inspector initials, and, if appropriate, subsample numbers.

Notice of Inspection (EPA Form 3540-2) or Warrant. If an enforcement action is being considered, a copy of the notice of inspection or warrant may be obtained from the Establishment Inspection Report. The notice and/or warrant should be reviewed to ensure the inspection adhered to the terms specified in the documents.

Receipt for Sample. The written receipt should describe the sample and verify that a duplicate sample, if requested, was given to the facility official. The RCDO should verify sample identification numbers.

Collection Report. This is the official report of the sample collection. The following should be verified from the report:

- The ID number appearing on the Collection Report should agree with the number on the ID Jacket. For documentary samples, the notation "DOC" will appear after the ID number; for investigational samples, "INV" will appear after the ID number; for post-seizure samples, "P.S." will appear after the ID number; and import samples will be identified by "Import";
- Date of shipment (from transportation records) of the sample;
- Amount of the product before sampling (the amount on hand must be less than or equal to the amount shipped);
- Descriptions indicating number of samples and method of collection;
- Shipper of sample (from transportation records); and
- Reason for collection--either to document a suspected violation, or as part of a "Market Basket Survey" of products without accompanying documentation.

History of Official Sample (EPA Form 3540-17). This document is placed in the ID Jacket by laboratory personnel once the physical sample has been received by the laboratory for analysis. It shows whether the integrity of the sample has been maintained during its stay at the laboratory. Each time the sample seal is broken and resealed, it must be noted on the form.

It is important for the RCDO to demonstrate that none of the samples involved in the case preparation have been tampered with or contaminated during collection, transit, storage, or analysis. An accurate accounting

must be maintained to trace the possession of each sample from the moment of collection to its introduction as evidence. Accountability can be checked by reviewing the following documents:

- Receipt for sample;
- Collection report; and
- History of official sample.

Laboratory Test Methods. Test methods employed in the analysis of pesticide or pesticidal device samples fall into two categories, official and unofficial.

- Official Test Method. Refers to a test method accepted by a recognized standard-setting organization, such as the Association of Official Analytical Chemists (AOAC) or the American Society for Testing and Materials (ASTM).
- Unofficial Test Method. Refers to a method that has not as yet been accepted as a standard method but is employed by EPA in the analysis of a sample because other reliable test methods are not available.

Extreme care and judgment should be exercised in preparing enforcement cases when unofficial test methods are used as the basis for evidence of a violation of the FIFRA. Consultations with Headquarters Case Development Officers (HQCDOs) are strongly recommended before proceeding with enforcement actions in these cases.

Laboratory Test Results. Test results are placed in the ID Jacket upon completion of the analysis. Tests include:

- Sample Report of Analysis (EPA Form 3540-5), which shows the chemical composition of the sample collected versus composition guaranteed by the registrant. Usually a cross-contamination will be conducted by the laboratory and the percentage of contaminants, if any, noted; and/or
- Efficacy test, which shows the effectiveness of the product.

Other Evidential Documentation. Suspected violations may also be documented by the inspector using the following support methods:

- Affidavit. Sworn statements taken by the inspector relating to personal first-hand knowledge of a potential violation. The affidavit may be used to substantiate the violation or to set the circumstances surrounding the violation. Careful review should be made of the affidavit for evidence in support of an enforcement action. The person making the affidavit must sign it and be able to personally verify the facts contained in the statement.

The object of an affidavit is to obtain a clear and concise written record of factual information relating to a suspected violation. The oath taken by the person making the affidavit serves to substantiate the truth of the statement. Affidavits may be used to verify the dates obtained from a facility's records (e.g., the date of shipment). Review should emphasize the admissibility of the affidavit in court. This includes determining that the affidavit was properly executed and that it contributes valid evidence to any contemplated proceeding. The affidavit itself should contain the following:

- Identity of the affiant;
- The reason why the affidavit was taken;
- The pertinent facts in a simple narrative style, arranged in chronological order; and
- A concluding paragraph indicating that the affiant read and understood the statement.

In addition, any corrections made to the final copy must be initialed by the affiant.

- Statements. Similar in most respects to an affidavit except that statements are not taken under oath. Although not having the same weight in court, statements are taken for the same reasons and under the same procedures as an affidavit. Statements can be used to verify data collected during an inspection. For example, a statement may be obtained from a facility representative as to a date of shipment. Review should verify the person's identity and the truth of the statement through a signature or some other written or verbal acknowledgment.

- Printed Matter. This includes any brochures, literature, labeling, or any other printed matter providing information concerning a pesticide or pesticidal device including claims, directions for use, contents data, or promotional information. For pesticides, review of the printed matter directly relates to terms and conditions specified in the registration. Printed matter must be identified by inspector's initials, date of collection, and related sample number.

- Photographs. The documentary value of photographs ranks high as admissible evidence. Clear photographs of a relevant subject, taken in proper light and at proper lens setting provides an objective record of conditions at the time of inspection. Review must ensure that the photographs are clear, objective, and properly identified. The photographs should be identified by location, purpose, date, time, inspector's initials, and related sample number. This information should be recorded on the photographs, or in the inspector's field notebook, or both.

- Drawings and Maps. Schematic drawings, maps, charts, and other graphic records can be useful in supporting violation documentation. They can provide graphic clarification of site location relative to height and size of objects, and other information that, in combination with samples, photographs, and other documentation, can produce an accurate, complete evidence package.

  Review should ensure that drawings and maps are simple and free of extraneous details. Basic measurements and compass points should be included to provide a scale for interpretation.

- Mechanical Recording. Records produced by an electronic or mechanical apparatus can be entered as evidence. Review of charts, graphs, and other "hard copy" should ensure relevance and identity. The data collected should be identified by date of collection, inspector's initials, and related sample number.

Further Processing of the ID Jacket--Enforcement Case Review

Once the ID Jacket has been initially reviewed by the RCDO, further development of the case may be required at Headquarters. If so, the ID Jacket should be sent to the appropriate HQCDO who serves as coordinator for the enforcement case review process. Aspects of the case that may require further processing include:

Product Registration Status. The status of a pesticide (registered or not registered) is determined by the Registration Division after a search of their files. In some instances the Region may also wish to know whether a pesticide registration is suspended or cancelled.

Pesticide or Device Determination. When a suspected pesticide is not registered or is not under a Section 5 experimental use permit, then a determination is made by the appropriate Registration Division official of whether the product is a pesticide. Devices are reviewed to determine if they are pesticidal in nature and if so whether or not they are exempt from EPA regulation.

Labeling Review. Copies of all pesticide labels collected as part of an inspection should be compared with the latest EPA-accepted label for that pesticide and any major discrepancies noted. If the latest accepted label is not present at the Regional Office, it should either be requested from Headquarters or the corresponding ID Jacket should be sent to Headquarters for review. In addition, questionable interpretations of label statements should be classified by the Registration Division before the Regional Office proceeds with any enforcement action.

Scientific Review. If product defects are noted as a result of laboratory tests, the ID Jacket should be sent by the RCDO to Headquarters. A review will be conducted by Registration Division personnel to determine the significance of the discrepancy as it relates to the sample's chemical composition, efficacy, or toxicity.

The Registration Division will enter the registration status and pesticide determination on the Enforcement Case Review Form (EPA Form 8500-7). This form will also include the product's accepted name and the name and address of the registrant. Written comments as to labeling discrepancies and significance of test results are placed on EPA Form 8500-7A. Copies of the above forms are placed by the Registration Division into the appropriate ID Jacket and, along with testimony from the responsible Registration Division official, may serve as evidence in court.

For any violations noted during an enforcement case review, the RCDO should consult the Level of Action Policy section of this manual (Chapter Five) for guidance as to the appropriate enforcement response.

Additional Sources of Documentation

Frequently, additional information will be needed in order to complete the review of the ID Jacket. In some cases this information will be provided by subsequent reports. If not, the RCDO should seek to obtain the additional information or elaboration from the most knowledgeable source. Additional sources of documentation include:

- Establishment Inspection Report;
- Inspector's Narrative Report; and
- Inspector's Field Notebook.

Shipping Documentation

Section 8(b) of FIFRA provides authority to inspect and copy all records showing the delivery, movements, or holding of a pesticide or pesticidal device. This documentation, which is often done as a part of a Section 9 inspection, identifies the responsible party within the stream of commerce who is suspected of a FIFRA violation.

Information that might be obtained from shipping records includes:

- Identity of pesticide or device;
- Quantity sold, received, shipped, or stored;
- Dates sold, received, or shipped;

- Sources of the pesticide or device; and
- Transporter of the pesticide or device.

Records providing this information include:

- Bill of Lading;
- Freight Bill;
- Parcel Post Cancellation Stamp;
- Invoice;
- Packing Slip;
- Purchase Order; and
- Receiving Report.

EXHIBIT 17-1

INSPECTION REPORT EVALUATION GUIDE

The organization and format of an inspection report can vary based on the practice of the office or program, the particular circumstances of the inspection, and the individual writing style of the report writer. No matter what form the report takes, however, the report and its attachments should contain the answers to the questions which follow.

Basic Inspection Information

Who prepared the inspection report?

Who signed the inspection report, and on what date?

Who performed the inspection (all participants)?

What is the name and location of the facility/site?

What is the facility/site's mailing address and telephone number?

What is the name and title of the responsible official who was contacted?

What was the reason for the inspection (e g., routine, response to a complaint, for cause)?

What are the names and titles of all of the government personnel who participated in the inspection?

Entry/Opening Conference

What are the facts about the entry (e.g., date, time, entry location, agent-in-charge)?

Is there documentation that proper entry procedures were followed?

Were all required notices and credentials presented?

Is there documentation that facility officials were informed of their right to claim information confidential?

Were there any unusual circumstances about gaining consent to enter (e.g., reluctance, attempts to limit inspection scope, attempts to place special requirements on inspectors)? How were they handled?

Who was present at the opening conference? What topics were discussed?

EXHIBIT 17-1 (Continued)

Background on the Facility/Site

What type of facility/site is it?

What types of activities and operations take place at the facility/site?

Who owns the facility or site (e g., corporation, proprietorship, partnership, Federal or State agency, non-profit organization)?

How many years has the facility been in existence?

How many employees are there at the site?

Have any major modifications been made to the facility? Are any future modifications or expansions planned?

At what level of capacity is the facility operating? How many shifts? How many hours per day and days per week? What relationship does this information have to the inspection that was performed?

Which operations/processes/activities at the facility were examined during the inspection?

Which operations/processes/activities at the facility were not examined?

Inspection Activities

Records Inspection

Is there a general description of how records are kept at the facility?

What was the purpose of reviewing records?

What facility records were reviewed?

How were the specific records selected for review (e g., was an auditing technique used, were all records reviewed)?

Are records that were photocopied or data manually copied from records adequately identified and documented?

Were any suspected violations found? (Each should be fully documented, making sure that all of the information required by the section below on suspected violations is included)

EXHIBIT 17-1 (Continued)

Physical Sampling

What was the inspector's sampling plan for the facility/site?

What physical samples were collected at the site?

Are the sampling techniques used adequately explained?

Are all samples clearly tied to an identification number, location, purpose?

Are sampling conditions and other physical aspects of the sample (e.g., color, texture, viscosity) described?

Were any deviations from the sampling plan and/or standard operating procedures (SOP) adequately explained and documented?

Are chain of custody procedures documented?

Are the results of laboratory analysis clearly presented?

How do the sample results compare to permit limits?

Illustrations and Photographs

Are photographs taken during the inspection referenced? Properly documented?

Is there some information about the inspection that could be made easier to understand through a diagram or sketch in the inspection report?

If sketches, diagrams, or maps are used, is the scale and/or other relationships shown clearly?

Interviews

What are the names and titles of facility officials and other personnel who were interviewed?

Are their statements clearly summarized?

What are the names and addresses of any other individuals who were interviewed or who were witnesses?

Closing Conference

Is there documentation that required receipts for samples and documents were provided?

Is there documentation that facility officials were given an opportunity to make confidentiality claims?

Are statements the inspector made to facility officials regarding compliance status, recommending actions to take, or other matters noted?

EXHIBIT 17-1 (Continued)

Documentation of Suspected Violations

The heart of the inspection report is really the documentation and substantiation of suspected violations, which allows the Agency to determine whether a violation occurred, how and why it occurred, and its seriousness. This substantiating information includes all of the evidence of various kinds that has been collected. In an actual inspection report, some of the answers to the questions on the preceding pages might be answered in the portion of the report which discusses the evidence collected and other particulars regarding each suspected violation.

The inspection report should answer the following questions for each suspected violation.

Documentation of Suspected Violation

What regulation is suspected to have been violated?

What information proves that the cited regulation applies to the facility/site?

Using the elements of the regulation as a guide, what information proves that the suspected violation occurred?

What sampling methods (if appropriate) were used to determine that the violation occurred? Are any deviations from sampling methods adequately explained?

What information shows that possible exemptions to the rule do not apply?

Cause of Violation

Note: Not all programs require this information, but it may be useful even where not required for such purposes as negotiating an appropriate remedy and penalty and for planning future inspections. Causal information must be stated carefully so that it does not provide the violator with an excuse for the violation.

What information documents the possible cause of the violation (e.g., direct observations of guage readings, production logs, physical appearance of materials, statements by facility personnel)?

Is there any supporting information confirming/disapproving a possible claim of an upset or other exempt activity?

Other Mitigating and Aggravating Factors

The level of enforcement response is based on the seriousness of the violation. Civil penalty amounts are based on the gravity and circumstances of the violation, which is usually a calculation of the extent of the violation (e.g., amount of material involved) and the extent of the actual or potential harm that was or could be caused by the violation. This base penalty can be adjusted upward or downward based on such factors as past compliance history, or efforts made by the facility to correct the violation

The inspection report should contain information that will support the appropriate determination of the seriousness and extent of the violation as well as other information that might be useful in penalty calculation.

What is the seriousness of the violation (e.g., amount of emissions, length of time of excess emissions, nature of emissions, location of source, perceived public impact)?

What harm resulted or could result from the violation?

What efforts did the facility make to correct the violation?

How difficult will it be to comply (e.g., availability of technology, cost of complying, time required to correct the violation)?

What is the facility's past compliance history?

17B OFFICIAL FILES

The official files related to an inspection or investigation comprise the Agency's legal documentation of its activities. All original documents, data, and evidence related to an inspection become part of the official records and should be treated as potentially admissible evidence in legal proceedings. Further, the opposing side in an enforcement proceeding is likely to have access as part of the discovery process. In criminal investigations, the Agency may turn over to the opposing side literally every scrap of paper with a note jotted on it in order to comply with the Jencks Act.

The inspector should always maintain a diligent and professional manner in recording notes of conversations, planning meetings, interviews, inspection observations, sample and data collection activities, and interactions with individuals related to the project. These notes should be prepared immediately, or as soon after the interaction or observation as is possible, to avoid loss of important details. All such records should be dated, legible, and contain accurate and complete documentation. Their language should be objective, factual, and free of personal feelings or inappropriate information. Avoid recording personal or irrelevant information where this information may become part of official records.

Components of the Official Files

Historical Records

Historical records related to a project are probably already contained in the official files for the facility being investigated. These records may include permit applications and associated documentation; inspection plans and reports from previous inspections; reports of laboratory data from samples collected during previous inspections or submitted by the facility; site maps, plans, drawings, and descriptions; and photographs, photocopied records, and other physical samples or evidence about the facility. All of these records are available to authorized inspection team members, and should be used to provide a background of knowledge about the facility and its history with the Agency. This information will often be valuable in planning an inspection

The Inspection File

The inspection file normally contains all of the records associated with an inspection. This file is reviewed by case development personnel as part of the evaluation of whether an enforcement response should be made to potential violations identified during the inspection, and if so, what type of enforcement response should be made. A missing required inspection notice or incomplete chain of custody record, for example, could jeopardize the Agency's ability to successfully prosecute a violation.

There are differences in statutory requirements as well as program and Regional policy and practice, so no one list of file contents will be appropriate for all situations. The list of contents which follows can serve as a guide to the types of records that should be kept in the inspection file.

- Investigation requests (if issued). If a written request was issued by another office (e g . Headquarters or Regional program office) to conduct the inspection, a copy should be included in the file.

- Communications. For each inspection, communications may occur in many forms and among many individuals. Copies of all official correspondence, possibly including notifications of intent to conduct an inspection (both to the facility and to the State), requests for data, and informational correspondence, should be included in the official files. Records of telephone and personal conversations also should be included.

- Notice of Inspection. If the authority in the statute under which the inspection was conducted requires presentation of a notice of inspection, the inspection file must contain evidence that a written notice of inspection was presented. Case development personnel will review it to ensure that the inspection adhered to the terms specified in the notice

- Verification of Credentials. Some EPA statutes also require that an inspector present appropriate credentials to the owner, operator, or agent in charge of the inspected premises. Therefore, the inspection file should contain evidence that proper credentials were presented.

- Inspection Confidentiality Notice. TSCA requires that facility officials be informed of their right to claim inspection data as confidential business information (CBI) For all TSCA inspections, the file should contain a copy of the CBI notice. It will be reviewed for proper signatures and dates, as well as completeness.

- Declaration of Confidential Business Information and TSCA Confidentiality Clearance References. These items are contained in the inspection file when materials have been claimed as confidential. The Declaration collected during the inspection will be reviewed for signatures, dates, and a complete listing of all documents and samples for which CBI was claimed. The Clearance References will be checked to ensure that all individuals who handled or will handle TSCA-CBI held the appropriate clearances.

- Receipt for Samples and Documents. A receipt must be issued for all samples and documents collected during inspection under some EPA statutes (RCRA, CERCLA, TSCA); it is good practice under all statutes.

- Inspection (Project) Plan. The plan will be reviewed to ensure that it presented the objectives, scope, logistics, and schedules for the inspection. Inspectors should be prepared to explain the inspection rationale and any deviations from the plan

- Narrative Inspection Report. Generally, a copy of both the draft and final versions of the inspection report, including attachments, should be included in the inspection file However, some programs and Regions may have specific procedures for review and retention of draft reports. The final report will be reviewed by case development personnel for factual information, professional judgments, objectivity, and comprehensiveness.

- Inspection Report Form. If the program has an inspection form or checklist that is completed for each inspection, a copy should be included in the file.

- Other Evidence. Other evidence that should be kept in the official files includes photographs, copies of documents and records, statements, affidavits, drawings and sketches, etc., collected during the inspection.

- Custody Records. There should exist a complete inventory of sample tags and seals, chain of custody records, and related materials that demonstrate the traceability and proper identification of all samples taken during an inspection. Chain of custody records include all of the following items:

  - Official Chain of Custody Record forms used to record the custody of all samples and other physical evidence collected during an inspection,

  - Copies of Receipt for Samples forms (for RCRA, CERCLA, and TSCA samples) that were provided to the owner or operator of the facility,

  - Copies of letters authorizing laboratories to dispose of samples related to the project, and

  - Sample tags or labels from samples that have been destroyed by the laboratory

- Laboratory Analyses. Test results from any laboratory analyses made in connection with the inspection should be included in the inspection file.

- Subpoena. If a subpoena was issued, a copy must be included in the inspection file It will be reviewed to ensure that it was issued properly and that there was compliance with the requirements of the document.

- Warrant. If a warrant was issued, a copy of the warrant application, warrant, and inventory should be in the file. These will be reviewed to ensure the warrant was properly issued and that the inspection complied with its terms.

- Field Logbook. The bound field logbook used by the inspector to record his or her field activities on the inspection becomes part of the official file (although it may not be physically located in the file itself). Once completed, the logbook becomes an accountable document, it does not belong to the inspector.

17C EVIDENCE AUDITING

Cases developed by EPA and referred to the Department of Justice for potential civil litigation must be based upon rigorously documented evidence and supporting data in order to minimize delay in filing, facilitate discovery proceedings, present a convincing case for the EPA and DOJ attorneys engaged in pre-trial negotiations, and finally, to prevail in the courtroom. Prior to development of the evidence auditing program, EPA Headquarters and Regional staffs had followed widely varying approaches to the preparation of referral packages and supporting documentation.

The types and volume of documents relating to a case are often overwhelming. For instance, a single hazardous waste case may involve 100,000 or more documents. The attorneys are confronted with difficult tasks of assembling and organizing all documents, preparing witness lists, and extracting information necessary to conduct interrogatories and depositions.

Documents supporting EPA civil referrals may originate in Regional and Headquarters program offices, State files and/or contractors performing support services for the Agency. In addition, records obtained from prospective defendants often are so voluminous and/or disorganized that it is difficult for the EPA/DOJ case management team to effectively review them. Lack of sufficient assembly and organization of this material becomes obvious at the time of discovery or during settlement and negotiation discussions.

The consequences of all these factors may include unknowingly exposing case strategy, inadvertently releasing privileged or confidential material, or being unaware of documents that could strengthen or weaken the case. The Agency position is vulnerable to attack if the EPA/DOJ case management team is not assured of both the integrity of the supporting documentation, and a case file that is organized for rapid and efficient access.

Evidence Auditing Program

An evidence audit includes the review, inventory and organization of the documents that make up a case file. The audit of a simple case may involve only the assembly and handwritten compilation of the documents present and a review of the case files to ensure that all pertinent documents are present. The audit of a highly complex case may involve, in addition to assembly and inventory of documents, computerized listings and sophisticated categorization, construction of evidence profiles, and elaborate formatting as an aid to understanding the material content

The evidence audit system is designed to: (1) establish an overall case document control system, (2) provide quick and complete access to records, and (3) provide a means for assuring admissibility of the evidence. The system is flexible to accommodate the increase of material as the case progresses, and is adaptable to changes in case strategy.

With the advent of the hazardous waste enforcement programs and the conduct of a major portion of the Agency's hazardous waste site investigations by contractors, the National Enforcement Investigations Center was assigned responsibility for making evidence audits available to Regional and Headquarters staffs for enforcement case referrals developed as a result of these activities Evidence audits lend a major advantage to the case development process by enhancing the supportive rationale and development of legal strategy of cases; detecting flaws in evidence with a timeliness that permits repair; avoiding presentation of questionable evidence in the courtroom, and perhaps most importantly, conserving the time and case handling capacities of the attorneys and Regional and Headquarters staff.

The NEIC, through its evidence audit capability, has developed an additional litigation support service to assist Regional case management teams with large and complex cases. The procedures provide for assembling records; categorizing, marking, and inventorying documents; and making microfiche copies.

17D OFFICE SECURITY MEASURES

Security measures must be taken to protect all inspection data (including documents, samples, field notes, and other documentation) collected by the inspectors. In addition to the routine security measures that are always taken with regard to inspection data, the declaration of certain information as TSCA confidential business information (TSCA-CBI) imposes a further layer of security procedures designed to control access to the information within the Agency.

Routine Inspection Data

Routine inspection documents and field notes must be kept in a locked file cabinet when not in actual use.

Confidential Business Information

Sometimes facility officials will claim data on a non-TSCA inspection as confidential business information. While Regional and office policy may vary, usually only personnel authorized by the Regional Administrator, Division Director, or Branch Chief are allowed access to the file.

An access log should be made for all transactions.

Copies of information marked "trade secret" and/or "confidential" should not be made without explicit authorization from one of the individuals named above.

Requests for access to confidential information by any member of the public, or by an employee of a State, local, or Federal agency are generally handled according to the procedures contained in the Freedom of Information Act regulations (40CFR). All such requests are referred to the responsible Regional or Headquarters organizational unit.

TSCA-CBI Security Procedures

In addition to all the routine security measures that must be taken for any inspection data, the further procedures discussed below must be followed with regard to information declared TSCA Confidential Business Information.

- If the inspector has confidential business information in his or her possession from an inspection when he or she returns to the office, the inspector should check it in with the Document Control Officer (DCO) immediately upon his or her arrival.

- The Document Control Officer should be informed of any physical samples that were declared confidential. It is the responsibility of the DCO to notify the laboratory of the Document Control Number (DCN) assigned to the sample which should appear on the sample chain of custody and laboratory analysis reports. If a copy of the laboratory analysis is sent to the firm, it must be sent by registered mail in a double envelope.

- After the documents have been logged in by the DCO, they must then be handled in accordance with the procedures detailed in the TSCA-CBI Security Manual.

3 Complaint Preparation and Filing

Civil Penalty Complaint Criteria

As was previously discussed in Chapter Five, a civil penalty action is warranted when the violation presents a real (but not an extreme and unreasonable) risk to humans or the environment; is likely to be an isolated occurrence; is apparently the result of ordinary negligence, inadvertence, or mistake; and either:

- Involves a first offense under the Act by any registrant, commercial applicator, "for-hire" applicator, wholesaler, dealer, retailer, or other distributor (no prior warning is required by the Act); or

- Involves a private applicator or other person (other than any party specified above), who has received a prior warning or citation for a violation of the Act. (The prior warning or citation may have been for the same or a different FIFRA violation.)

Issuance of a complaint initiates a FIFRA Section 14(a) administrative penalty action.*

Involvement of Multiple Respondents in a Single Violation

Frequently, the distribution of pesticides or devices in commerce will involve more than one party before the product is ultimately purchased for use. These multiple-party relationships are known as "distribution chains." Some examples of distribution chains include:

- A distributor who is also the registrant of a pesticide and the company that produces the pesticide for this distributor/registrant; and

* The complaint also serves to satisfy the notice and opportunity to be heard requirement for those actions subject to Section 9(c)(1) of FIFRA.

- A producer who holds a registration for a pesticide and a retailer who sells the producer/registrant's pesticide.

Under certain circumstances, more than one party in a distribution chain may be legally responsible for the same product violation. Pesticide enforcement officials may cite multiple respondents in administrative cases for an identical violation where it is determined that:

- The distributor/registrant and/or producer has no mechanism and has made no effort to determine the reliability of its supplier or packager;
- The violative product bears the name of a registered distributor even when no physical contribution was made to a processing or packaging error and there was no knowledge of the violation; or
- The violative product bears the name of a distributor who is not the distributor/registrant but whose name provides a basis for consumer reliance.

Nonregistered retailers (functioning as "mere conduits" standing next to the ultimate consumer in the chain of distribution) may, at the complainant's discretion, be spared a civil penalty action in favor of a Section 9(c)(3) notice of warning or an enforcement correspondence if:

- The violative product does not bear the retailer's name; or
- The violative product bears the retailer's name but the name does not provide the basis for consumer reliance.

A producer who is not a registrant but who functions as an agent of the registrant, and whose liability is based solely on the legal relation with the registrant may, at the complainant's discretion be similarly treated.

In the case of a single violation involving multiple respondents from multiple Regions, designation of regional jurisdiction over the cases or consolidation of cases thus arising will be determined jointly by the involved Regions and Headquarters PTSCMS on a case-by-case basis.

Delegated Authority

Regional Administrator

The Regional Administrator is to exercise all powers and duties as prescribed or delegated under the Act and the CROP. In addition, the

Regional Administrator* has been delegated the authority to:

- Issue administrative complaints;
- Evaluate the appropriateness of civil penalties; and
- Negotiate and sign consent agreements memorializing settlements between the Agency and respondent prior to the alleged violator's filing of an answer or failure to file an answer to a complaint.

The Regional Administrator, however, must consult with the Regional Counsel's office before exercising any of the above authorities. In addition, the Regional Administrator must consult (verbally or in writing) with Headquarters PTSCMS in the following instances:

- Routine misuse cases (verbal),
- Exceptional misuse cases of first impression or of unusual national importance (written), and
- Settlement reductions of more than 40 percent of the penalty amount originally proposed (written).

In every proceeding, the Regional Administrator will rule on all motions filed or made before an answer to the complaint is filed. 22.16(c)

Regional Judicial Officer

A Regional Administrator may delegate all or part of his or her authority to act in a given proceeding to a Regional Judicial Officer. Any such delegation is to be performed in accordance with the CROP.

A Regional Judicial Officer may exercise any authority delegated to him or her by the Regional Administrator, or the Regional Judicial Officer may refer any case or motion to the Regional Administrator when such referral is appropriate. 22.04(b)(3)

---

* The Assistant Administrator for Pesticides and Toxic Substances may also exercise these authorities in multi-regional cases or cases of national significance. However, he or she must consult in advance with the Associate Administrator for OLEC or his or her designee and must notify any affected Regional Administrators or their designees when exercising any of the above authorities. These authorizations are redelegable to the Division Director level.

Presiding Officer

The Presiding Officer is to conduct a fair and impartial proceeding, ensure that the facts are fully elicited, adjudicate all issues, and avoid delay. The Presiding Officer has the authority, under 22.04(c), to:

- Conduct administrative hearings under these rules of practice;
- Rule upon motions, requests, and offers of proof; dispose of procedural requests; and issue all necessary orders;
- Administer oaths and affirmations and take affidavits;
- Examine witnesses and receive documentary or other evidence;
- For good cause, upon motion by a party or sua sponte (i.e., upon his own motion), order a party or an officer or agent thereof to produce testimony, documents, or other nonprivileged evidence and, failing the production thereof without good cause being shown, draw adverse inferences against that party;
- Admit or exclude evidence;
- Hear and decide questions of facts, law, or discretion;
- Require parties to attend conferences for the settlement or simplification of the issues, or the expedition of the proceedings; and
- Do all other acts and take all measures necessary for the maintenance of order and for the efficient, fair, and impartial adjudication of issues arising in proceedings governed by the CROP.

FIFRA Penalty Assessment Considerations

Factors for Determining Penalty Amount

Section 14(a)(4) of FIFRA requires that the Agency consider the following factors in determining the initial penalty amount. Information impacting on this determination may be obtained from financial reports (e.g., Dun and Bradstreet), corporate reports, and reports filed with other government agencies such as the Securities and Exchange Commission.

- The Size of the Business of the Person Charged. As applied to violators subject to Section 14(a)(1) of the Act and "for hire" applicators under Section 14(a)(2), size of business should be interpreted to include total business revenues from total business operations of the business entity to which that product in violation is attributable.

Where a subsidiary company is validly separable as an entity discrete from its parent, it should be considered alone. Where pesticide production is a constituent part of a total business operation involving numerous nonpesticide products, size of business shall be based on total revenues. This determination should be based on acceptable accounting procedures.

The proportion of the pesticide's component to the total diversified activities of the respondent, profit versus loss, etc., may be considered for purposes of mitigation, but should not be entered at the outset when initial penalty assessment is determined based on consideration of the size of the business.

- The Effect on the Defendant's Ability To Continue in Business. Should there be evidence at the outset that the proposed penalty will affect the respondent's ability to continue in business, the initial assessment should reflect this consideration and such mitigation as is appropriate.

  Should it be clear at the outset that the respondent will be unable to pay the proposed penalty (evidence of bankruptcy or busines loss available in rare circumstances when the violation is discovered), a penalty complaint should be filed nonetheless noting the absence of any assessment based on inability to pay and follow-through to an appropriate final order. In such case, respondent retains the right to contest such complaint and allegation of violation. (In no other situation should "zero" penalty occur.)

  In the absence of information about respondent's inability to pay, the initial presumption will be that the assessment of the proposed penalty will not affect respondent's ability to continue in business.

  In no case should a threat by respondent to go out of business voluntarily if a penalty is assessed be considered as evidence of inability to pay.

- The Gravity of the Violation. The gravity of any violation is a function of the following factors [see Amvac Chemical Corporation I.F.&R. No. IX-4C(1974)]:

  - The potential to injure humans or the environment,
  - The severity of the potential injury,
  - The scale and type of product use anticipated,
  - The identity of the persons exposed to the risk of injury,
  - The extent to which the applicable provisions of the Act were in fact violated,
  - The violator's history of compliance and actual knowledge of the Act, and
  - Any evidence of good faith.

History of compliance and good faith may be considered to include activities under FIFRA as amended in 1972, 1975, 1978, and under the 1947 FIFRA, provided that such history does not include any complaint or notice to which respondent made answer or explanation and which was not further pursued by the complainant [see In Re Beaulieu I.F.&R. No. IX-10C(1974)]. A prior notice without any further action may be considered by the complainant in determining the issue of respondent's prior knowledge of the Act.

Penalty Assessment Guidelines

EPA has established a penalty assessment system that initially assesses a penalty amount based on the nature and extent of the violation and then adjusts this amount in consideration of mitigating or exacerbating factors. The guidelines for assessing civil penalties are provided in Appendix 6 of this manual.

Independently Assessible Charges

A separate civil penalty should be assessed for each violation of the Act that results from an independent act (or failure to act) by the respondent and is substantially distinguishable from any other charge in the complaint for which a civil penalty is to be assessed. A given charge is independent of, and substantially distinguishable from, any other charge when it requires an element of proof not needed by the others. (See Elements of a Violation: Administrative in Section 2 of this chapter.) Not every charge that appears in a complaint can be separately assessed. Where a charge derives primarily from or merely restates another charge, a separate assessment is not warranted. Charges that do not support a separate assessment are to be indicated in the complaint as "lesser included charges."*

Multiple Misbranding

Multiple instances of pesticide and device misbranding, however, are not independently assessible when there is a shipment of a single pesticide

---

* See In the Matter of Pearson & Company, I.D. Nos. 88176, 88468, 90943, Initial Decision by ALJ Bernard D. Levinson, May 31, 1974; and In Re: Chapman Chemical Company, I.D. No. 104559, amended Final Order by R. A. Jack E. Ravan, July 29, 1975. See also Blockburger v. United States, 284 U.S. 299 (1932); and Tesciona v. Hunter, 151 F.2d 589 (10th Cir. 1945).

product.* Multiple misbrandings must appear either:

- As lesser included charges to accompany a count of misbranding; or
- As allegations in a single count.

In either case, only a single civil penalty should be assessed. The gravity of the single violation involving several label deficiencies, however, may be determined to be greater than that of a violation involving only one misbranding. Thus it may support a higher penalty than that proposed for a single misbranding. A proposed penalty may be derived by locating on the penalty matrix a figure for one of the misbranding violations and increasing that figure up to as much as $5,000. The increase would depend on the number and/or seriousness of the additional misbrandings, as well as whether they are cited as primary or lesser included charges.

Complaint Preparation

Since the complaint initiates an administrative civil penalty action and is the focal point for all subsequent proceedings, it must be as complete as possible. Failure to file a complaint that meets the standards and procedures outlined in this chapter may:

- Cause a delay in the proceedings;
- Prevent the complainant from being granted a motion for default under Section 22.17 of the CROP; and
- Make the complainant subject to adverse motions by other parties to the proceedings.

Checklist of Complaint Requirements 22.14(a) **

The following elements are considered necessary to establish the legal sufficiency of a civil penalty complaint:

1. Statement reciting the section(s) of the Act authorizing the issuance of the complaint;

---

* See In the Matter of Hawk Industries, Inc., I.F.&R. Docket No. II-120-C, issued by ALJ Bernard D. Levinson, December 21, 1976.

** The numbers to the left of each of the following items correspond to numbers in Exhibit 7-1, which shows a sample complaint. The numbers in the exhibit identify examples of each kind of information.

2. Specific reference to each provision of the Act and to the regulations that the respondent is alleged to have violated;

3. Concise statement of the factual basis for alleging the violation;

4. Statement explaining the proposed penalty;

5. Copy of the Agency's "Guidelines for the Assessment Section 14(a); Citation Charges for Violations," 39 Fed. Reg. 27711 (1974);

6. Proposed amount of civil penalty to be assessed;

7. Notice of respondent's right to request a hearing on any material fact contained in the complaint or on the appropriateness of the amount of the proposed penalty;

8. Copy of the Consolidated Rules of Practice (CROP);

9. Notice of opportunity for an informal settlement conference; and

10. Date and signature with notation of title of a duly authorized official of the Agency.

Elements of the Complaint

The discussion under each element of the complaint gives the purpose of the element and in some cases the reason for its particular place in the complaint.

Caption

- Identification of Respondents (A).* Respondents, or those against whom the complaint is filed, are to be accurately and individually identified on the left side of the caption.

- Docket Number and Subjects of the Complaint (B). The I.F.&R. Docket Number and matters addressed in the complaint are to be properly identified on the right side of the caption. Docket numbers are assigned by the Regional Hearing Clerk. The docket number designates the Region involved in Roman numerals followed by the case number (e.g., I.F.&R. Docket No. IX-10C). The docket number must be accurately reflected in the caption, because it is the identifying number for all subsequent documents filed in the proceedings.

* The letters in parentheses to the right of each element correspond to the letters in Exhibit 7-1.

Jurisdictional Authority (C)

The complaint must contain a statement of jurisdictional authority that informs the Presiding Officer and the respondent of the statutory authority under which the complaint is issued. This statement should be in the beginning of the complaint and should be as specific and precise as possible.
22.14(a)(1)

Factual Allegations (D)

In this section of the complaint, the specific facts of a particular violation are tied to the statute, rule, regulation, and/or order that allegedly has been violated.

The goal of this section is to adequately inform the Presiding Officer of the alleged violations and to inform the respondent of the charges so that an adequate response can be prepared.

Violations are identified by the particular sample (ID) number.

In the event of a complaint containing multiple sample (ID) numbers, the discussion of each separate sample (ID) should contain an enumeration of the facts and circumstances of each separate violation related to that sample. The proposed penalty assessment should include an enumeration of the dollar amount proposed for each violation charged with respect to that sample or an indication that a particular charge is "lesser included" and bears no penalty assessment. The factual allegations of the complaint, including multiple samples, should be separated into paragraphs.

In making factual allegations, the key word is "concise." "Conciseness" means that all material facts necessary to establish the factual basis for each violation are specified, while extraneous or irrelevant information is omitted. Although the purpose of this section is only to inform the respondent and Presiding Officer of the facts that the alleged violation is based on, all relevant facts should be included rather than risk failure to meet the requirements set forth in the CROP. For instance, even though the respondent may have been present when certain facts were ascertained, those facts must still be included to inform the respondent and the Presiding Officer of their legal significance.
22.14(a)(3)

Citation of Legal Requirements Violated (E)

The citation of the particular provision of the statute, regulation, rule, or order that allegedly has been violated must be as specific as possible. For example, if the complaint alleges a violation of Section 12 of FIFRA, the specific subsection under Section 12 that is the basis of the violation must be cited [e.g., misuse of pesticide 12(a)(2)(G)].
22.14(a)(2)

Amount of Civil Penalty and Rationale (F, G)

This section of the complaint is intended to:

- Explain the reason for the proposed penalty (F) in a manner that reflects the fact that the Agency has considered the penalty assessment factors specified by Section 14(a)(4) of FIFRA. Every detail of the Agency's reasoning process need not be reflected; however, the section should state that the FIFRA criteria were considered in assessing the penalty. In order to help meet the statutory requirement without unnecessary elaboration, a copy of the Agency's policy in assessing FIFRA civil penalties should be attached to the complaint; and
  22.14(a)(5)

- Specifically identify the proposed penalty amount (G).
  22.14(a)(4)

Right to Request a Hearing (H)

The respondent must be informed of the right to request a hearing concerning any material fact contained in the complaint or concerning the appropriateness of the amount of the proposed penalty. The respondent should be referred to a copy of the CROP, which is attached to the complaint, for information concerning the request for a hearing and the consequences of failing to request a hearing.
22.14(a)(6)

Notice of Opportunity for an Informal Settlement Conference (I)

The Agency encourages all parties against whom a civil penalty proceeding has been initiated to pursue the possibility of settlement through informal conferences with the Agency. Therefore, the respondent should be informed that, regardless of whether a hearing is requested, a request for informal settlement conference may be made. The respondent should be cautioned, however, that a request for an informal conference does not stay the running of the 20-day time period for requesting a hearing and filing an answer.

Signature Block (J)

The complaint must be dated and signed (with notation of title) by a duly authorized official of the Agency.

Service of the Complaint

The respondent is served with a copy of the complaint in either of the following manners:
22.05(b)

- Personal service. The complaint and accompanying documents are left with the respondent or an authorized representative; or
- Service by certified mail, return receipt requested. The complaint and accompanying documents are mailed to the respondent or an authorized representative.

Personal Service

For personal service on an individual at a business address, the complaint is left with the respondent or a person who is in charge of the office, such as an office manager, or a person who is responsible for the respondent's administrative affairs, such as a personal secretary.

For personal service on a corporation, company, or association, the complaint is left with an officer, partner, managing or general agent, or any other person authorized by appointment or by Federal or State law to receive service of process.

For personal service on a named individual at a residential address, the complaint is left with any person of suitable age and discretion who resides there.

Service by Mail

If the complaint is addressed to an individual person, it should be mailed to the last known business address by certified mail, return receipt requested.

If the complaint is addressed to a corporation, company, or association, it should be mailed, return receipt requested, to the last known address of an officer, partner, managing or general agent, or any other person authorized by appointment or by Federal or State law to receive service of process.

The return receipt establishes that the complaint was received on a particular date.

The receipt should be attached to the original complaint, which is retained by the Agency. If no return receipt is obtained, another letter should be sent. If no receipt is again obtained, personal service may be necessary.

Service Upon U.S. Government Officials or Agencies

Service upon an officer or agency of the United States must be made by delivering a copy of the complaint to the officer or agency, or in the manner prescribed by applicable regulations. If the agency is a corporation, service may be either personal or by certified mail directed to an officer, partner, managing or general agent, or any other person authorized by appointment or law to receive service of process.
22.05(b)(1)(iii)

Service on State or Local Government Entities or Officials

Service upon a State or local unit of government, or a State or local officer, agency, department, corporation, or other instrumentality must either be made in the manner prescribed by State law or upon the chief executive officer of the governmental unit or the State or local officer.
22.05(b)(1)(iv)

Certificates of Service

Proof of service must be made either by a properly executed affidavit of service (Exhibit 7-3) for personal service, or by a properly executed return receipt, for service by mail. A certificate of service must be filed with the original complaint.
22.05(b)(1)(v)

Filing the Complaint

The original and one copy of the complaint (with proof of service) must be filed with the Regional Hearing Clerk.
22.05(a)(1)

Sample Complaint

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE ADMINISTRATOR

In re: (A)	)	I.F.&R. Docket No. 1-420C (B)
Firetog Industries, Inc. 36 Sunshine Drive, Clark, MA 02856	)	COMPLAINT AND NOTICE OF OPPORTUNITY FOR HEARING
Respondent	)	

COMPLAINT

1. (C)

This civil penalty action is instituted pursuant to the authority vested in the Administrator of the United States Environmental Protection Agency by Section 14 [7 U.S.C. §1361] of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (hereinafter referred to as FIFRA). The complainant in this action is John Doe, Division Director, Enforcement Division, Region I, United States Environmental Protection Agency, who has been duly authorized to institute this action. The respondent in this action is Firetog Industries, Inc.

2. Allegations or Counts (D)

This is to notify you that there is reason to believe respondent has violated Section 12 [7 U.S.C. §136j] of FIFRA. The pesticide listed below is not in compliance with provisions of FIFRA as specified.

3. (E)

I.D. No. 152049 - MOLD STOP (EPA Registration No. 3681-3), which was being held for sale or distribution by your establishment in Clark, Massachusetts, on January 29, 1983, was:

1. Misbranded in that the label stated, in part:

"* * *
MOLD
STOP
* * *
ACTIVE INGREDIENTS: 25% Propionic Acid
* * *"

whereas, when tested, the product did not contain 25% Propionic Acid. [FIFRA §12(a)(1)(E), 7 U.S.C. §136j(a)(1)(E); FIFRA §2(q)(1)(A), 7 U.S.C. §136(q)(1)(A)]

2. Adulterated in that its strength or purity fell below the professed standard or quality under which it was being held for sale. [FIFRA §12(a)(1)(E), 7 U.S.C. §136j(a)(1)(E); FIFRA §2(c)(1), 7 U.S.C. §136(c)(1)]

(When analyzed, the product was found to contain only 13.81% and 14.23% Propionic Acid in two separate tests.)

4. Proposed Civil Penalty (F)

In arriving at the assessment of the penalty specified below, the Environmental Protection Agency, as required by Section 14(a)(4) of FIFRA [7 U.S.C. §1361(a)(4)], has taken into consideration the following factors concerning the respondent:

- The size of respondent's business;
- The respondent's ability to continue in business, in light of the proposed penalty; and
- The gravity of the alleged violation.

5. Agency policy with respect to assessment is governed by the Environmental Protection Agency's "Guidelines for the Assessment Section 14(a); Citation Charges for Violations" [39 Fed. Reg. 27711 (1974)], a copy of which is attached to this complaint.

6. (G)

Based on the above considerations, the Environmental Protection Agency proposes to assess a civil penalty in the amount of three thousand, seven hundred and forty dollars ($3,740) against Firetog Industries, Inc.

7. Notice of Opportunity To Request a Hearing (H)

This administrative civil penalty proceeding will be conducted pursuant to the Consolidated Rules of Practice (CROP) [40 C.F.R. §22.01 et
8. seq.], a copy of which accompanies this complaint. Pursuant to the CROP, you have the right to request a hearing to contest any factual allegation set forth in the complaint or the appropriateness of the proposed penalty. In the event that you wish to request a hearing and to avoid having the above penalty assessed without further proceedings, you must file a written answer to this complaint with the Regional Hearing Clerk, United States Environmental Protection Agency, Region 1, John F. Kennedy Federal Buidling, Boston, Massachusetts 02203.

If you do not request a hearing or file a written answer within twenty (20) days of receipt of this complaint, the above penalty will be assessed without further proceedings, and you will be so notified.

9. Settlement Conference (I)

The Environmental Protection Agency encourages all parties against whom a civil penalty is proposed to pursue the possibility of settlement as a result of informal conferences. Therefore, whether or not you request a hearing, you may confer informally with the Agency concerning (1) whether the alleged violation in fact occurred as set forth above, or (2) the appropriateness of the proposed penalty in relation to the size of your business, the gravity of the violation, and the effect of the proposed penalty on your ability to continue in business. The request for an informal conference does not stay the running of the twenty (20) day time period for requesting a hearing and filing an answer. To explore the possibility of settlement in this matter, contact Ms. Kate Smith, Enforcement Division, United States Environmental Protection Agency, Region 1, John F. Kennedy Federal Building, Boston Massachusetts 02203, telephone (312) 989-9876.

10. (J)

John Doe
Director, Enforcement Division

Date: _____ At: _____

Enclosures: FIFRA, as amended
Guidelines for the Assessment Section 14(a); Citation Charges for Violations
Consolidated Rules of Practice (CROP)

Sample Cover Letter

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
Region I
John F. Kennedy Federal Building
Boston, MA 02203

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

G.B. Stubbs, Registered Agent
Firetog Industries, Inc.
36 Sunshine Drive,
Clark, MA 02856

Dear Mr. Stubbs:

As the enclosed complaint and notice of opportunity for hearing indicates, the United States Environmental Protection Agency has initiated an administrative civil penalty proceeding against Firetog Industries, Inc., for violations of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (7 U.S.C. §136 et seq.).

It is suggested that you carefully read and analyze the complaint and the enclosed Consolidated Rules of Practice (40 C.F.R. §22.01 et seq.) so that you are fully apprised of the alternatives offered to you in considering the alleged violation, proposed penalty, and opportunity for a hearing. You will note that you have only twenty (20) days from your receipt of this notice within which to file an answer to the enclosed complaint with the Regional Hearing Clerk, United States Environmental Protection Agency, Region 1, John F. Kennedy Federal Building, Boston, Massachusetts 02203. Failure to file a timely answer, in writing, will result in a default order being entered against you for the full amount of the assessed penalty.

The Agency encourages all parties against whom a civil penalty proceeding has been initiated to pursue the possibility of settlement through informal conferences with the Agency. Therefore, regardless of whether you request a hearing, you are extended the opportunity to request an informal settlement conference. To request a conference, please write to Ms. Kate Smith, United States Environmental Protection Agency, Region 1, John F. Kennedy Federal Building, Boston, Massachusetts 02203, or telephone Ms. Smith at (312) 989-9876. Any discussion you may have with Ms. Smith will not affect the time period in which you are permitted to request a hearing or file an answer to the complaint.

Sincerely,

John Doe
Director, Enforcement Division

Enclosure

Model Affidavit of Service

AFFIDAVIT OF SERVICE
UNITED STATES OF AMERICA
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

I hereby certify that being a person over 18 years of age, I served a copy of the within complaint

(check one) ( ) in person
( ) by registered mail, return receipt requested
( ) by leaving the copy at principal place of business, which is

_____
_____
_____

( ) (write in other method, such as leaving it at dwelling, serving registered agent of corporation, etc.)

on the person named in the complaint on (month, day, and year).

(Signature of person making service)

(Name of person making service)

(Title, if any)

INSPECTOR SAFETY PROCEDURES AND EQUIPMENT

SAFETY

ENVIRONMENTAL SAMPLING

FIELDS - RE-ENTRY DIRECTIONS ON LABEL

- AFTER ANY APPLICATION, WAIT UNTIL DUST AND SPRAY HAS SETTLED AND FOLIAGE IS DRY BEFORE RE-ENTRY
- OTHER - COMMON SENSE DERMAL PROTECTIONN FORMULATION SAMPLING - LABEL

APPLICATION OBSERVATIONS

FIELDS - STAY UPWIND AND WATCH FROM VEHICLE

FUMIGATION - AIR PURIFYING RESPIRATOR INSUFFICIENT

SPILLS AMD EMERGENCY RESPONSE - LABEL AND GUIDES TO CHEMICAL HAZARDS

POISONING

SKIN IRRITATION - REDNESS, ITCHING, PIMPLES, SWELLING, BLISTERING, ALLERGIC REACTION

EYE, NOSE, MOUTH AND THROAT - STINGING, SWELLING

INTERNAL

LUNGS - SHORTNESS OF BREATH, CLEAR SPUTUM, PRODUCTION, RAPID BREATHING

G.I. TRACT - NAUSEA, VOMITING, ABDOMINAL CRAMPS, DIARRHEA

NERVOUS SYSTEM - EXCESSIVE FATIQUE, SLEEPINESS, HEADACHE, MUSCLE TWITCHING, LOSS OF SENSATION

FOR ANY POISONING THE TYPE OF PESTICIDE AND THE PESTICIDE LABEL IS IMPORTANT. IF POSSIBLE TAKE THE CONTAINER WITH THE VICTIM. THE LABEL CONTAINS FIRST AID INFORMATION. REMOVE THE VICTIM FROM EXPOSURE AND GET HELP.

HELP - 24 HOURS/DAY, 365 DAYS/YEAR

NATIONAL PESTICIDE TELECOMMUNICATION NETWORK (NPTN)

1-800-858-7378

LOCATED AT TEXAS TECH UNIVERSITY SCHOOL OF MEDICINE

PROTECTIVE CLOTHING WILL BE WORN AT ALL TIMES DURING THE CONDUCT OF THE FOLLOWING CATEGORIES OF ACTIVITY:

I. FORMULATION SAMPLING AND PESTICIDE MIXTURE OBSERVATIONS -

A. HEAD COVER
B. FACE SHIELD OR GOGGLES
C. RESPIRATOR
D. LONG-SLEEVED COVERALLS
E. WATERPROOF APRON
F. HEAVY RUBBER GLOVES
G. RUBBER BOOTS

II. APPLICATION OBSERVATIONS (THOSE OCCASIONS WHEN THERE IS THE POSSIBILITY OF THE OBSERVER BEING SPRAYED) -

A. HEAD COVER
B. FACE SHIELD OR GOGGLES
C. RESPIRATOR
D. LONG-SLEEVED COVERALLS
E. HAND COVERS
F. RUBBER BOOTS

III. ENTRY INTO A FIELD WITHIN 48 HOURS AFTER APPLICATION OF A PESTICIDE TO THE FIELD, UNLESS ANOTHER ENTRY TIME IS SPECIFIED ON THE PESTICIDE LABEL -

A. HEAD COVER
B. [illegible]

C. LONG-SLEEVED COVERALLS

D. HAND COVERS

E. RUBBER BOOTS

IV. HANDLING OBJECTS THAT MAY HAVE CONTACTED PESTICIDE SPRAY OR DRIFT -

A. LONG-SLEEVED COVERALLS

B. HAND COVERS

CHRONIC TOXICITY

When an organism is rapidly affected by a pesticide, this condition is referred to as acute poisoning or acute toxicity. Generally this results from a single or very few closely spaced exposures and is the kind of reaction most people equate with being poisoned.

Toxicity is the innate capacity of a chemical to be poisonous. It is important to remember that all poisoning is dose related. For any compound the toxic response depends on the size of the dose in relation to the size of the victim. The more that is taken, the more serious the response.

Chronic toxicity is used to describe the effects of prolonged or repeated low level exposures to a poisonous substance. It is dose related. Types of chronic effects include tumors and cancer, reproductive problems such as sterility and birth defects, damage to the nervous system, damage or degeneration of internal organs such as the liver, and allergic sensitization to particular chemicals. Any organ system in the body may show a significant injury after chronic exposure to a toxic material. In trying to determine the potential for chronic effects in man, toxicologists must use very high doses of a poison in animal tests compared to the probable human exposure. Such information is necessary to establish whether or not any risk level is possible, even as small as a one-in-a-million response. Remembering that chronic toxicity is dose related, does that mean that a real world exposure will produce a lesser effect or just that it will take longer to show up? Decision makers must also consider whether there is such a thing as a lesser cancer or an acceptable birth defect.

Hazard is different than toxicity. Hazard is the degree of danger involved in using a pesticide. It is the chance or risk that poisoning could occur under certain circumstances of use. Hazard varies according to exposure and can be expressed as an equation of exposure times toxicity. The toxicity comes built into the pesticide. However, we can tilt the risk equation in our favor if we eliminate or minimize exposure. Even a compound with a high toxicity, acute or chronic, can be used with negligible risk if you virtually eliminate exposure to it. The more you expose yourself to it, the higher the risk. Preventing exposure is the key to the safe use of pesticides and is the reason why so much emphasis is placed on safety precautions during storing, handling, using and disposing of them. With chronic toxicity exposure is the cumulative effects from using pesticides, residues in treated commodity that we eat and in the things our skin comes in contact with, and possibly from the water that we drink. That is why it is especially important to

pay attention to all label statements for ground water protection, re-entry intervals, pre-harvest intervals, disposal instructions, and requirements for protective safety equipment. EPA uses these regulatory options to reduce the exposure and therefore the hazard of particular pesticides to a level acceptable under the law. If this option is lost because of general disregard by applicators, then EPA will be required to use some other option such as limiting or stopping further use.

Some pesticides bear warning statements on their labels due to possible carcinogenicity or reproductive toxicity. The imposition of a requirement for either a cancer or birth defects warning statement is decided on a case-by-case basis. The following factors are considered in this decision:

1) Weight of the evidence--How solid is our information that the pesticide is an oncogen or teratogen?

2) Whether there is a substantial magnitude of risk, taking into consideration potency and expected exposure levels.

3) Size of the exposed population--Whether the number of people who (a) would read the label and (b) are affected by the risk is sufficiently small that the statement would be misleading to all other users of the pesticide.

4) Nature of the exposure--Whether the label statement would be read by the exposed population. That is, if the exposure of concern is dietary, then a warning statement on the label would have no impact. If a statement is to be used, it must be because the population of concern would have access to the label, i.e., the population of concern is that of mixers, loaders, and/or applicators.

Our assumption is that imposition of a hazard warning statement will not reduce the number of people exposed to the pesticide; that is, the statement will not actually result in people using another product, or no pesticide at all. Instead, the statement is intended to provide informed consent, and to encourage persons to comply with all the directions for use to minimize exposure. To further emphasize the care that needs to be taken with these pesticides, their use may need to be restricted to persons who are certified applicators.

A separate decision may also be made to classify these chemicals for restricted use. If we believe that the extra care inherent in taking a certified applicator training course and reading a cancer or birth defects warning statement is necessary to ensure proper handling, then the product would also be classified as "Restricted Use".

Following is a list of pesticides for which warnings have been required due to possible carcinogenicity or reproductive toxicity. Those pesticides which have also been classified as "Restricted Use" have been noted.

Cancer/tumor statement:
"This product contains (CHEMICAL NAME) which has been determined to cause tumors in laboratory animals. Risks can be reduced by closely following the use directions and precautions, and by wearing protective clothing specified elsewhere on this label."

- alachlor
- aldrin*
- amitraz
- amitrole*
- arsenic acid (non-wood uses)*
- captafol
- chlordane*
- chlordimeform*
- diclofop-methyl*
- EDB*
- formaldehyde
- heptachlor*
- lindane*
- linuron
- pentachlorophenol*
- pronamide*
- telone*
- TPTH*

Birth defects statement:
"This product contains (CHEMICAL NAME) which has been determined to cause birth defects in laboratory animals. Risks can be reduced by closely following the use directions and precautions, and by wearing protective clothing specified elsewhere on this label."

- brodifacoum
- bromadiolone
- chlorophacinone**
- cyanazine*
- dinocap
- diphacinon
- fumarin
- pival
- PMP
- warfarin

---

* Restricted Use
** One restricted use

	Oral LD_{50} (mg/kg)	Dermal LD_{50} (mg/kg)	Classification
HIGHLY TOXIC			
TEPP	1.2-2		organophosphate
Parathion	3.6-13	6.8	organophosphate
Methyl Parathion	9-25	300-400	organophosphate
Systox (Demeton)	2.5-12	8.2-14	organophosphate
Disulfoton (Di-Syston)	2.6-12.5	20	organophosphate
Carbofuran (Furadan)	11	10,200	carbamate
Endrin	5-45	60-120	organochlorine
MODERATELY TOXIC			
Diazinon	300-400		organophosphate
Baygon	95-104	1000>	carbamate
Bux	170		carbamate
Clodrin	125	385	organophosphate
Co-Ral	56-230		organophosphate
Imidan	300		organophosphate
Mesurol	87-130	350-500	carbamate
Metasystox-R	56-65	250	organophosphate
Toxaphene	69		chlorinated camphene
Paraquat	150		
DDT	250 (man) 113 (rat)		organochlorine
SLIGHTLY TOXIC			
Sevin	500	850	carbamate
Malathion	1375	4100	organophosphate
Methoxychlor	6000		organochlorine
Atrazine	3080		triazine

Hazard indicators	Toxicity Categories			
	I	II	III	IV
Oral LD_{50}.....	Up to and including 50 mg/kg.	From 50 thru 500 mg/kg.	From 500 thru 5000 mg/kg.	Greater than 5000 mg/kg.
Inhalation LC_{50}.....	Up to and including .2 mg/liter.	From .2 thru 2 mg/ liter	From 2 thru 20 mg/ liter.	Greater than 20 mg/liter.
Dermal LD_{50}.....	Up to and including 200 mg/kg.	From 200 thru 2000 mg/kg.	From 2000 thru 20,000 mg/kg.	Greater than 20,000 mg/kg.
Eye effects.....	Corrosive; corneal opacity not reversible within 7 days.	Corneal opacity reversible within 7 days; irritation persisting for 7 days.	No corneal opacity; irritation reversible within 7 days.	No irritation.
Skin effects.....	Corrosive	Severe irritation at 72 hours.	Moderate irritation at 72 hours.	Mild or slight irritation at 72 hours.

REFERENCE: Federal Register, Vol. 40, No. 129 - Thursday, July 3, 1975, p. 28279.

Chapter Twenty-One

SAFETY

OBJECTIVE

This section is intended to protect persons who handle pesticides by ensuring the use of proper safety equipment and proper working habits.

RESPONSIBILITIES

Headquarters

EPA Headquarters must provide the regional offices with the guidance and requirements necessary for them to comply with all Federal safety standards.

Regional Offices

The regional office must provide adequate training, guidance, and equipment to protect the safety of persons handling pesticides.

Employees

Each employee has the following responsibilities:

- To be familiar with all safety requirements practices;
- To maintain safety equipment in good condition and proper working order; and
- To use safety equipment in accordance with established requirements and instructions.

SAFETY EQUIPMENT

The inspector should follow label safety instructions when handling pesticides. Safety equipment include, but is not limited to, the following:

- *Safety glasses* (prescription if required), goggles, or face shield;
- *Protective Footwear* in the form of rubber-soled, non-skid, metal-toed shoes and plastic disposable shoe covers, or rubber/neoprene boots.

- o *Gloves* that are liquid proof and made of natural or synthetic rubber, or throw away plastic and should be long enough to protect the wrist;

- o *Coveralls* made of closely woven fabric and spill- resistant;

- o *Long rubber apron*:

- o *Hard hat* made of plastic with a plastic sweatband:

- o *Respiratory Protective Devices:* Different types of cartridges and canisters must be used to protect against different chemical gases and vapors. Be sure to use the one made for the pesticide that is being sampled, and follow the label instructions on the respiratory protection device. In all cases the respiratory equipment used shall be of the type approved by either the National Institute of Occupational Safety and Health (NIOSH) or the Mining Enforcement and Safety Administration (U.S. Bureau of Mines).

  -- Chemical cartridge respirator. This type of respirator covers the nose and mouth (Some are available with goggles to protect eyes; if not, goggles should be worn as well.) The inhaled air comes through both a filter pad and a cartridge made to absorb pesticide vapors and remove most harmful vapors, gases, and particles.

  -- Chemical canister respirator. This type of canister usually covers more of the face than the cartridge respirator and has longer lasting absorbent material and filters. Neither type of respirator is to be used for protection during fumigation or when the oxygen supply is low (such as in silos).

  -- Self-Contained Breathing Apparatus (SCBA). The SCBA, whether cartridge or canister, must fit the face snugly. A beard, heavy sideburns, or glasses may prevent a good seal. Cartridges or cartridge filter units should be changed every 4 hours; canisters should be changed every 8 hours. Both types should be changed more often if needed. After each use, wash the face piece in detergent and water, rinse, dry, and store in a clean, dry place away from the pesticide that was sampled.

The following additional safety equipment should be kept in the inspector's car for use as necessary or appropriate:

- o First aid kit;

- o Fire extinguisher;

- o Airtight containers for storing highly toxic and corrosive samples;

- o Soap or waterless hand cleanser and towels;

- o Supply of clean water for washing in case of an accident; and

- o Emergency eye wash kit.

SAFE HANDLING OF PESTICIDES

General Safety Guidelines

The following guidelines should be followed when handling or sampling pesticides:

- Read the label and, as a minimum, follow the handling instructions for mixing and loading.
- Use only proper tools for opening containers and be careful when opening and reclosing containers.
- Open and sample pesticides in areas where spills can be cleaned up easily and properly.
- If chemicals are spilled on clothing, remove the clothing immediately and wash the skin thoroughly. Always keep a change of clothes on hand for such emergencies.
- Wash hands immediately after sampling.
- Do not use your mouth to siphon or put your hands near your mouth and eyes during sampling operations.
- A supply of detergent soap, clean water, and waterless hand cleanser should be readily available.
- Know the limitations of the protective equipment being used, especially respirators.
- Have the phone numbers of local hospitals, doctors, or poison control centers available.

Specific Safety Guidelines

Before sampling any pesticide, the inspector should read the precautionary statements on the label to determine whether the pesticide is toxic through dermal absorption, inhalation, or ingestion. (Some may be injurious through all three routes.) After determining what routes of exposure to avoid for the pesticide being sampled, use the proper equipment for protection in handling that pesticide. Always be careful when collecting samples regardless of the declared toxicity of the pesticide because the product may be mislabeled or improperly formulated and thus would be misleading regarding its true toxic nature.

Always be alert for such hazards as spilled materials, materials that are improperly stacked, moving equipment (such as forklifts and conveyor belts), poor ventilation, and bad lighting.

The following information will provide some insight into the manner by which harmful substances may enter the body.

Inhalation

Breathing gas, vapor, mist, fumes, or dust is the most common accidental form of exposure. This route of entry is the most likely cause of systemic illness. The inhalation hazard depends on a number of factors: (1) the likelihood of the chemical escaping to the air; (2) the concentration present in the air; (3) the volatility of the chemical at a given temperature; (4) the inherent toxicity of the chemical; and (4) the length of time the chemical is inhaled.

Inhaling fumes from certain chemicals may result in two distinct reactions. First, it may affect the lining of the air passages of the nose, throat, and lungs, usually causing irritation and mild burns. Second, it may be absorbed by the lungs into the bloodstream and distributed throughout the body causing a systemic injury.

The inspector should use the following precautions when obtaining samples from bulk containers of pesticides having an inhalation hazard:

- o Read the label;
- o Sample in well-ventilated area;
- o Use a respirator;
- o Wear protective clothing, including goggles or face shield and gloves as appropriate.
- o Keep samples well marked and seal as soon as possible;
- o Wash exposed skin areas with soap and water; and
- o Transport and store samples in accordance with established procedures.

Skin Absorption

Certain chemicals are able to penetrate the unbroken skin and are picked up by the bloodstream and distributed throughout the body. Skin penetration is probably the second most common accidental means of entry of chemicals into the body. The following precautions should be used when collecting samples from bulk containers of pesticides that may be hazardous by skin contact:

- o Read the label;
- o Wear protective clothing, including goggles or face shield, and gloves as appropriate;
- o If clothing becomes contaminated, remove at once and wash skin. (Contaminated clothing should not be worn again until it has been decontaminated in accordance with established procedures);
- o Wash exposed skin areas with plenty of soap and water;
- o Keep samples well marked and seal as soon as possible; and
- o Transport and store samples in accordance with established procedures.

Ingestion

Toxic amounts of the pesticide may be carried to the mouth by the hand when drinking, eating, or smoking. Therefore, ***don't eat, drink, or smoke*** when sampling. Liquids should not be pipetted by mouth under ***any*** circumstances.

The following precautions should be observed in collecting samples of pesticides, particularly when sampling from bulk containers:

- o Read the label;
- o Wear protective clothing, including gloves as required or appropriate;
- o Do not eat, drink, smoke or put anything in the mouth when sampling;
- o Wash exposed skin areas with soap and water after sampling;
- o Keep samples well identified and seal as soon as possible; and
- o Store and transport samples in accordance with established procedures.

Eye Contact

The eyes may be harmed by chemicals in either the liquid or vapor form. Irritant effects vary in degree from mild to severe. Most chemicals have the ability to injure the eye to some degree following surface contact. Take the following precautions to avoid eye injury when collecting samples from bulk containers:

- o Read the label;
- o Wear goggles or face shield as required or appropriate;
- o Wash exposed skin areas thoroughly after sampling;
- o Do not rub eyes when sampling; and
- o Store and transport samples in accordance with established procedures.

EMERGENCY TREATMENT

Emergency treatment is necessary not only to obtain immediate relief, but to prevent further damage from the poisoning until professional medical help arrives. In the case of pesticide poisoning this is accomplished in three ways: removing, diluting, or slowing the movement of the poison. Knowledge of the characteristics of the poison, combined with prompt treatment, is essential in reducing the extent of the injury. Label instructions, when available, should be followed when administering first aid.

Skin Exposure

1. Wash the skin with copious amounts of soap and water.
2. If clothing is contaminated, remove it *immediately* and wash the skin thoroughly with running water.
3. Shower immediately, if there is one available, and remove your clothing while showering. (This procedure may be life-saving, as certain highly toxic chemicals are rapidly absorbed through the skin.)
5. All contaminated parts of the body, including hair, should be thoroughly decontaminated. It may be necessary to wash repeatedly.

6. If alcohol is available, it should be used to wash all affected areas, except the eyes

Ingestion

1. Vomiting should be induced unless an aspiration hazard, such as from a petroleum product, is a predominant factor. An emetic should be taken, if the toxicant is not corrosive, or if the aspiration hazard is less than the systemic hazard. A tablespoon of salt or powdered mustard in a glass of warm water can be taken as an emetic. Refer to label for specific instructions.

2. Drink plenty of water and place a finger down the throat if necessary to induce vomiting. The treatment should be repeated until vomitus is clear.

Eye Contact

1. Wash eyes with plenty of water. The eye itself should be held open and flooded with water so that all surfaces are washed thoroughly. Washing should be continued for 15 minutes.

2. Medical attention should be obtained immediately.

RECOMMENDED SAFETY EQUIPMENT FOR INSPECTIONAL AND SAMPLING ACTIVITIES

Use Inspection -- Mixing and Loading Observation

1. Safety glasses or face shield
2. Respiratory protective device
3. Protective footwear
4. Coveralls or long-sleeve shirt
5. Hat

Use Inspection -- Application Observation

1. Safety glasses or face shield
2. Respiratory protective device
3. Protective footwear
4. Coveralls or long-sleeve shirt
5. Hat

Collecting Environmental Samples

1. Safety glasses
2. Protective footwear
3. Gloves
4. Respiratory protective device (depends on suspected pesticide)
5. Coveralls
6. Hat

Sampling Pesticides and Producer, Distributor, or Marketplace Establishments

1. Hard hat
2. Safety glasses
3. Protective footwear
4. Respiratory protective device when sampling from a larger size unit
5. Coveralls or long rubber apron when sampling from a larger size unit
6. Gloves when sampling from a larger size unit or handling highly toxic pesticides
7. Sampling from larger size units should be done in lighted, well-ventilated areas

186

How much cancer risk is associated with agrichemicals has been debated for years. This story and an article to follow in the next issue consider two sides of the question.

The Chemical Connection to Cancer

BY WILLIAM MUELLER

It should be noted from the outset that farming is a remarkably healthy occupation. Farmers live longer and have fewer cancers than people in most occupational fields.

Be that as it may, a nagging question remains for those who handle agrichemicals: Can working with pesticides give you cancer? For years that question has been asked in the agricultural community. Answers have been hard to obtain. That's primarily because farming remains one of the most difficult areas to understand in terms of occupation-related illnesses. Epidemiologists, who study diseases in order to determine how they are caused, say that analyzing farming presents unusual challenges. Farmers are independent. They have unique lifestyles and working environments, conduct varied types of farming operations, and continually adapt new methodologies, particularly with regard to agrichemicals. If you add to all these variables a disease—cancer—which can take decades to detect, you might seem to have a prescription for perpetual mystery. Or do you?

Aaron Blair and his associates at the Environmental Epidemiological Branch of the National Cancer Institute (NCI) have devoted over a decade to studying this riddle. Their early work, what Blair describes as "crude" studies, sought to determine if there were any patterns of cancer among farmers, then to identify and correlate particular types of tumors with segments of the farm community, and finally to learn what causes these tumors. The NCI group is now in the final stage of that project, though it is certainly not finished. Among their findings:

- Certain agricultural exposures are positively correlated with deaths due to cancers of the prostate, brain, and lymphatic system;
- Farmers most at risk of getting leukemia are dairy farmers, growers using insecticides on large plantings of small grains, and young farmers in areas where heavy amounts of fertilizer are applied;
- Grain-mill workers exposed to pesticides have higher than average risk for lymphatic and hematopoietic (blood-related) cancers;
- Lung cancer is high among commercial pesticide applicators, who apply 25 percent of all pesticides in this country;
- There is an increased risk of getting leukemia and non-Hodgkin's lymphoma in agricultural counties with high levels of pesticide use;
- Multiple myeloma (tumors of the bone marrow) is more likely to occur among farmers who use the largest amounts of insecticides or who have large chicken-production operations, and particularly among operators under age 30; and
- Applicators with 20 or more days per year of exposure to herbicides have a six- to eight-fold increase in risk, over average farmers, of getting non-Hodgkin's lymphoma.

Historically, farming has been associated with higher rates of lip and skin cancer, attributed to sun exposure. But because farmers smoke less, drink less, and (supposedly) lead less stressful lives, they seem to have escaped the so-called urban cancers of the lungs, colon-rectum, and esophagus. This has made many investigators overlook farmers in cancer studies. But back in the late 70s, Blair, who has a farm background, began studying maps which tabulated each county in the country by type and frequency of cancer. He saw that in a band of agricultural states—including Minnesota, North Dakota, Nebraska, Oklahoma and Texas—leukemia rates in rural counties were running 10–20 percent over those in urban counties.

Armed with this directional indicator, Blair's group moved to the next level of investigation. It studied the records of rural counties in states that had kept good registries of cancerous tumors. For some of the work, county Extension personnel were enlisted to help identify and classify deaths of farmers from death certificates provided by the state registries.

Relationships began to emerge from studies done in Iowa, Minnesota, Wisconsin, Kansas, and Nebraska. Various possible causes for the cancers were suggested by the data, including dust, solvents, livestock diseases, gasoline, and pesticides. Follow-up studies looked more closely at correlations. For example, Kellee Donham of the Institute of Agricultural Medicine at the University of Iowa found a correlation between bovine leukemia and human leukemia among ranchers in Iowa. Other studies looked at related occupations, such as working in grain

mills, wet corn milling, and commercial pesticide application, to see if these more controlled environments would reveal significant cancer rates.

The cumulative work by NCI and others indicates that certain types of cancer among farmers are linked to two interrelated factors. Some types of cancer are associated with specific production systems, and even to locations where those practices occur. But pesticide use frequently is a cofactor which exacerbates risks. And high pesticide use alone can increase risks for certain kinds of cancer.

For example, the 1985 NCI review of leukemia studies points out that although no single agricultural factor is consistently associated with leukemia, correlations have been established between insecticide use and leukemia in Nebraska and Wisconsin farmers. Similar correlations with leukemia have been found with herbicide use in Iowa and corn production in Nebraska and Iowa. Leon Burmeister of the Department of Preventive Medicine and Environmental Health at the University of Iowa corroborated much of NCI's findings on leukemia. He also suggested a link between high nitrates, the presence of pesticide residues in groundwater used for drinking and livestock watering, and higher levels of leukemia in dairymen. As previously mentioned, leukemia among Iowa dairymen has also been correlated with bovine leukemia.

Researchers have worked from both ends of the cancer equation. They have looked at farmers with specific tumors to see what kind of farm practices they engaged in. And they have looked at farm practices for correlations with patterns of cancer. The problem is that, while researchers can establish associations both ways, they cannot get them to match with enough frequency when they go from state to state or compare nationwide results with foreign studies. For example, in Nebraska and Iowa dairymen, the most frequent cancers are acute and chronic lymphatic cancer and acute unspecified leukemia. But in Wisconsin dairymen, chronic myeloid leukemia is most frequent. And the reports of multiple myeloma that are linked to higher insecticide use have not been confirmed in all the state studies.

What is most frustrating is that the studies by themselves are very revealing and clear-cut. The Nebraska death certificate study is a case in point. Here, investigators first charted the state according to which counties were highest in specific commodity productions. A band of eastern counties were heavy in corn, hogs, and chickens, and were also high in the use of herbicides, insecticides, and fertilizers. Southern counties ranked heaviest in wheat production, while northern ones were heaviest in cattle, dairy, and use of insecticides for dipping livestock. When death certificates for deceased farmers were matched by these three regions, patterns emerged. The east had the highest rates for acute lymphatic, acute myeloid, and chronic myeloid leukemia. Northern counties were high in chronic lymphatic leukemia. Meanwhile, an independent variable placed farmers under age 30 at far more risk for any leukemia than older farmers. In the 10-year period 1969–1979, 63 percent of acute lymphatic leukemias were found in individuals under age 30. Blair suggests this derives from the changes in modern farm practices since the advent of chemical farming.

The links between pesticide use and cancer in farmers show patterns of corroboration as well as inconsistencies. By far, the most suspect materials are the phenoxyacetic acid herbicides, particularly 2,4-D. To date, the most detailed study concentrating on pesticides as the primary cancer risk factor was conducted in Kansas by Sheila Hoar and reported in the *Journal of the American Medical Association*, Sept. 5, 1986.

Hoar's study considered cases of soft tissue sarcoma (STS), Hodgkin's disease (HD), and non-Hodgkin's lymphoma (NHL) that were identified among white male Kans residents over age 21 in the period from 19 through 1982. She identified 200 men w STS, 173 with HD, and 297 with NHL. Control groups matching the cases' vital stat (age, living situation, etc.) were also foun Half of the STS and NHL patients and or third of the HD patients had died by the time the interviewing was done. Where ne essary, next of kin were questioned. Inte viewers established which patients had liv or worked on farms (95 STS, 71 HD, and 133 NHL). For 110 of the farmers in both cas and control groups who used pesticides, ve ification of pesticide use was sought throug their suppliers' records.

The most alarming finding: the 6x control likelihood of a farmer getting NHL whe he was exposed to herbicides for 20 or mo days per year. If the farmer did his own

Continued on page 22

PHOTO BY GRANT HELMAN

CANCER RISK

Continued from page 9

mixing and application, his risk went up to 8x. The links with 2,4-D were associational, based on the widespread use of 2,4-D by both reporting farmers and from state use-reports. Hoar reported that her NHL findings confirmed results of an earlier Swedish study that implicated phenoxyacetic acid herbicides as the primary carcinogen. However, that Swedish study also found that risks of STS and HD related to the use of phenoxyacetic acid, which was not corroborated by Hoar's study.

Analysts of Hoar's work have criticized the relatively small numbers of cases she studied, particularly of individuals using pesticides 20 or more days a year (five patients and six controls). Gregory Bond, research leader in the Epidemiology Division at Dow Chemical, also questioned what he feels is an unusual characteristic for a typical farm population: "Fully 70 percent of the controls who reported that they had been in farming said they never used herbicides. I've been told that this seems like a very high estimate of the number who never used herbicides."

Hoar's study does establish clear correlations between the years of exposure by farmers to herbicide and increased risk for getting NHL. An independent variable turned out to be a farmer's initial exposure to pesticide. In other words, the longer the time since a person first had contact with pesticide—separate from what happened during subsequent years—the higher risk he had of getting NHL, particularly if the first exposure was before 1946. Blair feels this might suggest that 2,4-D formulations were more toxic back in the '40s than they are now.

Farmers who did not use protective equipment, such as rubber gloves or masks, had much greater risk (2.0x) than those who protected themselves (1.5x). Marriage appeared to be another prophylactic factor. Widowed, divorced, and never-married farmers generally experienced higher rates of the NHL disease and death than married farmers. Farmers using backpack or hand sprayers had higher risk (1.3x), as did those using tractor-mounted or mist-blower spraying (1.5x). There were not enough soil-only pesticide applicators to measure that factor.

While 2,4-D—the most commonly used herbicide in Kansas—was most closely associated with higher NHL rates, other pesticides were also connected. According to Hoar, Significant excesses were associated with use of phenoxyacetic acids, triazines (e.g., atrazine, cyanazine, metribuzin, prometone, propazine, terbutryn), amides (e.g., alachlor, propachlor), trifluralin, and nonspecific herbicides such as liquids, sprays, and dusts (farmers' terms). Most farmers reported use of chemicals in several of the herbicide subgroups. Since the a priori hypotheses dealt with phenoxyacetic acids, we assessed risks associated with herbicides ranked in a hierarchical manner. In the absence of phenoxyacetic acid exposure, the NHL risk associated with triazine exposure was reduced to 1.9 times and the risk with uracil herbicides (e.g., bromacil, terbacil) was reduced to 1.0." In addition, farmers exposed to six or more days per year of insecticides had a 2.8x control rate of NHL.

Hoar's report suggests that it is probably the dioxins in 2,4-D and 2,4,5-T which are the primary carcinogens. The Swedish work also reached that conclusion, and other studies have linked dioxins to disruption of the immune system. "It should be noted," the Swedish report cautions, "that 2,4-D, the herbicide most frequently used by subjects in this study, has not been shown to be carcinogenic in animals or immunosuppressive... The increased risk for farmers first using 2,4-D before 1946 may indicate the presence of carcinogenic impurities in the early formulations, with subsequent improvements in the manufacturing process."

The conclusion of Hoar's study is that a six-times-control risk of NHL is cause for concern. That is particularly true in light of the fact that for 1976 alone, 42 million pounds of phenoxyacetic acid herbicides were applied to U.S. farmlands. "If the risks reported are accurate," the report said, "and if they reflect a true causal relationship, then the amount of NHL in the current study attributable to herbicide exposure would be 11 percent."

Theodore Colton, of Boston University School of Public Health, has reviewed Hoar's Kansas study for the *Journal of the American Medical Association*. Colton found the work valuable for identifying a significant carcinogen (2,4-D), and because the study suggests that researchers might learn more about the carcinogenic effects of pesticides by concentrating on NHL cases. Preliminary findings of studies now in progress by Hoar in Nebraska indicate links between NHL and exposure to atrazine, chlorinated hydrocarbons, carbamates, organophosphates, chlordane, diazinon, and malathion.

In analyzing Hoar's techniques Colton said that he felt the persons being interviewed were not overly sensitized to the issues of pesticides and cancer prior to being interviewed. He also believed that the corroborating testimony of the 110 farm suppliers was also useful. Even though many suppliers contradicted what farmers or their next of kin had reported on pesticide use, the rates of inconsistency were the same for both the case and control groups. Thus, Colton felt farmers with cancer were not biased in their recollections. Colton's only concern is that faulty recall might lead to misclassifications.

Currently, NCI is doing a study of ChemLawn employees. Company records, according to Blair, give researchers very detailed information on application rates and procedures, which can be related to employees in a dose-response relationship.

NCI is also reviewing several methods of collecting pesticide-exposure information. The goal is to find the most effective interview which will give them the information they need. Blair explains: "We're going to ask questions like 'When the wind changed, did it blow on you? or 'How often did you get it on your hands? 'Did you wash right away? 'What size containers did you use? 'Have you cleaned the screens on the spraying apparatus?' and so forth. A lot more questions about the influences of exposure will be asked than we think they can answer. Then for our next field study we will question them at a level we really think they can answer. This will make it more detailed than what we have asked in the past."

Blair suggests keeping three things in mind while reading the various NCI reports. First, farmers still have lower overall cancer rates than nonfarmers. Second, farmers who use good safety procedures do not significantly increase their risk of getting cancer. Third, we need to better appreciate the concept of exposure.

That last fact was dramatically brought home in a study funded by *Farm Journal* and conducted by members of the Institute of Agricultural Medicine at the University of Iowa. The study was done during the 1986 corn-planting season. Twenty-two Illinois farmers agreed to give pre- and post-handling urine samples on the day they applied pesticides. Five controls were used who applied no pesticide. Of the group, 13 applied organophosphate insecticides, including Lorsban, Thimet, Dyfonate, and Counter. Five farmers used Furadan, and four farmers used only herbicides, including atrazine, Sutan, Lasso, Dual, 2,4-D, and Bladex. None of the 27 farmers showed pre-exposure contamination.

Of the 13 handling organophosphates, three were contaminated. Metabolites for both Dyfonate and Counter showed up in concentrations ranging from 13 to 130 micrograms per liter. All of the farmers who handled Furadan and submitted samples (one did not for the test day) tested positively, with concentrations from 100 to 685 micrograms per liter. *Farm Journal*'s report added: "In the case of the herbicides used by farmers in the test, there is no satisfactory method to measure their presence in the urine. The sole exception is 2,4-D."

Blair feels that the agrichemical industry's philosophy for marketing pesticides is upside down, "in that we're trying to allow chemicals on the market that are safe. When we are dealing with pesticides which are designed to be toxic—maybe we ought to view it as that they are all hazardous, and what we need to do is minimize the hazard. Some of them may be judged by society and regulatory agencies to be so hazardous that they shouldn't be allowed. That is okay. But even those which are allowed on the market, even without evidence that they cause harm in humans, users better be careful with the stuff. Keep it off you. Wash it off your hands."

Blair's experience is that every farmer has at least one pesticide which scares the hell out of him, but he has to use it regularly so he takes special care in handling it. "What we need is to expand that fear to the use of all pesticides," he advises.

The author is a free-lance writer based in Iowa.

Fear of pesticides is misplaced, costly

[illegible] grapefruit juice, pepper [illegible] pineapple con[illegible] natural pesticides that cause cancer in rats or [illegible] levels ranging from 70 [illegible] million ppb — levels [illegible]

[illegible] protect [illegible] plant contains its own set, usually a few dozen. When plants [illegible] or damaged [illegible] these natural pesti[illegible] to levels [illegible] these natural toxins [illegible] man-made [illegible] appears [illegible] almost every [illegible] in the supermarket contains natural carcinogens and teratogens. We eat 10,000 times more [illegible] than man-made pesticides.

[illegible] environmental campaign [illegible] man-made pesticides [illegible] they are [illegible] levels of natural [illegible] no surprise, then, that a new variety [illegible] celery, recently [illegible] had to be withdrawn after it caused [illegible] outbreaks of dermatitis. Many [illegible] likely to [illegible] concerned [illegible] from allyl isothio[illegible] carcinogen present in cabbage [illegible] mustard at 900,000 ppb.

[illegible] with [illegible] very skeptical about [illegible] low-dose extrapolations from high-dose animal [illegible]

What must be emphasized is that the dose makes the poison. For example, sunlight can cause cancer, but the danger is from [illegible] sunburns. In fact, ultraviolet light at low doses induces a tan, which protects against [illegible]

My own estimate for the number of cases of cancer or birth defects caused by man-made pesticide residues in food [illegible] pollution — usually [illegible] or millions of times [illegible] Food [illegible] the Environmental Pro[illegible] quate job of protecting [illegible] from carcinogenic contamination [illegible] more credible than the lawyers with the Natural Resources Defense Council who [illegible] the media with scientifically unfounded claims about the dangers of pesticides [illegible]

[illegible] large hidden tax [illegible] degenerative diseases of aging [illegible] cause of wildly exaggerated [illegible] \$1 billion per year on all of its basic scientific research.

Bruce N. Ames is chairman of the department of biochemistry at the University of California, Berkeley. He wrote this article for the Los Angeles Times.

PHOTOGRAPHIC TECHNIQUES FOR ENFORCEMENT

PHOTOGRAPHY

35MM VS POLAROID

OCCASIONAL #

ESTABLISHING SHOT

SEQUENCE TO PROBLEM

CAUSE AND EFFECT

LEARN TO USE FLASH

ENFORCMENT=OVEREXPOSED TO SHOW DETAIL

GET WHOLE STORY IN PICTURE

DATABACKS

RECOMMEND KODAK PRODUCTS AND PROCESSING

SLIDES RECOMMENDED

ECTACHROME VS KODACHROME

OFFICIAL PHOTOGRAPH
U S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: _____

SUBJECT _____

LOCATION _____

_____

CITY _____ COUNTY _____ STATE _____

DATE _____ TIME _____

WEATHER (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)

PHOTOGRAPHER (Sig) _____

WITNESS. _____

CAMERA _____

FILM TYPE _____ ASA _____ T 1/_____ f _____

NEGATIVE LOCATION _____ FILE # _____

PROCESSED BY _____

PHOTO # _____ of _____

GPO 835-559

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle WA
Graphics
July 1988

194

EPA

Fundamentals of Photography for Government

Fundamentals of Photography for Government

When you take a Government camera with Government film out on an assignment, you are making the effort to visually document key activities related to your work. Success in this task requires a commitment on your part to gain knowledge of and insight into photography. This publication is intended to help you in this effort.

The first step in the learning process is to understand the 3-cornered, 3-way relationship between ***light***, ***film***, and ***camera***. Competence begins with a grasp of the interplay between these elements.

Normally we take light for granted – our eyes adjust to light automatically. But when you use light as a tool for making photo-images, you must become sensitive to certain qualities of both the light and the subject illuminated.

CONSIDER:

- **The *relative brightness* of light and subject.**
- **The *kind of source*. Sun? Electrical light?**
- **The *direction* of the light**
- **The *relative brightness* of the surrounds.**

These elements are crucial to certain decisions you, as a photographer, will have to make. And successful picture taking is based on a foundation of correct decision making. The ***relative brightness*** and the ***kind of source*** directly influence your choice of film. And the ***direction of light*** and ***subject surrounds*** influence how you set your camera's controls. It is tremendously helpful if you have a prior knowledge of the conditions under which you will photograph. This knowledge is the basis of the selection of camera and lens, the basis of the selection of film, and the basis of the decision-making process that you, as a Government photographer, will be involved in.

Film

Film is your medium, your image-recording tool. All films use a very limited range of light to make an image. The limits imposed are determined by the rate at which light-sensitive silver halide crystals coated on the film respond to light.

Larger silver crystals are more light-sensitive and respond to light more quickly than smaller ones. Film coated with such crystals are said to be ***fast*** and are given a numerically higher rating. ***Slow*** films are coated with smaller crystals and respond to light less readily.

All film, no matter what its rated speed, responds to a much narrower range of light than the human eye. That very limited range of light brightness where a film will produce a ***useable*** image is what the photographer has to work with. Pictures made under conditions which exceed this limited range of light brightness striking the film will be difficult or impossible to use as records or evidence.

Overexposed
(A very bright, very light final picture)

Underexposed
(A very dark, very dim final picture)

Optimum Exposure
(Final picture exactly as the photographer desired)

Worthless Exposed Film
(In excess of either the limits of acceptable overexposure or underexposure - pictures in which the subject cannot be made visible)

The range of acceptable exposure on both sides of the ***optimum*** exposure is called the film's ***latitude***.

Films are classified by the rate at which light forms images on the film by the ***ASA/ISO*** film speed number system The slower the film's response to light, the lower the number; the faster the film responds to light, the higher the number For example, ASA/ISO 25 is about the slowest film commonly available, and ASA/ISO 1000 is the fastest.

Film Speeds: Advantages and Limitations

ASA/ISO 25-64	Good for fine detail, generous latitude, low contrast	Limited to daylight hours Less light, bad weather, may require flash or tripod
ASA/ISO 64-200	Adequate detail and latitude, medium contrast, better for action or low light levels than slow films	Slight loss of fine detail, limited extension of daylight photo activity, flash or a tripod may still be needed in low light
ASA/ISO 400-1000	Good for action and low light levels, dark subjects and surrounds.	Loss of fine detail, narrow latitude, high contrast

These generalized statements apply to both color and black and white films See specific film commentary in the **Photograph for Evidence** section

Camera

There is light and a subject which reflects light in varying degrees - light to dark. There is film, responding to a limited range of light intensity to form the image. And to weld the two, to match and balance, to catch the picture is the camera (and, of course, the operator)

This machine performs several important functions some obvious and some not

- It holds the film flat, centered to the lens, and at 90° to the lens axis
- It provides a means for you to view and frame your photo before you take it
- It moves fresh unexposed film into the flat centered 90° position behind the lens for the next picture
- It gives you the ability to take the picture exactly when you want to

But most important of all -
The camera provides the controlling functions for adjusting the amount of light that will strike the film to make the image.

These controlling functions are ***shutter speed*** and ***f-stop*** They govern ***Time*** and ***Volume***

Time is controlled by the ***shutter***, which is normally closed, admitting no light at all. When the shutter operates, a blink of light flashes on the film You regulate the duration of this blink by controlling the shutter's mechanism This blink is measured in fractions of a second, usually beginning with one second The standard progression of the shutter's blinks for today's cameras is 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, 1/500, and 1/1000 of a second

The relationship between these fractions of a second is an important concept Moving the shutter speed control towards smaller (shorter) slices of time, each new shutter speed selected is **1/2** the value of the previous setting Moving the shutter speed control towards larger (longer) amounts of time, each new shutter speed is **twice (2X)** the value of the previous setting **Remember this halving and doubling relationship!**

The volume of light admitted to the film during shutter operation — when you take the picture - is a function of the lens opening, called ***aperture*** Apertures are standardized by ***'f' numbers*** (referred to as ***'f' stops***)

When selecting the ***f stops***, it is crucial to understand that each subsequent (numerically higher) 'f' number will result in a reduction of the volume of light striking the film equal to ***half (1/2)*** the volume at the previous setting Conversely, starting at the smallest ***aperture*** (usually f22), each numerically lower 'f' number selected will result in a ***doubling (2X)*** of the volume of light striking the film when the picture is taken **Remember this halving and doubling relationship!**

Each single increment of change in either the lens aperture control or the shutter speed is called a ***stop*** You either increase or decrease exposure by one or more stops When you wish to refer specifically to an increment of change in lens aperture, use the term ***'f-stop'***

The halving-doubling relationship of the shutter speeds results in the same changes in exposure as the doubling-halving relationship of the lens aperture control This 'equivalency' means that for any ***one*** given correct exposure, an array of shutter speed and aperture combinations will deliver that exposure!

1st Example: ASA/ISO 25 Film
in Bright Daylight
f8 at 1/125 sec.

Decreasing Volume/Increasing Time	Increasing Volume /Decreasing Time
f11 at 1/60 sec	f5 6 at 1/250sec
f16 at 1/30 sec	f4 0 at 1/500 sec
f22 at 1/15 sec	f2 8 at 1/1000 sec

(All these give the same exposure!)

2nd Example ASA/ISO 400 Film
in Bright Daylight
f16 at 1/500 sec.

Decreasing Volume/Increasing Time	Increasing Volume/Decreasing Time
f22 at 1/250 sec	f11 at 1/1000sec

(All these give the same exposure!)

Notice how limited fast film is when used in unsuitable conditions

3rd Example: ASA/ISO 400 Film
Nighttime Indoors — By Room light
f2.8 at 1/60 sec.

Decreasing Volume/Increasing Time	Increasing Volume/Decreasing Time
f11.4 at 1/250 sec.	f22 at 1 sec.
f2.0 at 1/125 sec.	f16 at ½ sec
f4 at 1/30 sec.	f11 at ¼ sec.
f5.6 at 1/15sec.	f8 at 1/8 sec.

(All these give the same exposure!!

The equivalency relationship of lens apertures and shutter speeds ties into the ASA/ISO film speed scale as follows: Each doubling of the ASA/ISO film speed will result in a one stop reduction of exposure for any given subject-lighting situation (= ½ the previous exposure) Any reduction by half of the ASA/ISO number will result in a one stop increase of exposure for any given subject-lighting situation.

Examples:

ASA/ISO 25	Bright	f8 at 1/125	changes by
ASA/ISO 64	Daylight	f8 at 1/250	1 stop
ASA/ISO 25	Bright	f8 at 1/125	changes by
ASA/ISO 200	Daylight	f8 at 1/1000	3 stops
ASA/ISO 25	Sunset	f5 6 at 1/8	changes by
ASA/ISO 400		f5 6 at 1/125	4 stops

All of this exposure change through different film speed must be considered when selecting film

To sum up, as you reduce the volume of light transmitted by the lens to the film, you must increase the length of time this light strikes the film in order to keep an equivalent total exposure. Likewise, as you decrease the time of exposure, you must increase the volume of light by an equivalent amount to maintain the same exposure

What this span of alternate exposure settings means is that the light camera-film interplay may be adjusted to suit the desires of the photographer and the needs of the situation For example, if you are photographing action, *and* wish to stop or *"freeze"* the motion, reset the exposure towards smaller (shorter) amounts of time (shutter speed) and larger volumes of light (f-stop) By maintaining this equivalency, the exposure will remain the same If you are shooting landscapes, and want the great depth of field that comes with small lens openings, *and* there is little or no motion of subject, use a tripod or some other steady rest and stop the lens down as far as you wish With the reduction in the volume of light, the time must increase When equivalency to the base exposure is reached, take the picture

The simple single focal length lens of 50-55 mm size is standard with most new camera purchases. After that, the choice of lenses facing the photographer is staggering. Almost all of these lenses share some common features, such as

- Focusing mechanism
- Adjustable aperture and control ring
- Lens to camera mount
- Depth of field and distance scales
- Mechanism for coupling to camera body for various automatic functions

Of these features, depth of field will pose the most problems for the beginning photographer. Some general statements about depth of field that will help are:

- **Depth of field is the zone of acceptable sharpness of image in the lens field of view.**
- **Depth of field varies as a function of two other variables:**
  1. **Focus distance.**
  2. **Lens aperture selected.**
- **Depth of field increases as focus distance increases.**
- **Depth of field increases as the diameter of the aperture decreases.**
- **Depth of field relationship to focus distance and aperture selected is shown for any lens by the depth of field scale on the lens barrel.**

At Last! The Photographer

When you decide to take some pictures, think about when you are going to take them consider the time of day and the weather Perhaps more important, look at and think about *what* is going to be your subject and surrounds With all this in mind, select your film

If your camera is an EPA or a recent generation automated camera, you will benefit from a recent innovation in camera design — automatic exposure control

All of the foregoing information about apertures and shutter speeds and film has led you to this point Now you are going to discover that, thanks to your modern camera, none of this information is going to have much direct bearing or relevancy on your actions prior to pushing the shutter button The camera does it all!

Well *almost* You still have some actions to take, some decisions to make, choices to consider — Let's go through them

- **You've picked the film you're going to use Now, check that your camera is equipped with functioning batteries. Always carry a spare set.**
- **Check and double check that the correct film speed (ASA/ISO) number is indicated on the camera's film speed dial A mistake here could waste the entire roll of film.**
- **Consider lens focal length and decide if you should use a different lens than the standard item already on the camera**
- **And finally, with most of today's cameras, you have to choose what mode of camera automation the picture will be taken in! This is a subject you can learn more about in your camera's instruction book or manual But keep in mind that *some* form of manual control is almost always provided for in modern, automated cameras**

But despite all the automation available to the photographer today, a full understanding of the fundamentals outlined in these pages will help you to take better pictures

For specifics on film selection and photographic techniques, read the following chapter **Photography for Evidence**

Photography for Evidence

Now is a time at EPA when the enforcement of environmental laws depends to an ever greater degree on the activities of the data gatherers And increasingly, photography plays an important role in that process The investment of time and material in photography for data and evidence can only be justified by the quality and usefulness of the results What follows is a collection of facts and insights aimed at helping you optimize the results of your photographic efforts

Equipment and Techniques

- **Where precision in aiming and focusing the camera is essential**
- **Where exposure determinations are difficult**
- **Where picture taking at a distance or up very close may be part of the same assignment .**
- **Where action sequence pictures may be vital to documentation**

Then selection of a single lens reflex camera with appropriate accessory equipment becomes necessary This type of camera with it's ability to measure exposure through the picture-taking lens, and it's adaptability to a wide range of lenses, motor drives, and special purpose accessories, is the most useful instrument the Government photographer can employ

However, there are tradeoffs Single lens cameras and accessories are bulky heavy noisy, and not very suitable for subtle picture taking

- **Where speed of operation is important**
- **Where silent operation is desirable**
- **When the camera must be concealed**

Then select one of the small fixed lens, simple focusing cameras Compact, light weight, with automatic exposure and a wide angle lens as standard these instruments are excellent for 'grab' shots picture taking on the move The tradeoffs are a lack of flexibility and an absence of precision in aiming and focusing *(Not really necessary in this type of camera)*

Most of today's 35mm cameras have provision for automatic exposure adjustment But, the photographer must

- **Check for working batteries in the camera, and the availability of fresh spare batteries.**
- **Ensure that the camera's ASA/ISO film speed setting *is correct* for the film being used**

Camera automated exposure systems work well, but ***there are exceptions***

- **Where the light source is strong and direct - (bright sun, single light bulb, one window), *beware of high contrast!* Where the subject/scene incorporates both very bright and very dark areas, *beware of high contrast!***

Where high contrast exists with brights and darks in the picture and little in the way of medium tone values the photographer must

- **Make a judgment call as to which part of the viewed image is most important**
- **Override the camera's exposure automation correctly for the desired result**

Since most camera metering systems read light intensities and ***average*** them, high contrast picture situations will fool the exposure automation You have to identify the problem, make the judgment call, and adjust your camera to compensate for the problem

Example

Judgment Call #1
Detail in the brightest area is the most important Adjust camera override towards underexposure (1/2X, 1/4X, or -1 or -2)

Judgment Call #2
Detail in the darkest area is most important Adjust camera override towards overexposure (2X, 4X, or +1 or +2)

Return override to neutral when need for compensation is over!

Since an accurate exposure determination may be difficult, and since film is comparatively cheap -- ***bracket your exposures!*** Take two, three, or even four pictures of the same shot at different settings, using your judgment call as a guide

Exposure compensation may also be accomplished by doubling the ASA/ISO number for each stop of underexposure desired Resetting to half the previous ASA/ISO number will provide one stop of overexposure Remember to reset to the proper ASA/ISO number for your film when the need for exposure compensation is past

You may expect to encounter high contrast situations on any bright, cloudless, sunny day, and at any time dark objects are positioned against a light background, or the reverse ***Beware of including too much sky in your pictures,*** and be aware of reflected light when photographing over or around water Strong directional sidelight will produce harsh shadows, and any interior pictures that include light bulbs (lit) or windows will cause problems Just remember: ***Make your judgment call, alter the exposure compensation correctly, and then, to make sure, bracket the exposure***

Using a single lens reflex camera means you are going to confront the complexities of lens interchangeability and the many choices of lenses which fit and work on your camera

Because its perspective most closely matches that of the human eye, the lenses in the 50-55 millimeter focal length are termed ***normal focal length*** Lenses with focal lengths of lower numerical value are called ***wide angle***, while lenses with higher numbered focal lengths are called ***telephoto***

Zoom lenses offer a continuous range of focal lengths in one lens Some zoom lenses run from wide angle to normal, some from normal focal length to telephoto, and some zoom lenses offer a full range from wide angle to telephoto

For evidential photography, lenses are used in the following ways ***Normal*** and ***wide-angle lenses*** are suitable for site and area overviews But remember that the ***wide angle lens distorts perspective and distance*** Also because a wide angle lens takes in a wider field of view the apparent size of everything in the picture will be reduced

Use a ***macro lens*** for label and close up photography A less satisfactory solution is the zoom lens with macro capability Because of depth of field limitations ***use a tripod*** and ***stop the lens down*** for best results (f22 or f32 preferred) When you cannot use a tripod use the smallest aperture consistent with a shutter speed of not less than 1/60 second and avoid focusing too closely

Telephoto lenses offer magnification of image size with a somewhat unrealistic perspective

135mm = 2 + powers of magnification for a 35mm camera
200mm = 4 powers of magnification for a 35mm camera
400mm = 8 powers of magnification for a 35mm camera
500mm = 10 powers of magnification for a 35mm camera

Every increase in magnification increases the potential for loss of sharpness due to camera motion A good rule of thumb for handholding a camera-telephoto lens combination is to ***never use a shutter speed less than the focal length of the lens***

Use a tripod wherever and whenever possible The selection of faster films for photography with telephoto lenses is also beneficial.

When photographing in the field with a tripod, try to avoid setting up near roads and highways that are used by heavy traffic. Ground vibration can destroy image sharpness

Filtration for evidentiary photography with color film may be beneficial Here is a list of the most useful filters and their applications

UV-1 Cuts excess blue color cast above 4000ft altitude
Skylight Cuts excess blue color cast, has a very slight warming effect
81A Warming filter,good for open shade photography, and for use on days of heavy overcast
80A & 80B Color conversion filters for daylight films used under tungsten light, 2 3 stop filter factor
85A Color conversion filter for tungsten films used with daylight, 1 1/2-2 stop filter factor
Polarizer Most useful For photo taking through glass, it minimizes surface reflections off glass and water Also causes increased saturation of colors and performs interesting magic with contrast Must be used with the sun either to your left or right side any other orientation diminishes filter effectiveness 1 to 3 stop filter factor ***Note*** *some polarizers are variable density*

Film Selection

To obtain the best possible results in the pictures that you take, select your film carefully Know the conditions you will be shooting pictures under and let this be your guide to film selection

- **Where light levels are low**
- **Where subjects are in motion**
- **Where subjects are dark in tone or color**
- **Where telephoto lenses must be used**

Then select the fastest film you feel will capture the needed image There are tradeoffs the faster the film, the poorer it's ability to resolve fine detail and the less margin for exposure error

The slowest film having useful speed for these kinds of situations is Ektachrome 200

Here are some other fast film choices for you to consider

Tri-X *black and white film rated at ASA/ISO 400, can be used up to ASA/ISO 1600 with special development*

Ektachrome 400 *color film rated at ASA/ISO 400, can be used up to ASA/ISO 1000 with special development Notify Kodak if special development is required by using their ESP-1 processing envelope*

Ektachrome 800-1600 *color film with variable ASA/ISO Kodak must be informed as to ASA/ISO actually used*

Kodacolor 400 *color film Expensive*

Kodacolor 1000 *color film Also expensive*

NOTE *When a film is identified by use of the word 'chrome' in it's name, that film is a color transparency or slide film When the film's name includes the word 'color,' the product is a print film Ektachrome films have the advantage, along with kodacolor films, of being suitable for local processing within short time spans Both print films have the ability to be used under available light from different sources without corrective filtration*

- **Where light is of sufficient brightness**
- **Where subjects motion is slower paced**
- **Where subjects are average or above average in brightness.**
- **Where detail rendition must be excellent.**

Then select one of the slower films, such as

Kodachrome 25 *color film It is the slowest speed color film Kodak offers, and has the highest resolution of all Kodak color films*

Kodachrome 64 *color film A bit more than one stop faster than ASA/ISO 25 film, this product is almost as good*

Ektachrome 64 *color film Closely duplicates Kodachrome 64 Offers rapid processing turnaround time*

Kodacolor 100 *color film Has the highest resolution of all Kodak color print films Expensive Shares same lighting flexibility as its faster relatives*

Panatomic X *black and white film ASA/ISO 32 Has the highest resolution of the conventional Kodak b&w films*

Tech Pan 2415 *black and white film ASA/ISO 25 A special film, requiring special development Essentially grain free*

Any of these slower films will work well in daylight out of doors situations Where lower light levels are involved, or when the use of telephoto lenses is desired or necessary, a tripod or good steady rest would be essential

CHAPTER 7

PHOTOGRAPHS AS EVIDENCE

71. MUST BE A FAIR AND ACCURATE REPRESENTATION

Drawings, diagrams, maps, and plans have long been used as evidence of the buildings, lands or machines they represent when the things themselves cannot be conveniently brought into court. Since the development of photography, photographs have generally been received in evidence on the same basis as maps and diagrams. Relevancy and materiality of the matter which the photograph represents, are essential to admissibility. However, there must also be testimony that the photograph is a fair and accurate representation of the object or scene which it portrays. If the photograph is not a fair and accurate representation of the object or scene, even though the object or scene may be relevant and material, the photograph will almost certainly not be allowed in evidence.

72. MUST NOT BE UNDULY PREJUDICIAL

The question of admissibility is for the judge and is determined by the rules of exclusion applicable to other types or kinds of evidence. However, because photographs are traditionally susceptible to subjective misinterpretations, the courts have exercised a broader discretion in disallowing them in evidence. Thus, even though a photograph may be a fair and accurate representation of a relevant and material matter, the judge may reject it if in his opinion it would be misleading or would not aid the jury in a better understanding of the facts; and photographs, otherwise admissible, will be rejected if the judge thinks they may create an undue prejudice in the minds of the jury. For example, color pictures of human death or injury that show quantities of blood and gore can create an emotional reaction in the viewer that is far in excess of that warranted by the probative value of the evidence, and the pictures can be excluded for that reason.

73. WHO MAY AUTHENTICATE

(1) The authentication of a photograph prior to its being received in evidence may be done by any witness whose familiarity with the subject matter of the photograph qualifies him to testify that it is a fair and accurate representation of the object or scene it portrays. The testimony of the person who took the picture is not necessary. If the photographer is called as a witness it is not enough that he testify merely that he took the picture. He must be able to say that the picture is a fair and accurate representation of the object or scene.

(2) It is the fairness and accuracy of the representation that is important, and unless the processes and techniques of picture taking,developing and printing are themselves relevant and material on the question of accuracy, the judge may take judicial notice of such processes and techniques. This was not true years ago when photographs were first offered in evidence, and judges often required the testimony of the photographer as an expert witness to authenticate all photographs. Today, the general principles of photography are so well known as applications of the natural laws, that they are properly the subject of judicial notice. Most courts now accept that the central issue is the fairness and accuracy of the representation and not the chemistry behind it.

SAMPLING - GENERAL CONSIDERATIONS

SAMPLING - GENERAL CONSIDERATIONS

HELP OR ADVICE

GENERAL: JOHN ELLISON (303)236-5139, FTS 776-5139 OR
BRUCE BINKLEY (303)236-5124, FTS 776-5124

CHEMISTRY: JOHN GILLIS (303)236-7970, FTS 776-7941 OR
DEAN HILL (303)236-3138, FTS 776-3138

OBJECTIVES:

STANDARDIZE PROCEDURES
COORDINATE EFFORTS
MAKE GOOD DECISIONS
TREAT EACH CASE THE SAME

SAMPLING GUIDELINES AND PRINCIPLES

COORDINATE EARLY
SHARE INFO
BE AWARE OF MULTI-MEDIA POSSIBILITIES

5 STEPS IN TAKING A SAMPLE

1. DETERMINE THAT YOU WANT OR NEED TO TAKE A SAMPLE
   - -REASONS TO
   - -REASONS NOT TO
2. HOW ARE YOU GOING TO TAKE SAMPLES?
   - -REPRESENTATIVE SAMPLE
   - -GRAB SAMPLE
   - -COMPOSITE
3. HOW MUCH SAMPLE DO YOU NEED?
   - -QUALITATIVE VS QUANTITATIVE
   - -DISPOSAL
4. DOCUMENT/DOCUMENT/DOCUMENT

#2 AND 4 ARE SO IMPORTANT, MORE LATER

5. LABORATORY CONSIDERATIONS
   - -COMMUNICATION
   - -DO NOT COLLECT SAMPLES WITHOUT GOOD REASON
   - -DETERMINE PATTERN OF SAMPLING NECESSARY FOR GOOD RESULTS
   - -PREVENT CROSS-CONTAMINATION
   - -CONSIDER HOLDING AND ANALYTICAL TIMES
   - -IF ALL ELSE FAILS - TALK TO OUR CHEMIST
     TRAINING AVAILABLE FOR STATE CHEMISTS

SAMPLING - GENERAL CONSIDERATIONS

Sampling - Coordination
- Decision Making
- Analytical Considerations

When you need help or advice, call us:

General	John Ellison (303) 236-5139, FTS 776-5136
General/Bulk Sampling	Bruce Binkley (303) 236-5124 FTS 776-5124
Chemist	John Gills (30) 236-7970 FTS 776-7970

Yes, a chemist - Learn how to communicate with chemists

- Tend to be shy, introverted but important for effective case development

- Questions like containers, preservatives, holding times, analyses, QA/QC, amount of sample to collect, even collection methods

NEIC helps train chemists and can offer advice (won't accept samples unless cleared ahead of time)

Dean Hill (303) 236-8138, FTS 776-8138

Important to develop good habits concerning sampling, documentation, and safety

Hard to predict which samples/incidents/complaints will require enforcement activity

Wise (reason we're here) to treat everything the same

Sample Guidelines and Principles (pages 8,9, CDFA)

- Sampling is more than filling jars

- Need to coordinate easily between inspector, supervisor, laboratory, and perhaps case preparation officer, sometimes even legal personnel

- Need to share information, objectives, goals

- Need to be aware of multi-media possibilities such as: RCRA, CWA, CAA, CERCLA, EPCRA

Five Steps Involved in Taking a Sample:

1. Determine that you want or need to take a sample:

   - establish hazardous areas (i.e., accidental spills)
   - to prove a violation
   - to show human, animal, crop or environmental contamination
   - to quarantine commodities
   - evidence that something has been done - right or wrong

Okay to sample immediately if necessary (e.g., pesticide that degrades quickly) and decide later what must be analyzed.

Reasons Not to Take a Sample:

- degradation time exceeded
- unofficial samples _____ at least a mental sample plan/sometimes written
- want to make company do it
- have already proved what needs to be proved

2. How are you going to take samples:

   a. Representative Sample
   b. Grab Sample

      - Is a representative sample possible, e.g., physical access
      - What are you going to do with the data the sample _____

Examples: Rep. Samp. to show drift or field sampling to show commodity, over_____ tolerance

Grid Pattern Foliage Samples or Soil Samples 10% Distance in from Edges

Plus one sample from each adjacent fields suspected to be source of drift (no extra samples needed for commodity)

Rep. Samp. to show drift pattern

Gradient Foliage or Soil Sampling

Minimum 5 - 1 on treated field
1 on complainant property
3 equal in distance in between

Sampling Plan Refined

3. How much sample do you need

- quantitative vs qualitative data
- you must dispose of excess

Sampling Plan Refined

4. Document, document, document

- background information
- where, when, how - log book
- photographs
- sampling plan fulfilled
- sampling site diagram
- episode site diagram
- technical data on pesticide
- laboratory request/capabilities/limitations
- custody information

2 and 4 are so important, we have separate sessions for them - 2 is the next topic and 4 will be discussed in detail after lunch.

5. Laboratory Considerations

A. TALK TO YOUR CHEMIST

B. DO NOT COLLECT SAMPLES UNLESS YOU HAVE A GOOD REASON

- Avoid Unofficial Samples
- Avoid Samples from Citizens or Taking Samples to Make Someone Happy
- Avoid Sampling When You Cannot Identify What Compounds Should be Analyzed for
- Talk to Your Chemist

C. DETERMINE PATTERN OF SAMPLING NECESSARY FOR MEANINGFUL RESULTS

- Talk to Your Chemist
- Consider QA/QC Procedures
- Composite Versus Grab Samples
- Background Sampling

D. PREVENT CROSS-CONTAMINATION

- Sample Clean/Background Areas First
- Sample Contaminated Areas Second
- Never Combine Environmental and Formulation or Use-Dilution Samples
- Take Use-Dilution/Formulation Samples Third
- Keep Environmental Samples in Separate Ice Chest
- Talk to Your Chemist

E. CONSIDER HOLDING AND ANALYTICAL TIMES

- Talk to Your Chemist
- No Set Required Times, But the Longer Between Sampling and Analysis = Less Pesticide Found
- General Guidelines from Water and Hazardous Waste are Keep Samples Cool and Dark, Extract Within 7 Days and Analyze Within 40 Days after Extraction

II. General Sampling Guidelines

Sampling guidelines can be useful even though individual situations may vary greatly. The sampling plan should list the safety precautions, quality assurance requirements, chain of custody, storage and preservation requirements, and number, type, and size of samples based on the requirements of each case. These should clearly represent the problem area to justify the effort and expense of analysis. Adapting the following guidelines to individual cases reduces haphazard sampling.

Investigators should:

1. Have a sampling plan adapted to the requirements of the individual investigation.

2. Have the necessary sampling tools and sample containers.

3. Collect samples <u>early</u> in the investigation. The sooner samples are obtained and analyzed, usually, the more meaningful the results.

4. During all phases of the investigation, be careful not to contaminate yourself or cross-contaminate the samples. Always wear clean or disposable gloves, protective clothing, and safety equipment as required by the pesticide label, regulations, and policy when entering fields or handling samples.

5. Concentrate sampling in the area that best manifests the symptoms associated with the problem. Different types of sample analyses (such as soil to grass) are difficult to compare. Similar materials should be used for comparison samples, such as in cases where treated and non-treated areas are to be compared. Like foliage types (grass-to-grass) should be sampled when possible.

   Also, sampling must be <u>representative</u> of the media (i.e. site/commodity) being sampled. Selection of individual sample collection sites must be uniformly distributed (i.e., "product grid pattern) throughout the sample location (field, crop, space, etc.).

   Select the appropriate sample type(s) (i.e., composite, duplicate or split samples) that will meet the sampling objectives.

   - Composite Sample: combination of two or more subsamples to product a homogenous sample.

   - Duplicate Sample: one or more samples collected under comparable conditions.

   - Split Sample: division of a sample into two equal and identical portions.

7. Composite sample analyses should only be requested when the area [illegible] material is suspected to be uniform. [illegible] related to identify suspected chemicals, or to determine [illegible] samples should be analyzed.

8. Follow the guidelines under specific sample [illegible] sample size [illegible] amounts listed are for single [illegible] Larger material must be submitted to allow for [illegible] of more than one analysis per sample is requested [illegible] posite, duplicate, or split samples are requested [illegible] sample size accordingly. Contact the laboratory [illegible] regarding sample size.

9. Identify and officially seal (with custody seals) [illegible] immediately as they are taken.

10. Draw a diagram of the episode site. The diagram should include such things as the sample locations, landmarks, adjacent roads and sites, room dimensions, the location of witnesses, distances between points, etc. Orient diagram to depict north at the top. Be as accurate as possible and include the diagram in with the investigation report.

11. Do not enclose sample data or chain of custody papers in direct contact with sample. Identifying numbers on sample containers should be coded exactly as on the sample data or chain of custody sheet to identify the sample for the laboratory. Complete the laboratory's request for analysis form accurately.

12. Use proper storage and preservation methods. Refer to "[illegible] Sample Storage, Preservation and Shipping" section of this manual.

13. Samples should be shipped to the laboratory, as soon after they are collected as is possible. Basically, samples are best shipped frozen or refrigerated, as appropriate. If this is not practical, the following guidelines may be of some help.

    a. Plant material does well in a ventilated bag.

    b. Soils collected in glass containers should be in heavy plastic bags or double bagged to prevent splitting during shipment.

    c. Water should be shipped in clean glass containers with teflon or aluminum foil) lined lids.

    d. "Blue-Ice" in styrofoam is a good way to ship, especially in the summer.

SAMPLING TECHNIQUES BY MEDIA

SAMPLING TECHNIQUES BY MEDIA

REFERENCE: PESTICIDE ENFORCEMENT INVESTIGATIVE SAMPLING MANUAL, JANUARY 1990 DRAFT BY CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

SUPPOSED TO PRODUCE AN ACCOMPANYING VIDEO

VERY DETAILED ON AG SAMPLING

SAMPLING EQUIPMENT - SEE LIST

AIR SAMPLING AND RESIDUE SAMPLING OUTLINES FOLLOW

NOTE RECENT RESEARCH ON WIPE SAMPLING

III. Sampling Equipment

Glass disposable sampling equipment is used. The equipment should be cleaned between each sample using water. Do not use detergents. To decontaminate the equipment wash and double rinse with distilled water then rinse with isopropyl alcohol. Also be sure to wash the hands. Use large disposable gloves to prevent cross-contamination of samples. The equipment should be stored in the office in a clean (i.e., uncontaminated), designated location. For small equipment, an enclosed, airtight container is recommended. The larger equipment can be wrapped in uncontaminated paper and cleaned and decontaminated prior to sampling.

1. Chemical analysis request forms, custody forms
2. Paper and plastic bags (various sizes)
3. Jars (various sizes), foil
4. Labels, tape, stapler, official seals or evidence tape
5. Shovel, handspade, knife, pruning shears, trowel, spatula
6. Leaf punch, isopropyl alcohol or water (according to manufacturer's recommendation), 3-1 oil
7. Sterile pads, cotton balls, isopropanol (pesticide grade), precut templates (made of heavy-weight paper)
8. Measuring tape, land measuring wheel
9. Surveyor markers, stakes
10. Camera, film, flash attachment, accessories
11. Ice chests (styrofoam, etc.)
12. "Blue Ice", wet ice, dry ice (caution: should not be handled with bare hands
13. Markers, grease pen, pencil, pen, note pad, record book
14. Farm map, growers file, pest control operator's file, county or city map, aerial maps
15. Disposable rubber gloves, rubber gloves
16. Pole with grasping attachment, ladder, net, disposable core tubes, siphon tubes
17. Paper towels, isopropyl alcohol, water, wash bottle equipment decontamination)
18. Personal safety equipment and clothing as required by pesticide labels for sample collection (coveralls, respirator, goggles, hard hat, rubber gloves and boots rainsuit, waders, etc.)

AIR SAMPLING

AIR SAMPLING

PRINCIPLE - VACUUM PUMP SUCKS AIR THROUGH FILTER MATERIAL

DRIFT CARD = ELIMINATE VACUUM PUMP

VEGETATION OR SWAB SAMPLING = ELIMINATE VACUUM PUMP AND REPLACE FILTER MATERIAL WITH EXISTING SURFACES (COVERED UNDER RESIDUE SAMPLING)

SOPs/METHODS INCLUDED FOR VARIOUS TYPES OF AIR SAMPLING

FACTORS TO CONSIDER

INDOOR SAMPLING

- SUB-SAMPLING GIVEN VOLUME (INFILTRATION?/LEAKAGE?)
- QUALITATIVE RESULTS (SEMI-QUANTITATIVE AT BEST)
- NO STANDARDS OR REGULATIONS TO INTERPRET RESULTS
- MICHIGAN GUIDELINES
    - CHLORDANE APPLICATION IN LAST YEAR = TAKE AIR AND WIPE SAMPLES
    - USE PUF SAMPLER DRAWING 500 LITERS OF AIR THROUGH SAMPLE IN 4-5 HOURS
    - TAKE 2 AIR SAMPLES PER RESIDENCE (BASEMENT/MAIN FLOOR)
    - SAAMPLE 2 RESIDENCES PER DAY = START PUMPS AT ONE LOCATION AND GO TO SECOND LOCATION
    - IF ANY SAMPLE CONTAINS MORE THAN 8 MICROGRAMS PER CUBIC METER, THEN PCO ASKED TO RETURN TO ADDRESS PROBLEM AND TAKE ADDITIONAL SAMPLES

- ENFORCEMENT
    - LABEL VIOLATIONS
    - CIVIL LAWSUITS/DAMAGE CLAIMS

OUTDOOR SAMPLING

- SUB-SAMPLING UNKNOWN VOLUME
- QUALITATIVE RESULTS (PRESENCE OR ABSENCE) =
  DO NOT KNOWW IF MATERIAL FOUND ARRIVED IN SLUG
  OR SLUGS OR EVENLY OVER SAMPLE PERIOD
- NO STANDARDS TO INTERPRET RESULTS
- ENFORCEMENT
    - LABEL VIOLATIONS
    - TOLERANCE ON OTHER CROPS
    - CIVIL LAWSUITS/DAMAGE CLAIMS

CALIBRATION (SAME FOR SEP-PAKS,PUFS AND HI VOLS)

- LOAD SYSTEM AND TAKE MAXIMUM VACUUM READING
- REPEAT WITH KURZ METER (MASS FLOW METER) IN LINE
- THEN REPEAT AT DIFFERENT VACUUM READINGS IF
  CALIBRATION CURVE DESIRED

DRIFT CARDS

- OIL-SENSITIVE AND WATER-SENSITIVE PAPERS
- NEED TO SET OUT BEFORE APPLICATION
- CAN DETERMINE DRIFT VERSUS OVERSPRAY AND
  DIRECTION DROPLETS CAME FROM

COMPENDIUM METHOD TO-10

DETERMINATION OF PESTICIDES IN AMBIENT AIR USING LOW VOLUME POLYURETHANE FOAM (PUF) SAMPLING WITH GAS CHROMATOGRAPHY/ELECTRON CAPTURE DETECTOR (GC/ECD)

QUALITY ASSURANCE DIVISION
ENVIRONMENTAL MONITORING SYSTEMS LABORATORY
U.S. ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NORTH CAROLINA 27711

MAY, 1988

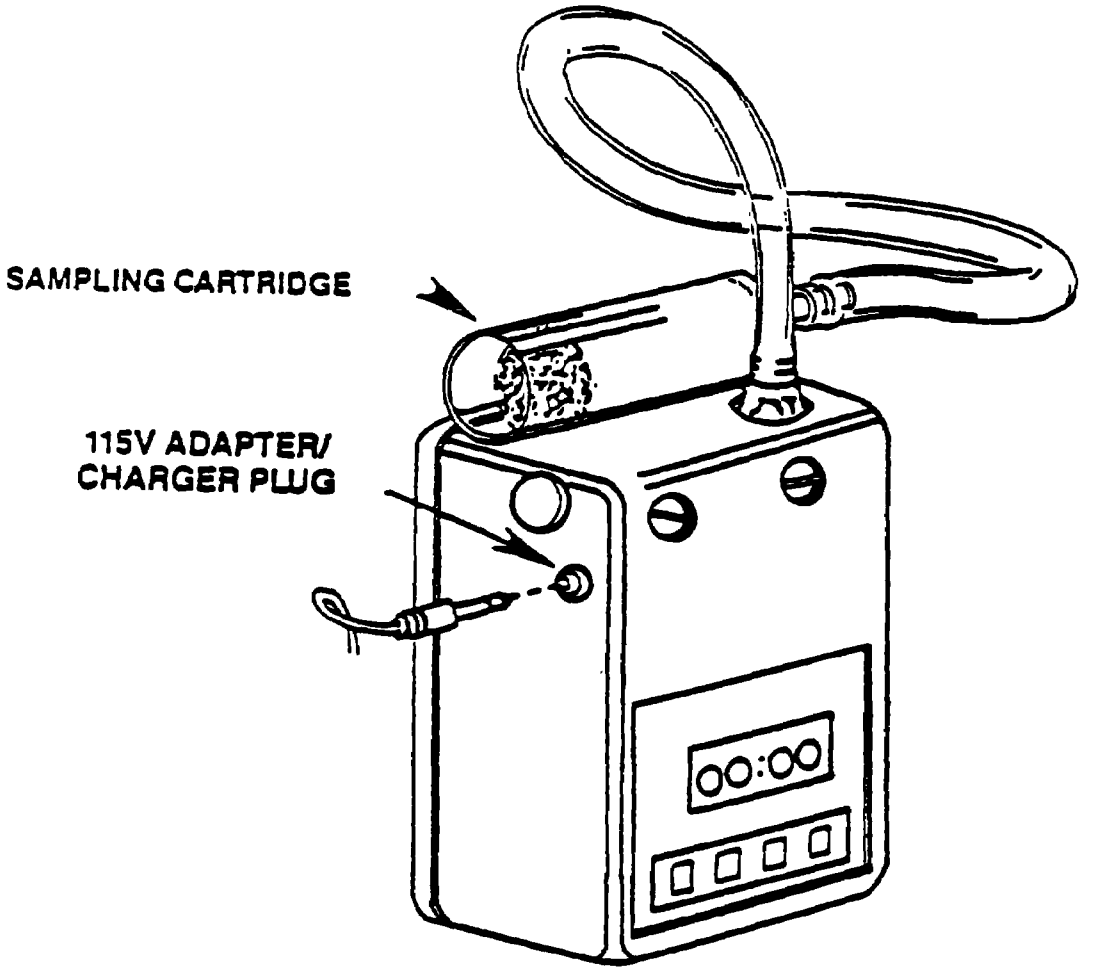


FIGURE 1. LOW VOLUME AIR SAMPLER

RESIDUE SAMPLING

RESIDUE SAMPLING

PRINCIPLE - TAKE PIECE OF ENVIRONMENT FOR CHEMICAL ANALYSIS
IF A GLASS CONTAINER IS NOT CONVENIENT OR PRACTICAL
USE ALUMINUM FOIL AND A PLASTIC BAG AS A SAMPLE
CONTAINER

AMOUNT TO COLLECT VARIES ACCORDING TO PESTICIDE DETECTION
LIMITS AND AMOUNT PRESENT. IN GENERAL:

SOIL - 100 GRAMS TO 1 QUART(A GOOD HANDFUL OR PLUG.

WATER - 1 QUART OR LITER TO 1 GALLON

VEGETATION - 100 GRAMS(COUPLE HANDFULS)

HOW TO SAMPLE - TAG, BAG AND SEAL ALL SAMPLES

SOIL - COLLECT WITH SCOOP, SPOON OR CORING DEVICE.
PLACE SAMPLE IN FOIL, PLACE FOIL WRAPPED SAMPLE
IN PLASTIC BAG. NOTE FOR ACIDIC OR ALKALINE
SOIL USE GLASS SAMPLE CONTAINER. OILY PESTICIDES
FOUND AT SURFACE. AQUEOUS PESTICIDES FOUND DEEPER

WATER - USUALLY JUST HAND DIP GLASS SAMPLE CONTAINER,
CLOSE WITH TEFLON OR FOIL-LINED CAP. LOTS OF
DEVICES FOR COLLECTION OF WATER AT DEPTH. FOR
STREAMS SAMPLE UPSTREAM AND DOWNSTREAM OF
SUSPECTED CONTAMINATION SITE

VEGETATION - TWEEZER, CLIPPERS, SHOVEL OR WHATEVER IS
NEEDED TO COLLECT PLANTS. WRAP IN FOIL
AND BAG FOIL-WRAPPED SAMPLE

PRESERVATION - KEEP COOL AND DARK - OK TO FREEZE VEGETATION
- WORRY LESS ABOUT SOIL

SWAB OR WIPE SAMPLES TO DETERMINE PESTICIDE PRESENCE

- WIPE HARD SURFACES WITH SOLVENT ON STERILE PAD, PLACE PAD IN GLASS CONTAINER

EMERGENCY SAMPLING WHEN UNPREPARED

FIND SOURCE OF GLASS CONTAINERS, ALUMINUM FOIL AND PLASTIC BAGS. COTTON PADS AND ALCOHOL CAN BE USED FOR SWAB SAMPLING. DO NOT TRY TO FIELD CLEAN. RINSE GLASS WITH WATER TO BE SAMPLED BEFORE SAMPLING, USE TIN FOIL TO LINE CAP, USE STYROFOAM COOLER TO KEEP SAMPLES COOL AND DARK, NOTIFY LAB AS SOON AS POSSIBLE

Table 2

RECOVERY DATA USING VARIOUS COMMON SOLVENTS

Sorbent: TLC saturation pads

Compound	Solvent	No of Replicates	Spike µg	Recovery %	RSD
Chlordane	Isooctane	4	1.3	54	
	Acetone	4	1.3	71	
	Isopropanol	4	1.3	42	
	Dichloromethane	3	1.3	28	
Chlorpyrifos	Isooctane	4	1.0	56	
	Acetone	4	1.0	72	
	Isopropanol	4	1.0	34	
	Dichloromethane	3	1.0	39	
Malathion	Isooctane	4	1.0	80	
	Acetone	4	1.0	86	
	Isopropanol	4	1.0	42	
	Dichloromethane	4	1.0	81	
Diazinon	Isooctane	4	375	70	
	Acetone	4	375	57	
	Isopropanol	4	375	62	
	Dichloromethane	4	375	55	
Aroclor 1260	Isooctane	4	50	80	
	Acetone	4	50	76	
	Isopropanol	4	50	71	
	Dichloromethane	4	50	60	
Bendiocarb	Isooctane	3	515	51	
	Acetone	4	515	35	
	Isopropanol	4	1,650	84	
Propoxur	Isooctane	4	2,560	49	
	Acetone	3	2,560	90	
	Isopropanol	3	2,560	96	

Table 3

SAMPLING AND EXTRACTION EFFICIENCIES FOR VARIOUS SORBENT MATERIALS

Solvent: Optimum solvent from Table 2

Compound	Material	Sampling Recovery %	RSD %	Extraction Recovery %	RSD %
Chlordane	Polyurethane	30	5	101	15
	Cotton balls	ND[a]	-	101	12
	Gauze	71	10	96	2
	Saturation paper	66	8	106	19
	Dental wick	24	20	82	-
Chlorpyrifos	Polyurethane	48	21	86	14
	Cotton balls	20	40	99	8
	Gauze	72	10	96	9
	Saturation paper	77	4	114	4
	Dental wick	45	18	90	8
Malathion	Polyurethane	53	13	89	3
	Cotton balls	31	29	86	14
	Gauze	64	14	86	1
	Saturation paper	80	4	96	-
	Dental wick	56	9	109	3
Propoxur	Polyurethane	72	7	103	1
	Cotton balls	26	19	99	3
	Gauze	71	13	100	1
	Saturation paper	93	3	102	3
	Dental wick	66	8	85	1
Aroclor 1260	Polyurethane	50	20	96	13
	Cotton balls	30	13	84	23
	Gauze				
	Saturation paper	80	3	83	13
	Dental wick	48	19	101	9

a = *Not detected*

Table 4

PERCENT RECOVERIES FOR VARIOUS SURFACE TYPES

Sorbent: TLC saturation pads
Solvent: Optimum solvent from Table 2

Compound	Surface Type	No. of Samples	Recovery %	RSD
Chlordane	Veneer	3	10	31
	Glass	4	28	29
	Aluminum foil	4	66	5
	Tile (wax)	3	30	20
	Tile (no wax)	3	36	14
	Wood (painted	3	16	13
Chlorpyrifos	Veneer	3	6	67
	Glass	4	58	19
	Aluminum foil	4	72	6
	Tile (wax)	3	42	10
	Tile (no wax)	3	31	-
	Wood (painted)	3	23	6
Malathion	Veneer	3	3	33
	Glass	4	84	5
	Aluminum foil	4	80	4
	Tile (wax)	3	67	8
	Tile (no wax)	3	35	29
	Wood (painted)	3	6	17
Propoxur	Veneer	3	6	50
	Glass	4	82	-
	Aluminum foil	4	93	9
	Tile (wax)	3	22	14
	Tile (no wax)	3	18	17
	Wood (painted)	3	15	13
Aroclor 1260	Veneer	3	20	30
	Glass	4	41	15
	Aluminum foil	4	80	3
	Tile (wax)	3	45	-
	Tile (no wax)	3	54	13
	Wood (painted)	3	19	5

Table 5

RECOVERIES OF WIPING AND BLOTTING TECHNIQUES

Sorbent: TLC saturation pads
Solvent: Optimum solvent from Table 2
Surface: Aluminum foil

Compound	Replicates	Wiping Recovery (%)	RSD (%)	Blotting Recovery (%)	RSD
Chlordane	4	60	12	56	-
Chlorpyrifos	4	65	6	62	5
Malathion	4	87	5	90	2
Propoxur	4	58	3	49	2
Arochlor 1260	4	78	12	79	8

Experience and consistency of technique were determined to play significant roles concerning the overall accuracy and precision, in obtaining surface samples. Three samplers of varying degrees of experience collected surface samples using the described technique. Higher recoveries and greater reproducibility were reflected by the more experienced sampler [Table 6].

Table 6

COMPARISON OF SAMPLING EFFICIENCIES BETWEEN INDIVIDUAL SAMPLERS OF VARYING EXPERIENCE

Sorbent: TLC saturation pads
Solvent: Acetone
Surface: Aluminum foil
Analyte: Chlorpyrifos

Sampler	Sample No.	Recovery (%)	RSD (%)
a	4	44	16
b	4	53	17
c	4	62	6

Sampling Experience: c > b > a

SUMMARY

Based on the results of this limited study, the following guidelines are provided to personnel who plan to engage in a surface sampling project for pesticides and/or PCBs:

- TLC saturation pads or 3-inch x 3-inch gauze pads as the sorbent of choice

- Isooctane as the most effective solvent applied to the sorbent for most pesticides of interest; if a carbamate or a known polar pesticide are to be sampled, isopropanol is the more effective solvent.

- A single sorbent with a single pass in both the horizontal and vertical direction can be used for a nonporous surface such as glass or metal; however, the process should be repeated with a second solvent treated sorbent for a porous surface such as wood and/or tile.

BULK SAMPLING

BULK SAMPLING

BULK LIQUIDS - SUBSAMPLE CONTAINERS LARGER THAN ONE GALLON

DRUMS SMALL TANKS

QUALITAATIVE VS QUANTITATIVE

THIEF OR SIPHON

LARGE TANKS - ASTM REFERENCE ATTACHED

SAFETY CONSIDERATIONS

QUALITATIVE VS QUANTITATIVE

VERTICAL VS HORIZONTAL TANKS

ASTM TABLE/CHEAT SHEET

DRAWBACKS

BULK SOLIDS - SUBSAAMPLE FROM CONTAINERS LARGER THAN 40 LBS.

QUALITATIVE VS QUANTITATIVE

SAFETY CLOTHING

MASS BALANCES

SOPs - HOW, EQUIPMENT, AMOUNT, WHERE, TYPE, FREQUENCY, QA/QC

- GUIDANCE FOR NEW EMPLOYEES
- CHEMISTS KNOW WHAT TO EXPECT
- MORE DEFENSIBLE IF CHALLENGED

BULK SAMPLING

Bulk Materials - liquids or solids

Bulk Liquids - subsample from containers larger than legal

1. 55 gallon/30 gallon/15 gallon/5 gallon/2 2/1 gallon drums - both metal and plastic

2. Tanks - 250 to 5,000/10,000 sometimes even 20,000 gallon tanks - both vertical and horizontal

Drums/Small Tanks - open carefully

Work over plastic

Thief - most common - simplest

1. lower slowly/keep vertical

2. Wipe off as thief is removed

   - for larger drums/small tanks - basically a 2 person job

3. Thief is disposable

4. Glass rod especially dangerous after use - contaminated

5. Place in capped non-breakable protective tube - for example: capped PCV pipe

Siphon tube 2 or 3 depths if unable to mix contents

Composite from: middle of top 1/3 rd
middle of middle 1/3 rd
middle of bottom 1/3 rd

30 gal/55 gal drums

siphon from middle of top half

siphon from middle of bottom half

Large Tanks - most difficult/most dangerous

Reference ASTM Standard D4-57 - Attached

Safety Considerations:

- you may fall off/keep your BB4'
- watch out for loose and/or corroded ladders
- tricky carrying equipment up ladders
    - consider hauling up with rope
- often rounded tops/working over plastic increases hazards - smaller piece of plastic and work over tank opening
- tricky getting back onto ladder
- may want to tie in/use extra person/mountain climbing techniques
- don't take chances

Sampling

- can tank be circulated or mixed
- okay to sample from valve <u>if</u> operator opens and closes valve
- <u>Never</u> open valves

If no valves/no mixing or circulation and you want a representative sample

L = quantitative sample

Use Bacon Bomb or similar device

- Vertical tanks - simplest sampling approach
    - same approach as for large drums
    - divide volume into thirds by height
    - sample mid-point of each third
    - equal composites into sample container

- Horizontal tanks
  - vertical tank in resting position
  - underground tanks
  - need ASTM Table or Cheat Sheet because volume not distributed evenly with depth

LOOK AT TABLE
WORK THROUGH CALCULATION
EXPLAIN CHEAT SHEET

(Get One) - Calibrated sample bottles helpful

EXAMPLE FOR 10' DEEP TANK 80% FULL

Where do you Sample from Bottom of Tank

	Sampling Level %	Parts Table	
From bottom	.7xd-.7x10=7'	- 2x50 =	100 ml upper
From bottom	.5xd=.5x10=5'	- 5x50 =	250 ml middle
From bottom	.2xd-.2x10=2'	- 3x50 =	150 ml bottom
			500

Or from Top of Tank

Upper sample collected 10/7 3' below top of tank - 100 ml
Middle sample collected 10/5 5' below top of tank - 250 ml
Bottom sample collected 10/2 8' below top of tank - 150 ml

Now if you have a stand pipe (fill pipe) add to measurement for marking chart, i.e., if you have 2' fill pipe and measuring from top of sample @ 5'
7'
10' depths

1. Get % of depth $\frac{\text{Liquid Depth}}{\text{Tank Depth}}$ = _____ x 100 = % tank is full
2. Look at sampling levels above bottom on Table
3. Look at parts

Measure tanks - tank diameter
tank depth
liquid depth

Vertical tank: above 10'

Divide in thirds - samples in middle of each depth
10' or less - 2 points
Sample @ 1/3 point (i.e. 9' of oil
sample @ 3'& 6

Horizontal tank: measure depth of tank
measure depth of liquid
measure the fill pipe - subtract to total depth of _____

Major drawbacks to tank sampling for most pesticides:

- contaminate non-diposable equipment
- that it is difficult to clean in field

Bulk Solids - Subsample from containers larger than 40 pounds

- may be bags/fiderboard boxes or drums/even large bins
- qualitative vs quantitative samples
- qualitative samples - disposable plastic scoop
- quantitative samples difficult to collect large bins almost impossible unless very consistent material

- but usually mixtures of active ingredients to fillers that will separate by density

(or plastic golf club tube)

- best sampling tool available - Grain Thief
- insert several times through material sub sample with spatula
- only good for flowable or granular materials
- does not sample bottom of container - bag sample - use thief from 2 directions which also carry tape to repair bag

Optional Safety Clothing

Disposable gloves, coveralls, nuke boots

Splash shield/resp/power resp. (1/2 face can't be fit tested)

Problems - fatigue/visibility

Bulk Plants - do mass balance on chemicals in/product out

Packaged finished product 95% or better of raw products

Chemical Engineer or good Pesticide Chemist can provide yield information for particular process

"Missing" product may - environmental contamination or unrecorrded shipments

General Suggestion for Sampling

Develop SOPs

How to collect equipment Amount Where Type Freq. QA.QC

Plagerize/reference NEIC, CDFA, ASTM, etc.

Provides guidelines for new employees

Chemists know what to expect

More defensible if challenged <u>but</u> be careful to <u>document</u> what you actually do and always _____ subject to change in field

Next Topic: Documentation

Buen Proveche!
Bon Appetit!
Let's Eat!

[illegible] D 4057

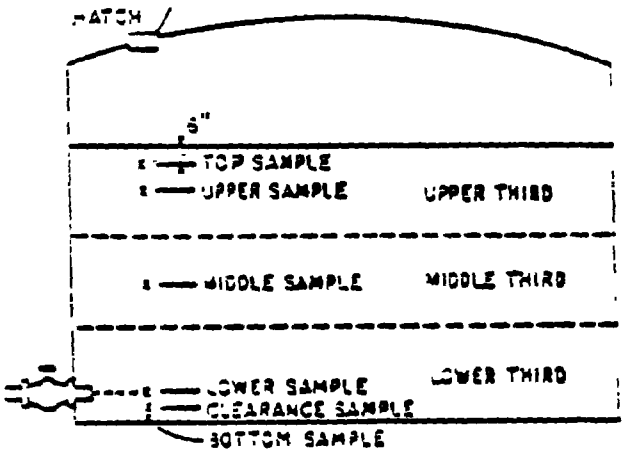
TABLE [illegible] Weighted Sampling Bottle or Beaker

[illegible]

Material	Diameter (Open [illegible])	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

TABLE [illegible] Size of Grease Sampling

Container	Lot or Shipment	Minimum Sample
Tubes or packages, less than 1 lb	[illegible]	enough units for a 2 lb sample
[illegible] lb cans	[illegible]	three cans
5 or [illegible] lb cans	[illegible]	one can
Larger than 10 lb	less than 10 000 lb	2 to 3 lb from one or more containers
Larger than 10 lb	10 000 to 50 000 lb	2 to 3 lb from two or more containers
Larger than 10 lb	more than 50 000 lb	2 to 3 lb from three or more containers



NOTE—The outlet sample location shown [illegible] only to tanks with side outlets. It does not apply when the [illegible] from the floor of the tank or turns down into a sump.

FIG. 1 Sampling Depths

D 4057

TABLE [illegible] Summary of Sampling Procedures and Applications

[illegible]	[illegible]	[illegible]
Liquids of more than [illegible] psi [illegible] kPa and not more than [illegible] psi [illegible] kPa Rvp	storage tanks, ship and barge tanks, tank cars and trucks	[illegible]
Liquids of more than [illegible] psi [illegible] kPa and not more than [illegible] psi [illegible] kPa Rvp	storage tanks with taps	cooler tap sampling
Liquids of more than 2 psi [illegible] kPa and not more than [illegible] psi [illegible] kPa Rvp	storage tanks, ship and barge tanks, tank cars and trucks	bottle sampling
Liquids of more than 2 psi [illegible] kPa and not more than [illegible] psi [illegible] kPa Rvp	storage tanks with taps	tap sampling
Liquids of [illegible] psi (110 kPa) or less Rvp	pipes or lines	[illegible] sampling
Liquids of 2 psi (13.8 kPa) or less Rvp	storage tanks, ship and barge	bottle sampling
Liquids of 2 psi (13.8 kPa) or less Rvp	storage tanks with taps	tap sampling
Liquids of 2 psi (13.8 kPa) or less Rvp	free or open discharge streams	dipper sampling
Liquids of 2 psi (13.8 kPa) or less Rvp	drums, barrels, and cans	tube sampling
Bottom or thief sampling of liquids of 2 psi (13.8 kPa) Rvp or less	tank cars, storage tanks	thief sampling
Liquids and semiliquids of 2 psi (13.8 kPa) Rvp or less	free or open-discharge streams. Open tanks or [illegible] with open heads, tank cars and tank trucks, drums	dipper sampling
Crude petroleum	storage tanks, ship and barge tanks, tank cars, tank trucks, and pipelines	automatic sampling, [illegible] sampling, bottle sampling, tap sampling
Industrial aromatic hydrocarbons	storage tanks, ship and barge tanks	bottle sampling
Waxes, solid bitumens, and other soft solids	barrels, cases, bags, cakes	boring sampling
Petroleum coke, lumpy solids	freight cars, conveyors, bags, barrels, boxes	grab sampling
Greases, soft waxes, asphalts	kettles, drums, cans, tubes	grease sampling
Asphaltic materials	storage tanks, tank cars, lines, packages	
Emulsified asphalts	storage tanks, tank cars, lines, packages	

TABLE 2 Sampling Instructions for Horizontal Cylindrical Tanks

Liquid Depth % Diameter	Sampling Level, % of Diameter Above Bottom			Composite Sample, Proportionate Parts		
	Upper	Middle	Lower	Upper	Middle	Lower
[illegible]	80	50	20	3	4	3
[illegible]	75	50	20	3	4	3
[illegible]	70	50	20	2	5	3
[illegible]		50	20		6	4
[illegible]		50	20		[illegible]	5
50		40	20		4	5
40			20			3
[illegible]			15			3
20			10			3
0			5			3

TABLE 3 Minimum Number of Packages to be Selected for Sampling

Number of Packages in Lot	Number of Packages to Be Sampled	Number of Packages in Lot	Number of Packages to Be Sampled
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	4	[illegible]	[illegible]
[illegible]	5	[illegible]	4
[illegible]	6	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	8	[illegible]	[illegible]
[illegible]	9	[illegible]	[illegible]
[illegible]	10	[illegible]	[illegible]
[illegible]	11	[illegible] or over	[illegible]

[illegible] Tank [illegible]

[illegible]	2	5	3
[illegible]	[illegible]	250	[illegible]

500 ml $\frac{500 \text{ ml}}{10}$ = 50 ml always

Sampling level % where do you Sample from bottom of Tank

from bottom .7 × Q = .7 × 10 = 7' — parts table 2 × 50 = 100 ml upper

" " .5 × Q = .5 × 10 = 5' — 5 × 50 = 250 ml [illegible]

" " .2 × Q = .2 × 10 = 2' — 3 × 50 = 150 ml bottom

500

— from Top of Tank

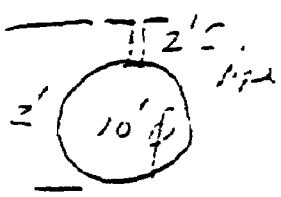
10-7

upper Sample Collected 3' below Top of Tank — [illegible]

Middle " " 10-5 5' " " " " — [illegible]

bottom " " 10-2 8' " " " [illegible]

Now if you have a standpipe (fill pipe) add to [illegible] for marking Chart



i.e. if have 2' fill pipe & measuring from Top [illegible]

Sample @ 5'

7'

10' depths

1. Get % of depth $\frac{\text{Liquid Depth}}{\text{Tank depth}}$ = — × 100 = % tank is full
2. Look at sampling levels above bottom on table
3. Look at parts

10 ft Dia Tank

oil depth (ft)	Sample depth (Ft-down) T	M	B
10	2	5	8
9	2.5	5	8
8	3	5	8
6 & 7	NO Sampl	5	8
5	NO	6	8
4	NO	NO	8
3	NO	NO	8.5
2	NO	NO	9
1			2.5

Oil portion (ml)

	T	M	B
	75	100	1
	75	100	1
	50	125	1
7ft	NONE	150	100
6ft		125	1
		100	1

Vertical Tanks (equal volumes from the end of each sample location)

Oil Depth	T	M	B
≥ 15 ft			
10 to 15 ft	T		B
10 ft		M	

8 Ft Dia Tank

	Depth to Sample (Ft)		
0.1 Depth	T	M	B
8	1.6	4	6.4
7.2	2	4	6.4
6.4	2.4	4	6.4
5.6	X	4	6.4
4.8	X	4	6.4
4	X	4.8	6.4
3.2	X	X	6.4
2.4	X	X	6.8
1.6	X	X	7.2
.8	X	X	7.6

	0.1 portion (ml)	
T	M	B
15	100	15
15	100	15
50	125	15
NONE	150	100
	125	125
	100	150
		200
		250
		250
		250

STANDARD OPERATING PROCEDURE
NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
OPERATIONS DIVISION

SUBJECT

Sampling Petroleum and Petroleum Products

REFERENCE

ASTM D-270-65 (Reapproved 1980)

REMARKS/COMMENTS

This method covers procedures for obtaining representative samples of stocks or shipment of crude petroleum and petroleum products, except electrical insulating oils and petroleum products that are gases at atmospheric temperature and pressure.

REVISIONS

Change letter or Number	Description of Change

DOCUMENTATION

DOCUMENTATION

Document all inspection activities State/FIFRA Forms

Logbook

Your most important link to the past for report preparation and also for preparing for court room testimony which may be years later.

Show _____ plus bound green logbook

Logbook

Simply a document that allows you to take notes and log data.

SUGGESTIONS

1. Flexible good grade of paper
2. Bound - stitched binding
3. Water resistant
4. Practical size
5. Accountable document - limit the numbers
6. Return address

ENTRIES

1. Indelible ink - don't assume a pen is indelible

2. Description of facility you are investigating

3. Names and phone numbers of facility personnel you deal with - get business cards if possible to tape or staple into logbook

4. Notes of interviews - time, date, place, name of individual you talked to. If particularly intersting bit of information is obtained - try to get that individual to read your notes for accuracy and sign the logbook.

   During interviews only one individual should take notes.

5. Description of all sampling activities

   - Sample location - sketch if necessary map with measurements

   - Drum or container - size, condition, color, pertinent markings, degree of fullness

- Description on material sampled - solid, liquid, semi-solid, phases, odor, color
- Background information
- Sampling Plan
- Technical data on pesticide
- Laboratory request information
- Name of sampler and assistant/time and date
- Method - especially if equivalent or special method
- List of all photographs taken by roll #, date/time if important
- Field measurements - how/where
- Amounts of material present
- Custody information

LANGUAGE

Simple - almost terse
Objective - billboard next day
Qualify - soil like, petroleum like, odor

Never put notes in your logbook pertaining to another case.

Never leave your logbood unattended - especially on site.

MISTAKES

Change - initial - date if it was not immediate

Only you write in logbook - if someone else must have them, sign and date/time they made entry - avoid if possible.

You can't take too much good information.

DOT REGULATIONS

DOT REGULATIONS

172.101 Hazardous Materials Table

Pesticides usually Poison B/Flammable

172.102 Optional Hazardous Materials Table

Generic pesticide listing if unknown

New DOT Regulations effective June 4, 1990

More detailed emergency response information

- 24 hour telephone number for person with knowledge of the hazards and characteristics of the hazardous material being shipped
- Additional description requirements especially for generic, n.o.s. shipments

Training

DOT
Federal Express

239

Hathaway

Transporting Restricted Articles By Air

Tom Peterson
934-5530
Denver rep.

FEDERAL EXPRESS

WORKBOOK

A Public Seminar for the Transportation of Restricted Articles According to Title 49 Code of Federal Regulations

SHIPPER DUTIES

1. IDENTIFY
2. CLASSIFY
3. PACKAGE
4. MARK
5. LABEL
6. CERTIFY
7. PROVIDE PLACARDS IF NEEDED

USE OF TABLE

COLUMN 1 172.101-B

+	=	WILL ALWAYS BE SHIPPED AS LISTED IN THE TABLE.
A	=	ONLY REGULATED BY AIR—(non hazardous by all other modes)
W	=	ONLY REGULATED BY WATER—(non hazardous by all other modes)
E	=	IDENTIFIES A MATERIAL WHICH MAY BE A HAZARDOUS SUBSTANCE. A MATERIAL BECOMES A HAZARDOUS SUBSTANCE WHEN THE AMOUNT SHIPPED PER OUTSIDE CONTAINER EQUALS OR EXCEEDS THE R Q WEIGHTS LISTED IN COLUMN 2.

DEPARTMENT OF TRANSPORTATION
HAZARDOUS MATERIALS TABLE

(49 CFR 172.101, Revised as of October, 1987; 52 FR 41303, October 27, 1987; 52 FR 17158, May 13, 1988, effective Jan. 2, 1989; 53 FR 38272, Sept. 29, 1988, effective Sept. 30, 1988; 54 FR 3466, Aug. 21, 1989; 54 FR 38793, Sept. 30, 1989; effective Nov. 15, 1989; 54 FR 39500, Sept. 26, 1989; effective Oct. 31, 1989; 54 FR 40068, Sept. 29, 1989; 54 FR 47986, Nov. 20, 1989; 54 FR 49998, Dec. 4, 1989; 54 FR 51031, Dec. 12, 1989)

§172.101 Hazardous Materials Table—Contd.

(1)	(2)	(3)	(3A)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
~/ A/ W	Hazardous materials descriptions and proper shipping names	Hazard class	Identification number	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo aircraft only	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Accumulator, pressurized *(pneumatic or hydraulic) containing nonflammable gas*	Nonflammable gas	NA1956	Nonflammable gas	173.306		No limit	No limit	1 2	1 2	
	Acetal	Flammable liquid	UN1088	Flammable liquid	173.118	173.119	1 quart	10 gallons	1 3	4	
	Acetaldehyde *(ethyl aldehyde)*	Flammable liquid	UN1089	Flammable liquid	None	173.119	Forbidden	10 gallons	1 3	5	
A	Acetaldehyde ammonia	ORM-A	UN1841	None	173.505	173.510	No limit	No limit	1 2	1 2	
	Acetic acid *(aqueous solution)*	Corrosive material	UN2790	Corrosive	173.244	173.245	1 quart	10 gallons	1 2	1 2	Stow separate from nitric acid or oxidizing materials
	Acetic acid, glacial	Corrosive material	UN2789	Corrosive	173.244	173.245	1 quart	10 gallons	1 2	1 2	Stow separate from nitric acid or oxidizing materials
	Acetic anhydride	Corrosive material	UN1715	Corrosive	173.244	173.245	1 quart	1 gallon	1 2	1 2	
	Acetone	Flammable liquid	UN1090	Flammable liquid	173.118	173.119	1 quart	10 gallons	1 3	4	
	Acetone cyanohydrin	Poison B	UN1541	Poison	None	173.346 173.3a	Forbidden	55 gallons	1	3	4 Shade from radiant heat Stow away from corrosive materials
	Acetone oil	Flammable liquid	UN1091	Flammable liquid	173.118	173.119	1 quart	10 gallons	1 2	1	
	Acetonitrile	Flammable liquid	NA1648	Flammable liquid	173.118	173.119	1 quart	10 gallons	1	4	Shade from radiant heat
	Acetyl acetone peroxide, *in solution with not more than 9% by weight active oxygen. See* Organic peroxide, liquid or solution, n.o.s.		UN2080								
	Acetyl acetone peroxide with more than 9% by weight active oxygen	Forbidden									
	Acetyl benzoyl peroxide, *not more than 40% in solution See* Acetyl benzoyl peroxide solution, *not over 40% peroxide*		UN2081								
	Acetyl benzoyl peroxide solid, or more than 40% in solution	Forbidden									
	Acetyl benzoyl peroxide solution *not over 40% peroxide*	Organic peroxide	UN2081	Organic peroxide	None	173.222	Forbidden	1 quart	1 2	1	
	Acetyl bromide	Corrosive material	UN1716	Corrosive	173.244	173.247	1 quart	1 gallon	1	1	Keep dry Glass carboys not permitted on passenger vessels
	Acetyl chloride	Flammable liquid	UN1717	Flammable liquid	173.244	173.247	1 quart	1 gallon	1	1	Stow away from cobalt, keep cool and dry Separate longitudinally by an intervening complete compartment or hold from explosives
	Acetyl cyclohexanesulfonyl peroxide more than 82% wetted with less than 12% water	Forbidden									
	Acetyl cyclohexanesulphonyl peroxide, *not more than 82% wetted with not less than 12% water See* Organic peroxide, solid, n.o.s.		UN2082								
	Acetyl cyclohexanesulphonyl peroxide, *not more than 32% in solution. See* Organic peroxide, liquid or solution, n.o.s.		UN2083								
	Acetylene	Flammable gas	UN1001	Flammable gas	None	173.303	Forbidden	300 pounds	1	1	Shade from radiant heat
	Acetylene (liquid)	Forbidden									
	Acetylene silver nitrate	Forbidden									

Copyright © 1990 by The Bureau of National Affairs, Inc.
0148-7973/90/$0.+.50

§172.101 Hazardous Materials Table—Contd.

(1)	(2)	(3)	(3A)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
ef Aj W	Hazardous materials descriptions and proper shipping names	Hazard class	Identification number	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo aircraft only	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
A	Acetylene tetrabromide	ORM-A	UN2504	None	173 505	173 510	10 gallons	55 gallons			
	Acetyl iodide	Corrosive material	UN1898	Corrosive	173 244	173 247	1 quart	1 gallon	1	1	Keep dry Glass carboys not permitted on passenger vessels
	Acetyl peroxide, *not more than 25% in solution See* Acetyl peroxide solution *not over 25% peroxide*		UN2084								
	Acetyl peroxide solid, or more than 25% in solution	Forbidden									
	Acetyl peroxide solution *not over 25% peroxide*	Organic peroxide	UN2084	Organic peroxide	173 153	173 222	Forbidden	1 quart	1 2	1	
	Acid butyl phosphate	Corrosive material	UN1718	Corrosive	173 244	173 245	1 quart	5 gallons	1 2	1 2	Glass carboys in hampers not permitted under deck
	Acid carboy empty *See* Carboy, empty										
	Acid, liquid, n.o.s.	Corrosive material	NA1760	Corrosive	173 244	173 245	1 quart	5 pints	1	4	Keep cool
-	Acrolein, inhibited	Flammable liquid	UN1092	Flammable liquid and Poison	None	173 122	Forbidden	1 quart	1 2	5	Keep cool Stow away from living quarters
	Acrylic acid	Corrosive material	UN2218	Corrosive	173 244	173 245	1 quart	5 pints	1	1	
	Acrylonitrile	Flammable liquid	UN1093	Flammable liquid and Poison	None	173 119	Forbidden	1 quart	1 2	5	Keep cool
	Actuating cartridge, explosive *(fire extinguisher or valve)*	Class C explosive		Explosive C	173 114		50 pounds	150 pounds	1 2	1 2	Keep cool and dry
	Adhesive	Combustible liquid	UN1133	None	173 118a	None	No limit	No limit	1 2	1 2	
	Adhesive	Flammable liquid	UN1133	Flammable liquid	173 118	173 132	1 quart	10 gallons	1 2	1	
	Aerosol product See Compressed gas, n.o.s.										
	Air compressed	Nonflammable gas	UN1002	Nonflammable gas	173 306	173 302	150 pounds	300 pounds	1 2	1 2	
	Air conditioning machine *See* Refrigerating machine										
	Air refrigerated liquid (cryogenic liquid).	Nonflammable gas	UN1003	Nonflammable gas	173 320	173 318 173 316	Forbidden	300 pounds	1 2	1 2	Stow separate from flammables Do not overstow with other cargo
	Airplane flare See Fireworks, special										
	Alcoholic beverage	Flammable liquid	UN1170	Flammable liquid	173 118	173 125	See 173 118(C)	10 gallons	1 2	1	
	Alcoholic beverage	Combustible liquid	UN1170	None	173 118a	None	No limit	No limit	1 2	1 2	
	Alcohol, n.o.s.	Flammable liquid	UN1987	Flammable liquid	173 118	173 125	1 quart	10 gallons	1 2	1	
	Alcohol, n.o.s.	Combustible liquid	UN1987	None	173 118a	None	No limit	No limit	1 2	1 2	
	Aldrin	Poison B	NA2761	Poison	173 364	173 376	50 pounds	200 pounds	1 2	1 2	
A	Aldrin cast solid	ORM-A	NA2761	None	173 505	173 510	No limit	No limit	1 2	1 2	
	Aldrin mixture, dry *(with more than 65% aldrin)*	Poison B	NA2761	Poison	173 364	173 376	50 pounds	200 pounds	1 2	1 2	
A	Aldrin mixture dry with 65% or less aldrin	ORM-A	NA2761	None	173 505	173 510	No limit	No limit	1 2	1 2	
	Aldrin mixture, liquid *(with more than 60% aldrin)*	Poison B	NA2762	Poison	173 345	173 361	1 quart	55 gallons	1 2	1 2	If flash point less than 141 deg F segregation same as for flammable liquids
A	Aldrin mixture, liquid, with 60% or less aldrin	ORM-A	NA2762	None	173 505	173 510	No limit	No limit	1 2	1 2	
	Alkaline *(corrosive)* liquid, n.o.s.	Corrosive material	NA1719	Corrosive	173 244	173 249	1 quart	5 gallons	1 2	1 2	
	Alkanesulfonic acid	Corrosive material	UN2584	Corrosive	173 244	173 245	5 pints	1 gallon	1 2	1	
	Alkyl aluminum halides. See Pyrophoric liquid, n.o.s.										
A	Allethrin	ORM-A	NA2902	None	173 505	173 510	No limit	No limit			
	Allyl alcohol	Flammable liquid	UN1098	Flammable liquid and Poison	None	173 119 173 3a	1 quart	10 gallons	1 2	1	
	Allyl bromide	Flammable liquid	UN1099	Flammable liquid	173 118	173 119	Forbidden	10 gallons	1 2	1	

§172.101 Hazardous Materials Table—Contd.

(1)	(2)	(3)	(3A)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
+/ A/ W	Hazardous materials descriptions and proper shipping names	Hazard class	Identification number	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo aircraft only	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	tert-Amyl peroxyneodecanoate, *not more than 75% with polymerizer* See Organic peroxide, liquid or solution, n.o.s.		UN2891								
	Amyl trichloride	Corrosive material	UN1728	Corrosive	None	173.280	Forbidden	10 gallons	1	5	Keep dry
	Anhydrous ammonia. See Ammonia, anhydrous										
	Anhydrous hydrazine. See Hydrazine, anhydrous										
	Anhydrous hydrofluoric acid. See Hydrogen fluoride										
	Anisine oil drum, empty *See 173.347(d)*	Poison B							1 2	1	Do not accept unless returnable package notice is on drum and the instructions thereon have been carried out
+	Anisine oil, liquid	Poison B	UN1547	Poison	None	173.347	Forbidden	55 gallons	1.2	1.2	Stow away from oxidizing materials and acids
	Anisoyl chloride	Corrosive material	UN1729	Corrosive	173.244	173.279	1 quart	1 quart	1	1	Keep dry
	Antimonous chloride. See Antimony trichloride										
A	Antimony lactate, solid	ORM-A	UN1550	None	173.505	173.510	No limit	No limit			
	Antimony pentachloride	Corrosive material	UN1730	Corrosive	None	173.247	1 quart	1 quart	1	1	Keep dry Glass carboys not permitted on passenger vessels
	Antimony pentachloride solution	Corrosive material	UN1731	Corrosive	173.244	173.245	1 quart	5 gals	1	1	Keep dry Glass carboys not permitted on passenger vessels
	Antimony pentafluoride	Corrosive material	UN1732	Corrosive	None	173.246	Forbidden	25 pounds	1	5	Keep dry
A	Antimony potassium tartrate, solid	ORM-A	UN1551	None	173.505	173.510	No limit	No limit	1.2	1.2	
	Antimony sulfide and a chlorate, mixtures of	Forbidden									
A	Antimony sulfide, solid	ORM-A	NA1325	None	173.505	173.510	No limit	No limit			
	Antimony tribromide, solid	Corrosive material	NA1549	Corrosive	173.244	173.245b	25 pounds	100 pounds	1.2	1.2	Keep dry
	Antimony tribromide solution	Corrosive material	NA1549	Corrosive	173.244	173.245	1 quart	5 gals	1	1	Keep dry
	Antimony trichloride, solid	Corrosive material	UN1733	Corrosive	173.244	173.245b	25 pounds	100 pounds	1.2	1.2	Keep dry
	Antimony trichloride solution	Corrosive material	UN1733	Corrosive	173.244	173.245	1 quart	5 gals	1	1	Keep dry
	Antimony trifluoride, solid	Corrosive material	NA1549	Corrosive	173.244	173.245b	25 pounds	100 pounds	1.2	1.2	Keep dry
	Antimony trifluoride solution	Corrosive material	NA1549	Corrosive	173.244	173.245	1 quart	5 gals	1	1	Keep dry
	Aqua ammonia solution *(containing 44% or less ammonia)* See Ammonium hydroxide										
	Argon or Argon, compressed	Nonflammable gas	UN1006	Nonflammable gas	173.306	173.302 173.316	150 pounds	300 pounds	1.2	1.3	
	Argon, refrigerated liquid* *(cryogenic liquid)*	Nonflammable gas	UN1951	Nonflammable gas	173.320	173.316 173.318	100 pounds	1,100 pounds	1.3	1.3	
	Arsenic acid, solid	Poison B	UN1554	Poison	173.364	173.346	50 pounds	200 pounds	1.2	1.2	
	Arsenic acid solution	Poison B	UN1553	Poison	173.345	173.348	1 quart	55 gallons	1.2	1.2	
	Arsenical compound, liquid, n.o.s., or Arsenical mixture, liquid, n.o.s	Poison B	UN1556	Poison	173.345	173.346	1 quart	55 gallons	1.2	1.2	
	Arsenical compound, solid, n.o.s., or Arsenical mixture, solid, n.o.s.	Poison B	UN1557	Poison	173.364	173.367	50 pounds	200 pounds	1.2	1.2	Keep dry
	Arsenical dip, liquid *(sheep dip)*	Poison B	NA1557	Poison	173.345	173.346	1 quart	55 gallons	1.2	1.2	
	Arsenical dust	Poison B	UN1562	Poison	173.364	173.368	50 pounds	200 pounds	1.2	1.2	
	Arsenical pesticide, liquid, n.o.s. *(compounds and preparations)*	Flammable liquid	UN2760	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.3	1	
	Arsenical pesticide, liquid, n.o.s. *(compounds and preparations)*	Poison B	UN2759	Poison	173.345	173.346	1 quart	55 gallons	1.2	1.2	
	Arsenical pesticide, solid, n.o.s. *(compounds and preparations)*	Poison B	UN2759	Poison	173.364	173.367	50 pounds	200 pounds	1.2	1.2	
	Arsenic bromide, solid	Poison B	UN1555	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2	
	Arsenic chloride liquid. See Arsenic trichloride										

§172.101 Hazardous Materials Table—Contd.

(1)	(2)	(3)	(3A)	(4)	(5)		(6)		(7)		
					Packaging		Maximum net quantity in one package		Water shipments		
-/ A/ W	Hazardous materials descriptions and proper shipping names	Hazard class	Identification number	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo aircraft only	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Organotin pesticide, solid, n o s. *(compounds and preparations)*	Poison	UN2786	Poison	173 364	173 365	50 pounds	200 pounds	1 2	1 2	
A	ORM-A n o s.	ORM-A	NA1693	None	173 505	173 510	No limit	No limit			
A	ORM-B n o s.	ORM-B	NA1760	None	173 505	173 510	No limit	No limit			
	ORM-C See 173 500 and 176 900										
	ORM-E liquid or solid, n o s. See Hazardous substance, liquid or solid, n o s.										
	Orthonitroaniline *See* Nitroaniline										
	Oxidizer corrosive, liquid, n o s.	Oxidizer	NA9193	Oxidizer and Corrosive	None	173 245	Forbidden	1 quart	1	5	
	Oxidizer corrosive, solid, n o s.	Oxidizer	NA9194	Oxidizer and Corrosive	173 153	173 154	25 pounds	25 pounds	1	4	
	Oxidizer material packed with other articles See 173 152										
	Oxidizer n o s. *or* Oxidizing material, n o s.	Oxidizer	UN1479	Oxidizer	173 153	173 154	25 pounds	25 pounds	1 2	1 2	
	Oxidizer poisonous, liquid, n o s.	Oxidizer	NA9199	Oxidizer and Poison	None	173 154	Forbidden	1 quart	1	5	
	Oxidizer poisonous, solid, n o s.	Oxidizer	NA9200	Oxidizer and Poison	173 155	173 154	25 pounds	25 pounds	1 2	4	
	Oxygen *or* Oxygen, compressed	Nonflammable gas	UN1072	Oxidizer	173 306	173 302 173 314	150 pounds	300 pounds	1 2	1 2	Under deck stowage must be in well ventilated space
	Oxygen, refrigerated liquid *(cryogenic liquid)*	Nonflammable gas	UN1073	Oxidizer	173 320	173 316 173 318	Forbidden	Forbidden	1	1	Stow separate from flammables. Do not overstow with other cargo
	Paint	Combustible liquid	UN1263	None	173 118a	None	No limit	No limit	1 2	1 2	
	Paint	Flammable liquid	UN1263	Flammable liquid	173 118 173 128	173 128	1 quart	55 gallons	1 2	1	
	Paint *or* paint related material	Corrosive material	NA1760	Corrosive	173 244	173 245	1 quart	1 gallon	1 2	1 2	
	Paint related material	Combustible liquid	NA1263	None	173 118a	None	No limit	No limit	1 2	1 2	
	Paint related material	Flammable liquid	UN1263	Flammable liquid	173 118	173 128	1 quart	55 gallons			
	Paper caps See Toy caps										
AW	Paraformaldehyde	ORM-A	UN2213	None	173 505	173 510	50 pounds	200 pounds	1 2	1 2	
	Paraldehyde	Flammable liquid	UN1264	Flammable liquid	173 118	173 119	1 quart	10 gallons	1 2	1	
	Paramenthane hydroperoxide	Organic peroxide	UN2125	Organic peroxide	173 153	173 224	1 quart	1 quart	1 2	4	
	Paranitroaniline solid *See* Nitroaniline										
	Parathion and compressed gas mixture	Poison A	NA1967	Poison gas	None	173 334	Forbidden	Forbidden	1 3	5	
	Parathion liquid	Poison B	NA2783	Poison	None	173 358	Forbidden	1 quart	1 3	1 3	
	Parathion mixture dry	Poison B	NA2783	Poison	173 377	173 377	50 pounds	200 pounds	1 3	1 3	
	Parathion mixture liquid	Poison B	NA2783	Poison	None	173 359	Forbidden	1 quart	1 3	1 3	
	Paris green solid *See* Copper acetoarsenite, solid										
	Pelargonyl peroxide *technically pure See* Organic peroxide solid, n o s.		UN2130								
	Pentaborane	Flammable liquid	UN1380	Flammable liquid and Poison	None	173 138	Forbidden	Forbidden	1	5	Segregation same as for flammable solids. Separate from flammable gases or liquids, oxidizing materials or organic peroxides
	Pentaerythrite tetranitrate See Initiating explosive										
	Pentaerythrite tetranitrate desensitized, wet. See High explosive										
	Pentaerythrite tetranitrate (dry)	Forbidden									
	Pentane	Flammable liquid	UN1265	Flammable liquid	173 118	173 119	Forbidden	10 gallons	1 3	4	
	Pentanitroaniline (dry)	Forbidden									
	Peroxide dry See High explosive										
	Peroxide acid solution *not over 43% peroxide acid and not over 6% hydrogen peroxide*	Organic peroxide	NA2131	Organic peroxide	173 223	173 223	1 pint	5 pints	1	4	Shade from radiant heat
	Perchlorate, n o s.	Oxidizer	NA1481	Oxidizer	173 153	173 154	25 pounds	100 pounds	1 3	1 3	Stow away from powdered metals

Copyright © 1989 by The Bureau of National Affairs, Inc.
0148-7973/89/$0.+.50

DEPARTMENT OF TRANSPORTATION REGULATIONS FOR USE OF HAZARDOUS MATERIALS TABLES; PURPOSE AND USE OF THE OPTIONAL HAZARDOUS MATERIALS TABLE

(49 CFR 172.102; 45 FR 34560, May 22, 1980; amended at 45 FR 43761, June 30, 1980; 45 FR 74640, November 10, 1980; 47 FR 44471, October 7, 1982; 51 FR 25639, July 15, 1986; 51 FR 42174, November 29, 1986; 52 FR 4842, February 17, 1987)

§172.102 Purpose and use of the optional hazardous materials table for international shipments.

(a) The Optional Hazardous Materials Table (Optional Table) set forth in this section provides descriptions, classifications, labeling and vessel stowage requirements which may be used for international shipments as authorized by §171.12 of this subchapter. The Optional Table provides alternatives to corresponding requirements in §172.101 subject to conditions set forth in this section. The provisions of this section do not apply to materials designated as hazardous materials under this subchapter that are not subject to the requirements of the IMDG Code. This section does not designate materials as hazardous materials and it does not specify packaging requirements, exceptions or limitations. They are made only in §172.101. A number of materials listed in the Optional Table may not be subject to the requirements of this subchapter, but they are subject to regulation under widely applied international standards. They are listed in this section in the interest of providing consistency with those standards and to alert persons offering or accepting these materials for transportation that the materials may be subject to regulation in international transport.

(1) A shipping description and any associated entry which is listed in the current edition of the IMDG Code but is not listed in the Optional Table may be used as if it was listed in the Optional Table, if approved by the Director, OHMT.

[51 FR 25639, July 15, 1986]

(b) A material described, classed and labeled in accordance with this section must be in conformance with all additional defining or limiting conditions prescribed for the description in the appropriate schedule of the IMDG Code.

(c) When a material is transported by aircraft, motor vehicle, or rail transport vehicle under the description and IMO class or division provided in the Optional Table, the shipping paper required by § 172.202(a) must include the class name from Part 173 of this subchapter which most closely corresponds to the IMO class indicated for the material in the Optional Table. For example, the IMO proper shipping name, class and identification number for Ethylene oxide are "Ethylene oxide, 2.1, UN1040". While Ethylene oxide would be classed as a Flammable liquid under § 172.101, the class in Part 173 of this subchapter that most closely corresponds to the IMO class provided in the Optional Table is "Flammable gas". The proper shipping paper description would be "Ethylene oxide, 2.1, Flammable gas, UN 1040".

(d) When appropriate, the entries "IMO" or "IMO Class" may be entered immediately before or immediately following the class entry in the basic description. For example: "Ethylene oxide, IMO Class 2.1, Flammable gas, UN 1040."

(e) When an appropriate shipping name from the Optional Table is used to describe a hazardous material which is also a hazardous substance, the additional description requirements for hazardous substances in §§172.203(c) and 172.324 are applicable.

[172.102(e) revised by 51 FR 42174, Nov. 29, 1986, 52 FR 4842, Feb. 17, 1987]

(f) Column 1 contains the letter "N" immediately adjacent to certain entries. The letter "N" means that the entry is not an acceptable alternative and the material must be transported under the appropriate entry in § 172.101.

(g) Column 2 lists the optional proper shipping names for hazardous materials. Proper shipping names are limited to those shown in Roman type (not italics). In the selection of a proper shipping name to describe a particular material, if the correct technical name is not shown, or is not appropriate, selection must be made from the general description or "n.o.s." entries corresponding to the specific hazard class of the material being shipped. The name that most appropriately describes the material must be used; e.g., an alcohol not listed by name in the Optional Table must be shipped as an "Alcohol n.o.s." rather than "Flammable liquid n.o.s." unless the technical name of the alcohol is listed, e.g., Methanol. Some mixtures may be more appropriately described by their application, such as "Paint" or "Cleaning compound".

(1) Shipping names may be entered in either upper or lower case letters.

(2) The words in italics are not part of the proper shipping name but may be used in addition to the proper shipping name. The word "or" in italics indicates that any terms in the sequence may be used as the proper shipping name, as appropriate.

(3) When one entry references another entry by use of a "*see*" and both names are in Roman type, either name may be used as a proper shipping name (e.g., Methyl alcohol. *See* Methanol).

(4) If not included in the proper shipping name in the Optional Table, the proper shipping name for a hazardous material that is a hazardous waste must include the word "Waste" preceding the name of the material. For example, "Waste turpentine.

(h) Column 3 contains the hazard class or division designated for the material in the IMDG Code. In the case of explosives, a letter designating the "compatibility group" of the substance or article is also included immediately following the division. Detailed definitions of the classes, divisions, and compatibility groups are provided in the IMDG Code. Basic definitions of the IMO classes and divi-

sions (with corresponding DOT classes shown in italics) are as follows:

(1) Class 1—Explosives.

(i) Division 1.1—Substances and articles which have a mass explosion hazard. *Explosive A*

(ii) Division 1.2—Substances and articles which have a projection hazard but not a mass explosion hazard. *Explosive A or B*

(iii) Division 1.3—Substances and articles which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard. *Explosive B*

(iv) Division 1.4—Substances and articles which present no significant hazard. *Explosive C*

(v) Division 1.5—Very insensitive substances. *Blasting Agent*

(2) Class 2—Gases (compressed, liquefied or dissolved under pressure).

(i) Division 2.1—Flammable gases. *Flammable gas*

(ii) Division 2.2—Nonflammable gases. *Nonflammable gas*

(iii) Division 2.3—Poison gases. *Poison A*

(3) Class 3—Flammable liquids.

(i) Division 3.1—Low flash point group (liquids with flash points below 0°F.). *Flammable liquid*

(ii) Division 3.2—Intermediate flash point group (liquids with flash points of 0°F. or above but less than 73°F.). *Flammable liquid*

(iii) Division 3.3—High flash point group (liquids with flash points of 73°F. or above up to and including 141°F.).

(4) Class 4—Flammable solids or substances.

(i) Division 4.1—Flammable solids. *Flammable solid*

(ii) Division 4.2—Substances liable to spontaneous combustion. *Flammable solid* or, for pyroforic liquids, *Flammable liquid*

(iii) Division 4.3—Substances emitting flammable gases when wet. *Flammable solid*

(5) Class 5—Oxidizing substances.

(i) Division 5.1—Oxidizing substances or agents. *Oxidizer*

(ii) Division 5.2—Organic peroxides. *Organic peroxide*

(6) Class 6—Poisonous and infectious substances.

(i) Division 6.1—Poisonous substances. *Poison B*

(ii) Division 6.2—Infectious substances. *Etiologic agent*

(7) Class 7—Radioactive substances. *Radioactive material*

(8) Class 8—Corrosives. *Corrosive material*

(9) Class 9—Miscellaneous dangerous substances. *Other regulated material*

(i) Column 4 contains the United Nations number listed for the substance or article in the IMDG Code. A number of substances or articles have no UN number provided for them in the IMDG Code. For some of these entries, the UN number of the article or substance which most appropriately corresponds to that particular entry is shown in parentheses.

(j) Column 5 specifies the labels to be applied to each package. Specifications for labels for domestic and export shipments shall be either as provided in this subchapter or as provided in the IMDG Code, except that color shall be as prescribed in § 172.407(d). The label referred to as the "St. Andrews Cross" label is the "Harmful-Stow Away From Foodstuffs" label provided by IMO for materials of Class 6.1 Packaging Group III.

(k) Column 6 provides the packaging group specified for the material in the IMDG Code.

(l) Column 7 specifies each of the authorized stowage locations on board cargo vessels and passenger vessels and certain additional requirements for shipments of listed hazardous materials. Section 176.83 of this subchapter sets forth the physical requirements for each of the authorized stowage locations listed in Column 7. The authorized stowage locations are defined as follows:

(1) "1" means the material must be stowed "on deck."

(2) "2" means the material must be stowed "under deck."

(3) "3" means the material must be stowed "under deck away from heat."

(4) "1.2" means the material may be stowed either "on deck" or "under deck"; however, "under deck" stowage should be used if available.

(5) "1.3" means the material may be stowed either "on deck" or "under deck away from heat"; however, "under deck away from heat" stowage should be used if it is available.

(6) "5" means the material is forbidden and may not be offered or accepted for transportation by vessel.

(7) "6" means the material is authorized to be transported in a magazine subject to the requirements of §§ 176.135 through 176.144 of this subchapter.

DEPARTMENT OF TRANSPORTATION OPTIONAL HAZARDOUS MATERIALS TABLE

(49 CFR 172.102; 48 FR 50234, October 31, 1983; Amended 52 FR 36671, September 30, 1987)

172.102 Optional Hazardous Materials Table

(1) Symbols	(2) Hazardous Materials Description and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Acetal	3.1	UN 1088	Flammable Liquid	II	1.3	5	Keep cool
	Acetaldehyde	3.1	UN 1089	Flammable Liquid	I	1.3	5	Keep cool
	Acetaldehyde ammonia	9	UN 1841	None	III	1.2	1.2	Stow away from foodstuffs
	Acetaldehyde oxime	3.3	UN 2332	Flammable Liquid	II	1.2	1.2	
	Acetic acid, glacial or Acetic acid solution, *more than 80% acid, by weight*	8	UN 2789	Corrosive, Flammable Liquid	II	1.2	1.2	Segregation same as for flammable liquids. Glass carboys in hampers prohibited under deck
	Acetic acid solution *more than 15% but not more than 80% acid, by weight*	8	UN 2790	Corrosive	II/III	1.2	1.2	Glass carboys in hampers prohibited under deck
	Acetic anhydride	8	UN 1715	Corrosive, Flammable Liquid	II	1.4	1.2	Stow separated longitudinally by an intervening complete compartment or hold from: explosives. Segregation same as for flammable liquids
	Acetone	3.1	UN 1090	Flammable Liquid	II	1.3	5	
	Acetone cyanohydrin, *stabilized*	6.1	UN 1541	Poison	I	I	5	Shade from radiant heat. Stow away from acids and alkalis
	Acetone oils	3.2	UN 1091	Flammable Liquid	II	1.2	I	
	Acetonitrile. *See* Methyl cyanide							
	Acetyl acetone peroxide, *maximum concentration 42% in solution*	5.2	UN 2080	Organic Peroxide	II	I	5	
	Acetyl benzoyl peroxide, *maximum concentration 45% in solution*	5.2	UN 2081	Organic Peroxide	II	I	5	
	Acetyl bromide	8	UN 1716	Corrosive	II	I	I	Keep dry. Glass carboys prohibited on passenger vessels
	Acetyl chloride	3.2	UN 1717	Flammable Liquid, Corrosive	II	1.2	I	
	Acetyl cyclohexane sulphonyl peroxide, *not more concentration 82% wetted with minimum 12% water*	5.2	UN 2082	Organic Peroxide	I	I	5	Control temperature -10 deg C. Emergency temperature 0 deg C
	Acetyl cyclohexane sulphonyl peroxide, *maximum concentration 32% in solution*	5.2	UN 2083	Organic Peroxide	II	I	5	Control temperature -10 deg C. Emergency temperature 0 deg C
	Acetylene, *dissolved*	2.1	UN 1001	Flammable Gas	–	I	I	Shade from radiant heat. Stow separated from: chlorine
	Acetyl iodide	8	UN 1898	Corrosive	II	I	I	Keep dry. Glass carboys prohibited on passenger vessels
	Acetyl methyl carbinol	3.3	UN 2621	Flammable Liquid	III	1.2	1.2	
	Acetyl peroxide, *maximum concentration 37% in solution*	5.2	UN 2084	Organic Peroxide	II	I	5	Control temperature 20 deg C. Emergency temperature 25 deg C
*	Acid mixtures, spent nitrating	8	UN 1826	Corrosive	I/II	I	5	Stow away from fluorides
	Acids, liquid, n.o.s. *See* Corrosive liquids, n.o.s.							
	Acridine	6.1	UN 2713	Flammable Solid	III	1.2	1.2	
	Acrolein dimer, *stabilized*	3.3	UN 2607	Flammable Liquid	II	1.2	1.2	
*	Acrolein, inhibited	6.1	UN 1092	Flammable Liquid, Poison	I	1.3	5	Keep cool
	Acrylamide	6.1	UN 2074	St. Andrews Cross	III	1.2	1.2	Shade from radiant heat. Keep cool
*	Acrylic acid, inhibited	8	UN 2218	Corrosive, Flammable Liquid	II	I	I	Shade from radiant heat. Keep cool. Segregation same as for flammable liquids. Glass carboys prohibited on passenger vessels
*	Acrylonitrile, inhibited	3.2	UN 1093	Flammable Liquid, Poison	I	1.3	5	Keep cool
*	Activated carbon. *See* Carbon, activated							
*	Activated charcoal. *See* Carbon, activated							
	Adhesives, *containing a flammable liquid*	3.1	UN 1133	Flammable Liquid	II	1.2	5	Keep cool
		3.2	UN 1133	Flammable Liquid	II	1.2	I	
		3.3	UN 1133	Flammable Liquid	II	1.2	1.2	
	Adiponitrile	6.1	UN 2205	St. Andrews Cross	III	1.2	1.2	Shade from radiant heat
	Aerosol dispensers, *with a capacity below 1400 cubic cm.*							
	(1) more than 10% by weight of total contents consisting of flammable gas	2.1	UN 1950	Flammable Gas	–	1.3	1.3	
	(2) internal pressure greater than 660 psig at 130 deg F	2.2	UN 1950	Nonflammable Gas	–	1.3	1.3	
	(3) more than 45% by weight of total contents consisting of flammable liquid. This limit is reduced to 35% if there is any flammable gas present.	3.1	UN 1950	Flammable Liquid	–	1.3	1.3	
		3.2	UN 1950	Flammable Liquid	–	1.3	1.3	
		3.3	UN 1950	Flammable Liquid	–	1.3	1.3	
	(4) more than 10% by weight of these substances in the liquid concentrate	6.1	UN 1950	Poison	I/II	1.3	1.3	
		6.1		St. Andrews Cross	III	1.3	1.3	
	(5) more than 5% by weight of corrosive substances in the liquid concentrate	8	UN 1950	Corrosive	–	1.3	1.3	
	(6) as specified under Group 3 on page 9011 of IMCO Code	9	UN 1950	None	–			
N	Aerosol dispensers, *with a capacity of 1400 cubic cm. or more*	2	UN 1950		–			
	Agents, blasting, Type B. *See* Explosives, blasting, Type B							
	Agents, blasting, Type E. *See* Explosives, blasting, Type E							
	Air, *compressed*	2.2	UN 1002	Nonflammable Gas	–	1.2	1.2	
	Aircraft thrust device, *for assisted take-off*	4.1	UN 2791	Flammable Solid	II	1.2	5	
	Air, *refrigerated liquid*	2.2	UN 1003	Nonflammable Gas, Oxidizer	–	1.3	1.3	Stow separated from: acetylene. Do not overstow
†N	Alarm devices, explosive, *automatic*	1.4S	UN 0001	None. Package to be marked "1.4S"	–	1.3	1.3	
*	Alcohols, n.o.s.	3.1	UN 1987	Flammable Liquid	I/II	1.3	5	Keep cool
		3.2	UN 1987	Flammable Liquid	II	1.2	I	
		3.3	UN 1987	Flammable Liquid	II	1.2	1.2	

*An asterisk in column one of this table indicates an entry that was added or changed at 48 FR 50234, October 31, 1983

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Description and Proper Shipping Name	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
*	Organophosphorus pesticides, liquid, toxic, flammable, n.o.s., *flashpoint between 23 deg C and 61 deg C*	6.1	UN 3017	Poison, Flammable Liquid	I	1	1	Segregation same as for flammable liquids
		6.1	UN 3017	Poison, Flammable Liquid	II	1,2	1	Segregation same as for flammable liquids
		6.1	UN 3017	St. Andrews Cross, Flammable Liquid	III	1,2	1,2	Segregation same as for flammable liquids
*	Organophosphorus pesticides, liquid, toxic, n.o.s.	6.1	UN 3018	Poison	I	1	1	
		6.1	UN 3018	Poison	II	1,2	1	
		6.1	UN 3018	St. Andrews Cross	III	1,2	1,2	
*	Organophosphorus pesticides solid, toxic, n.o.s.	6.1	UN 2783	Poison	I/II	1,2	1,2	
		6.1	UN 2783	St. Andrews Cross	III	1,2	1,2	
	Organotin compounds, n.o.s.	6.1	UN 2788	Poison	I/II	1,2	1	Stow away from living quarters
		6.1	UN 2788	St. Andrews Cross	III	1,2	1	
*	Organotin pesticides, liquid, flammable, toxic, n.o.s. *flashpoint below 23 deg C*	3.2	UN 2787	Flammable Liquid and Poison or St. Andrews Cross (according to toxicity)	I/II	1,2	1	
*	Organotin pesticides, liquid, toxic, flammable, n.o.s., *flashpoint between 23 deg C and 61 deg C*	6.1	UN 3019	Poison, Flammable Liquid	I	1	1	Segregation same as for flammable liquids
		6.1	UN 3019	Poison, Flammable Liquid	II	1,2	1	Segregation same as for flammable liquids
		6.1	UN 3019	St. Andrews Cross, Flammable Liquid	III	1,2	1,2	Segregation same as for flammable liquids
*	Organotin pesticides, liquid, toxic, n.o.s.	6.1	UN 3020	Poison	I	1	1	
		6.1	UN 3020	Poison	II	1,2	1	
		6.1	UN 3020	St. Andrews Cross	III	1,2	1,2	
*	Organotin pesticides, solid, toxic, n.o.s.	6.1	UN 2786	Poison	I/II	1,2	1,2	
		6.1	UN 2786	St. Andrews Cross	III	1,2	1,2	
	Osmium tetroxide	6.1	UN 2471	Poison	I	1,2	1	Stow 'away from' living quarters
	Oxalates, *water soluble*	6.1	UN 2449	St. Andrews Cross	III	1,2	1,2	
*	Oxidizing substances, n.o.s.	5.1	UN 1479	Oxidizer	I/II/III	1,2	1,2	Stow 'separated from' ammonium compounds and 'away from' powdered metals
	Oxygen and carbon dioxide, mixtures. See Carbon dioxide and oxygen *mixtures*							
	Oxygen, *compressed*	2.2	UN 1072	Nonflammable Gas, Oxidizer	–	1,2	1,2	
	Oxygen difluoride	2.3	UN 2190	Poison Gas	–	1	5	Keep dry. Stow 'away from' living quarters and readily combustible substances
	Oxygen, *refrigerated liquid*	2.2	UN 1073	Nonflammable Gas, Oxidizer	–	1	5	Stow 'separated from' acetylene. Do not overstow
*	Paints, enamels, lacquers, stains, shellac *solutions*, varnish, polishes, fillers *liquid*, lacquer base or thinners	3.2	UN 1263	Flammable Liquid	II/III	1,2	1	
		3.3	UN 1263	Flammable Liquid	II/III	1,2	1,2	
*	Paper, unsaturated oil treated, *incompletely dried*	4.2	UN 1379	Spontaneously Combustible	III	1,2	1,2	
	Paraformaldehyde	4.1	UN 2213	None. Package to be marked "Class 4.1"	III	1,2	1,2	
	Paraldehyde	3.3	UN 1264	Flammable Liquid	III	1,2	1,2	
	Pentaborane	4.2	UN 1380	Spontaneously Combustible, Poison	I	1	5	
	Pentachloroethane	6.1	UN 1669	Poison	II	1,2	1,2	
*N	Pentaerythrite tetranitrate, *wetted with not less than 25% water by weight, or desensitized with not less than 15% phlegmatizer, by weight*	1.1D	UN 0150	Explosive (1.1D)	–	–	–	
*N	Pentaerythrite tetranitrate, *with not less than 7% wax, by weight*	1.1D	UN 0411	Explosive (1.1D)	–	–	–	
	Pentamethylheptane	3.3	UN 2286	Flammable Liquid	III	1,2	1,2	
	2,4-Pentanedione	3.3	UN 2310	Flammable Liquid	III	1,2	1,2	
	Pentanes	3.1	UN 1265	Flammable Liquid	I	1,3	5	Keep cool
	1-Pentol	8	UN 2705	Corrosive	II	1,2	1	Stow 'away from' all other corrosives
*N	Pentolite, *dry or wetted with less than 15% water, by weight*	1.1D	UN 0151	Explosive (1.1D)	–	–	–	
*	Perchlorates, inorganic, n.o.s.	5.1	UN 1481	Oxidizer	II	1,2	1,2	Stow 'away from' powdered metals and 'separated from' ammonium compounds
	Perchloric acid, *not exceeding 50% by weight of acid*	8	UN 1802	Corrosive, Oxidizer	II	1	1	Stow 'away from' hydrazine
	Perchloric acid, *over 50% and not exceeding 72% of acid*	5.1	UN 1873	Oxidizer, Corrosive	I	1	5	
	Perchlorocthylene. See Tetrachloroethylene							
	Perchloromethyl mercaptan	6.1	UN 1670	Poison	I	1	5	Stow 'away from' living quarters
*	Perfumery products, *with flammable solvents*	3.2	UN 1266	Flammable Liquid	II	1,2	1	
		3.3	UN 1266	Flammable Liquid	III	1,2	1,2	
*	Permanganates, inorganic, n.o.s.	5.1	UN 1482	Oxidizer	II	1,2	1,2	Stow 'separated from' ammonium compounds and hydrogen peroxide
*	Peroxides, inorganic, n.o.s.	5.1	UN 1483	Oxidizer	II	1,2	1	Stow 'away from' powdered metals. Keep dry
*	Peroxyacetic acid, *maximum concentration 43% in acetic acid or in a mixture of acetic acid and water, with in either case not more than 6% hydrogen peroxide and not more than 1% sulphuric acid*	5.2	UN 2131	Organic Peroxide, Corrosive	I	1	5	
*	Pesticides, liquid, flammable, toxic, n.o.s. *flashpoint below 23 deg C*	3.2	UN 3021	Flammable Liquid and Poison or St. Andrews Cross (according to toxicity)	I/II	1,2	1	

172.102 Optional Hazardous Materials Table (Cont'd)

(1) Notes and Symbols	(2) Hazardous Materials Descriptions and Proper Shipping Names	(3) IMCO Class	(4) Identification Number	(5) Label(s) required	(6) Packaging Group	(7) Vessel Stowage Requirements (a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
*	Pesticides, liquid, toxic, flammable, n.o.s. *flashpoint between 23 deg C and 61 deg C*	6.1	UN 2903	Poison, Flammable Liquid	I	I	I	Segregation same as for flammable liquids
		6.1	UN 2903	Poison, Flammable Liquid	II	I 2	I	Segregation same as for flammable liquids
		6.1	UN 2903	St. Andrews Cross, Flammable Liquid	III	I 2	I 2	Segregation same as for flammable liquids
*	Pesticides, liquid, toxic, n.o.s.	6.1	UN 2902	Poison	I	I	I	
		6.1	UN 2902	Poison	II	I.2	I	
		6.1	UN 2902	St. Andrews Cross	III	I.2	I 2	
*	Pesticides, solid, toxic, n.o.s.	6.1	UN 2588	Poison	I/II	I.2	I.2	
		6.1	UN 2588	St. Andrews Cross	III	I 2	I.2	
	Petroleum crude oil	3.1	UN 1267	Flammable Liquid	II	I 3	5	Keep cool
		3.2	UN 1267	Flammable Liquid	II	I 2	I	
		3.3	UN 1267	Flammable Liquid	II	I.2	I 2	
	Petroleum distillates, n.o.s.	3.1	UN 1268	Flammable Liquid	II	I 3	5	Keep cool
		3.2	UN 1268	Flammable Liquid	II	I 2	I	
		3.3	UN 1268	Flammable Liquid	II	I 2	I.2	
	Petroleum ether *See* Petroleum spirit							
*	Petroleum gases, liquefied	2.1	UN 1075	Flammable Gas	–	I.2	I	
	Petroleum oil	3.1	UN 1270	Flammable Liquid	II	I.3	5	Keep cool
		3.2	UN 1270	Flammable Liquid	II	I.2	I	
		3.3	UN 1270	Flammable Liquid	II	I 2	I.2	
	Petroleum spirit	3.1	UN 1271	Flammable Liquid	II	I 3	5	Keep cool
		3.2	UN 1271	Flammable Liquid	II	I 2	I	
		3.3	UN 1271	Flammable Liquid	II	I.2	I.2	
	Petrol. *See* Gasoline							
	Phenacyl bromide	6.1	UN 2645	Poison	II	I.3	I	Keep cool. Stow 'away from' living quarters
*	Phenetidines (*o-, p-*)	6.1	UN 2311	St. Andrews Cross	III	I.2	I.2	
	Phenol	6.1	UN 1671	Poison	II	I.2	I.2	
	Phenol, molten	6.1	UN 2312	Poison	II	I	I	
	Phenol solutions	6.1	UN 2821	Poison	II	I.2	I.2	Stow 'away from' living quarters
	Phenolsulphonic acid, *liquid*	8	UN 1803	Corrosive	II	I.2	I	Metal drums only under deck
*	Phenoxy pesticides, solid, toxic, n.o.s.	6.1	UN 2765	Poison	I/II	I.2	I.2	
		6.1	UN 2765	St. Andrews Cross	III	I 2	I.2	
*	Phenoxy pesticides, liquid, flammable, toxic, n.o.s., *flashpoint less than 23 deg C*	3.2	UN 2766	Flammable Liquid and Poison or St. Andrews Cross (according to toxicity)	I/II	I.2	I	
*	Phenoxy pesticides, liquid, toxic, flammable, n.o.s., *flashpoint between 23 deg C and 61 deg C*	6.1	UN 2999	Poison, Flammable Liquid	I	I	I	Segregation same as for flammable liquids
		6.1	UN 2999	Poison, Flammable Liquid	II	I.2	I	Segregation same as for flammable liquids
		6.1	UN 2999	St. Andrews Cross, Flammable Liquid	III	I 2	I 2	Segregation same as for flammable liquids
*	Phenoxy pesticides, liquid, toxic, n.o.s.	6.1	UN 3000	Poison	I	I	I	
		6.1	UN 3000	Poison	II	I 2	I	
		6.1	UN 3000	St. Andrews Cross	III	I.2	I 2	
	Phenylacetonitrile, liquid	6.1	UN 2470	St. Andrews Cross	III	I.2	I.2	Stow 'away from' acids
	Phenylacetyl chloride	8	UN 2577	Corrosive	II	I	I	Keep dry
	Phenylcarbylamine chloride	6.1	UN 1672	Poison	I	I	5	Stow 'away from' living quarters
	Phenylchloroformate	6.1	UN 2746	Poison, Corrosive	II	I 5	I.5	Keep cool and dry. Shade from radiant heat. Stow away from living quarters
	Phenylenediamines (*o-, m-, p-*)	6.1	UN 1673	St. Andrews Cross	III	I.2	I 2	
	Phenylhydrazine	6.1	UN 2572	Poison	II	I 2	I 2	Stow 'away from' living quarters
	Phenyl mocyanate	6.1	UN 2487	Poison, Flammable Liquid	II	I	5	Shade from radiant heat. Stow away from living quarters. Segregation same as for flammable liquids
	Phenyl mercaptan	6.1	UN 2337	Poison, Flammable Liquid	I	I 2	I	Segregation same as for flammable liquids
	Phenylmercuric acetate	6.1	UN 1674	Poison	II	I 2	I 2	
	Phenylmercuric compounds, n.o.s.	6.1	UN 2026	Poison	I/II	I 2	I 2	
		6.1	UN 2026	St. Andrews Cross	III	I.2	I 2	
	Phenylmercuric hydroxide	6.1	UN 1894	Poison	II	I 2	I 2	
	Phenylmercuric nitrate	6.1	UN 1895	Poison	II	I 2	I.2	
	Phenyl phosphorus dichloride	8	UN 2798	Corrosive	II	I.2	I	
	Phenyl phosphorus thiodichloride	8	UN 2799	Corrosive	II	I.2	I	
	Phenyl trichlorosilane	8	UN 1804	Corrosive	II	I	I	Keep dry
*	Phenyl urea pesticides, liquid, flammable, toxic, n.o.s., *flashpoint less than 23 deg C*	3.2	UN 2768	Flammable Liquid and Poison or St. Andrews Cross (according to toxicity)	I/II	I.2	I	
*	Phenyl urea pesticides, liquid, toxic, flammable, n.o.s., *flashpoint between 23 deg C and 61 deg C*	6.1	UN 3001	Poison, Flammable Liquid	I	I	I	Segregation same as for flammable liquids
		6.1	UN 3001	Poison, Flammable Liquid	II	I.2	I	Segregation same as for flammable liquids
		6.1	UN 3001	St. Andrews Cross, Flammable Liquid	III	I.2	I.2	Segregation same as for flammable liquids
*	Phenyl urea pesticides, liquid, toxic, n.o.s.	6.1	UN 3002	Poison	I	I	I	

172.200
SHIPPING PAPERS

1. PSN
2. Hazard Class
3. **ID Numbers**
4. # of pieces and net quantity
5. Certification statement
6. PAX/CAO statement
7. Signature

These three entries are the basic description and must be shown in proper sequence.

PLEASE PRINT OR TYPE

FEDERAL EXPRESS

[illegible] SEE BACK-OF FORM [illegible] PREPARATION INSTRUCTIONS

YOUR FEDERAL EXPRESS ACCOUNT NUMBER	DATE
FROM (Your Name)	TO (Recipient's Name) — If Hold For Pick-Up or Saturday O Recipient's Phone Number
COMPANY — DEPARTMENT/FLOOR NO	COMPANY — DEPARTMENT/FLOOR NO
STREET ADDRESS	STREET ADDRESS (P O BOX NUMBERS [illegible] DELIVERABLE)
CITY — STATE	CITY — STATE

1 2

AIRBILL NO. 290978564

ZIP ACCURATE ZIP CODE REQUIRED FOR CORRECT INVOICING

IN TENDERING THIS SHIPMENT SHIPPER AGREES THAT F E C SHALL NOT BE LIABLE FOR SPECIAL INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM CARRIAGE HEREOF F E C DISCLAIMS ALL WARRANTIES EXPRESS OR IMPLIED WITH RESPECT TO THIS SHIPMENT THIS IS A NON NEGOTIABLE AIRBILL SUBJECT TO CONDITIONS OF CONTRACT SET FORTH ON REVERSE OF SHIPPER'S COPY UNLESS YOU DECLARE A HIGHER VALUE THE LIABILITY OF FEDERAL EXPRESS CORPORATION IS LIMITED TO $100 00 FEDERAL EXPRESS DOES NOT CARRY CARGO LIABILITY INSURANCE

ZIP ACCURATE ZIP CODE REQUIRED FOR OVERNIGHT DELIVERY

YOUR NOTES/REFERENCE NUMBERS (FIRST 12 CHARACTERS WILL ALSO APPEAR ON INVOICE)

3

PAYMENT ☐ Bill Shipper ☐ Bill Recipient's F.E. [illegible] ☐ Bill 3rd Party F.E.C. Acct. ☐ Bill Credit Card

☐ Cash in Advance Account Number/Credit Card Number

SERVICES CHECK ONLY ONE BOX	DELIVERY AND SPECIAL HANDLING CHECK SERVICES REQUIRED	PACKAGES	WEIGHT	DECLARED VALUE	O/S
PRIORITY 1 ☐ (OVERNIGHT PACKAGED) (Up to 70 LBS)	1 ☐ HOLD FOR PICK UP AT FOLLOWING FEDERAL EXPRESS LOCATION SHOWN IN SERVICE GUIDE RECIPIENT'S PHONE NUMBER IS REQUIRED				
	2 ☐ DELIVER				
	3 ☐ SATURDAY SERVICE REQUIRED See Reverse (Extra charge applies to delivery)				
	4 ■ RESTRICTED ARTICLES SERVICE (P-1 and Standard Air Packages only, extra charge)				
STANDARD AIR ☐ DELIVERY 2ND BUSINESS DAY FOLLOWING PICK-UP (Up to 70 LBS)	5 ☐ SSS (Signature Security Service required, extra charge applies)				
	6 ☐ DRY ICE _____ LBS.				
	7 ☐ OTHER SPECIAL SERVICE _____				
	8 ☐ _____				
	9 ☐				
		TOTAL	TOTAL	TOTAL	

4 5

RECEIVED AT SHIPPER'S DOOR ☐ REGULAR STOP ☐ ON-CALL STOP ☐ F.E.C. LOC.

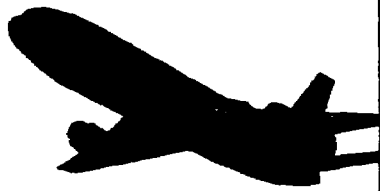
Federal Express Corporation Employee No.

DATE/TIME For Federal Express Use

OVERNIGHT IS NEXT BUSINESS DAY (MONDAY THROUGH FRIDAY), TWO DAYS FROM ALASKA/HAWAII SATURDAY DELIVERY AVAILABLE IN CONTINENTAL U S SEE "SPECIAL HANDLING"

ORM'S AND RADIOACTIVE MATERIAL ONLY

FEDERAL EXPRESS	
FREIGHT CHARGES	
DECLARED VALUE CH	
AGT/PRO	ADVANCE ORIGIN
AGT/PRO	ADVANCE DESTINATI
	OTHER
	TOTAL CHARGES



PART #2041730764

REVISION DATE 10/82 S

PRINTED U S A

AIRBILL NUMBER 290978564

SHIPPER'S CERTIFICATION FOR RESTRICTED ARTICLES

(TYPE OR PRINT)

NO. OF PKGS.	[illegible]	NET QUANTITY PER PACKAGE

ADDITIONAL DESCRIPTION REQUIREMENTS FOR RADIOACTIVE MATERIALS (SEE BACK)

					PACKAGE IDENTIFICATION

THIS SHIPMENT IS WITHIN THE LIMITATIONS PRESCRIBED FOR PASSENGER AIRCRAFT CARGO AIRCRAFT ONLY (DELETE-NONAPPLICABLE)

IF ACCEPTABLE FOR PASSENGER AIRCRAFT, THIS SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN, OR INCIDENT TO, RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT.

I HEREBY CERTIFY THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY PROPER SHIPPING NAME AND ARE CLASSIFIED, PACKED, MARKED, AND LABELED, AND IN PROPER CONDITION FOR CARRIAGE BY AIR ACCORDING TO APPLICABLE NATIONAL GOVERNMENTAL REGULATIONS.

[illegible]	[illegible]	SIGNATURE OF SHIPPER

253

FOR CUSTOMER ASSISTANCE ANYTIME, CALL TOLL [illegible] IN TENNESSEE, CALL [illegible]

1 A. Enter your Federal Express Account Number.
"Note: If you don't know your Federal Express Account Number, please call your local Federal Express office. If you have questions concerning our Features of Service, please refer to your Federal Express Service Guide."
B. Enter your name, then your company name, department, street address, city, state (two-letter postal abbreviation) and zip code.

2 A. Enter the date of shipment.
B. Enter receiving party's name, phone number, then the company name, street address, city, state (two-letter postal abbreviation) and zip code.

3 A. Enter any special notes or reference number. The first 12 characters will appear on your invoice to help identify the shipment.
B. "Bill to Shipper" means the Account Number entered in Section (1) above will be billed.
C. "Bill to Recipient" means that the company entered in Section (2) above will be billed.
D. "Cash in Advance" means that you would like to pay in advance for the charges either by check, currency or credit cards (most major credit cards are accepted by Federal Express Couriers and at all Federal Express office locations.)
E. "Bill to Third Party" means that you would like to bill someone else for service charges. The Federal Express Account Number to be billed must be entered in the space provided.

4 A. Check the type of service desired (refer to your Federal Express Service Guide) mark either Priority 1 or Standard Air.
B. "Hold for Pick-Up" indicates that you would prefer that the package be held for Recipient at the Federal Express office. Please supply the address including the 3 letter identifier of the desired Federal Express destination office on the line provided. (Refer to the Federal Express Service Guide for the location of our offices.)
C. Check the "Deliver" box if you would prefer that our Courier deliver the package(s) to the Recipient.
D. Check "Saturday Service" if the package is [illegible] by or delivered to the recipient on Saturday (if Saturday Delivery is required, extra charges apply).
E. Check "Restricted Articles Service" for 4 shipments of Saturday materials (Priority 1 and Standard Air packages only).
F. Check "Signature Security Service" for a shipment requiring additional care in transit.
G. Check "Dry Ice" if the shipment contains Dry Ice and indicate the weight in pounds of Dry Ice contained in the shipment.
H. Check "Other Special Services" and indicate the service on the line provided, if applicable to this shipment.

5 FOR PRIORITY 1 SERVICE:
For up to 4 nonidentical packages (different weights, sizes or declared values), complete items A through F.
For a bulk shipment of up to 98 identical packages (same weight, size and declared value), complete items A, B, and C for one of the packages, write "Bulk" on the next line and then complete items D through F for the entire bulk shipment.

FOR STANDARD AIR SERVICE:
Complete items D through F only.
A. Enter "1" for each package.
B. Enter the [illegible] weight of each package.
C. Enter the declared value of each package.
D. Enter the total number of packages.
E. Enter the total weight in pounds.
F. Enter the total declared value.

RADIOACTIVE MATERIAL SHIPMENT INFORMATION

Radionuclide	Element and mass number
Form	Special form or chemical and physical form
Activity	Use appropriate units - Ci - curie, mCi - millicurie, uCi - microcurie
Label	White I, Yellow II, Yellow III, or None when no label required
Transport Index	For Yellow II and Yellow III labeled packages only
Package Identification	NRC Certificate of Compliance Identification number; or Certificate of Competent Authority Identification number; or package type, if applicable, and not included in identification number; or package specification if none of above not applicable

WARNING: Failure to comply in all respects with the applicable regulations of the Department of Transportation, 49 CFR, Parts 100-199 and, for international shipments, the IATA Restricted Articles Regulations may be a breach of the applicable law, subject to legal penalties. This certification shall in no circumstance be signed by an IATA Cargo Agent or a consolidator for international shipments.

CARGO AIRCRAFT ONLY LABEL

IS REQUIRED WHEN:

1. QUANTITY SHIPPED IN ONE PACKAGE EXCEEDS THE PASSENGER AIRCRAFT LIMITS

2. COMMODITY IS FORBIDDEN FOR PASSENGER AIRCRAFT

3. RADIOACTIVE SHIPMENTS FOR MEDICAL USE WITH A T.I. EXCEEDING 3.0 MR/HR

4. RADIOACTIVE SHIPMENTS FOR INDUSTRIAL USE 10 T.I.s **OR LESS**

MARKINGS 172.300

1 PROPER SHIPPING NAME AND I.D. #

2. NAME AND ADDRESS OF SHIPPER OR CONSIGNEE (FEC PREFERS BOTH)

3. IF **LIQUID** "THIS SIDE UP" OR "THIS END UP"

4 IF **REQUIRED:** THE BOX SPEC # (DOT, IATA, OR ICAO BOX SPECS.)

5. HIDDEN MARKING REQUIREMENTS, USUALLY FOUND IN EXPLOSIVE PACKAGING NOTES. EX: "HANDLE CAREFULLY" "KEEP FIRE AWAY"

6. IF A DOT CYLINDER OR BOX IS OVERPACKED, WE CAN'T SEE THE DOT #. THE WORDS "**INSIDE PACKAGES** (CONTAINER) **COMPLYS WITH PRESCRIBED SPECIFICATION**" MUST BE MARKED ON THE OUTSIDE PACKAGE.

7 LIMITED QUANTITIES AND ORM Ds ARE NOT REQUIRED TO BE MARKED WITH THE IDENTIFICATION NUMBER.

8 PACKAGES CONTAINING A HAZARDOUS SUBSTANCE MUST BE MARKED WITH THE LETTERS RQ. (NOT THE WEIGHTS) 172.324

9. ALL CONSTITUENTS OF THE HAZARDOUS SUBSTANCES MUST BE MARKED IN ASSOCIATION WITH THE BASIC DESCRIPTION IF THE PROPER SHIPPING NAME FAILS TO INCLUDE THEM.

ALL MARKINGS MUST BE:

DURABLE, ENGLISH, PRINTED, UNOBSCURED ON A **CONTRASTING BACKGROUND** AND **LOCATED AWAY FROM SIMILAR MARKINGS.**

MARKING REQUIREMENTS

All Restricted Article packages must be marked with·

1 Proper Shipping Name , ID Number

2. Name and Address of Shipper or Consignee

3 "This Side Up" when inside is a liquid

4 All other marking requirements in the packaging section.

In addition, Other Regulated Materials, (ORM's) must be marked as follows:

For an ORM A **ORM-A**

Form an ORM B **ORM-B**

For an ORM-B Solid that is corrosive only to Aluminum When Wet **ORM-B KEEP DRY**

For an ORM C **ORM-C**

Form an ORM D **ORM-D-AIR**

For an ORM E **ORM-E**

The rectangle must be at least 1/4 inch larger on all sides than lettering.

PLACEMENT OF LABELS 172.312

1. NEAR PROPER SHIPPING NAME

2. ON TAGS OK (EXCEPT FOR RADIOACTIVE MATERIAL)

3. DIFFERENT LABELS MUST BE NEXT TO EACH OTHER, NOT OPPOSITE

4. NO **OVERLAPPING** INTO THE BORDER.

5. RADIOACTIVE MATERIAL REQUIRES **DUAL** LABELING ON **OPPOSITE** SIDES

6. **UNOBSCURED** BY MARKING LABELS, ETC.

GENERAL PACKAGING REQUIREMENTS BY AIR
173.6

1 INNER CONTAINERS MUST WITHSTAND PRESSURE AND TEMPERATURE CHANGES.

2. BREAKABLE INNER CONTAINERS MUST BE CAPABLE OF WITHSTANDING A 4 FOOT DROP TEST THEY **MUST** BE PACKAGED. WITH COMPATIBLE CUSHIONING AND ABSORBENT MATERIALS.

3. SUFFICIENT OUTAGE MUST BE PROVIDED TO PREVENT THE LIQUID CONTENT FROM COMPLETELY FILLING THE CONTAINER AT 130°F.

4. STOPPERS, CORKS, AND OTHER FRICTION TYPE CLOSURES **MUST** BE SECURED TO PREVENT LOOSENING.

5. INSIDE PLASTIC PACKAGING **MUST** HAVE CLOSURES SECURED BY POSITIVE MEANS.

6. BAGS MUST BE WATER RESISTANT AS OUTSIDE PACKAGING WHEN REGULATIONS PERMIT. FEDERAL EXPRESS PREFERS AN OVERPACK FOR ALL BAGS.

7. MANDATORY CYLINDER VALVE PROTECTION.
   A. SAFETY CAPS
   B. BOX OR CRATE

U.S. Department of Transportation

Research and Special Programs Administration

HAZARDOUS MATERIALS DEFINITIONS

The following definitions have been abstracted from the Code of Federal Regulations, Title 49, Transportation, Parts 100-177. Refer to the referenced sections for complete details. NOTE: In column (1), Sec. 172.101, Hazardous Materials Table, the plus (+) fixes the proper shipping name and hazard class. The name and class do not change whether the material meets or does not meet the definition of that class. [Sec. 172.101(a)(1)]

HAZARDOUS MATERIAL - A substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety and property when transported in commerce, and which has been so designated. (Sec. 171.8)

MULTIPLE HAZARDS - a material meeting the definition of more than one hazard class is classed according to its position in the lists in Sec. 173.2(a) and (b).

DOT HAZARD CLASS	UN CLASS	DEFINITION
		An Explosive - Any chemical compound, mixture, or device-- the primary or common purpose of which is to function by explosion, that is substantially instantaneous release of gas and heat. Exception--such compound, mixture, or device is otherwise specifically classified in Parts 170-189. (Sec. 173.50)
CLASS A EXPLOSIVE	1	Detonating or otherwise of maximum hazard. The nine types of Class A explosives are defined in Sec. 173.53.
CLASS B EXPLOSIVE	1	Flammable hazard - In general, functions by rapid burning rather than detonation. Includes some explosive devices such as special fireworks, flash powders, etc. (Sec. 173.88)
CLASS C EXPLOSIVE	1	Minimum hazard - Certain types of fireworks and certain types of manufactured articles containing restricted quantities of Class A and/or Class B explosives as components. (Sec. 173.100)
BLASTING AGENT		A material designed for blasting which has been tested in accordance with Sec. 173.114a(b). It must be so insensitive that there is very little probability of: (1) accidental explosion or (2) going from burning to detonation. [Sec. 173.114a(b)]
		Compressed Gas - Any material or mixture having in-the-container a pressure EXCEEDING 40 psia at 70° F., OR a pressure exceeding 104 psia at 130° F.; or any liquid flammable material having a vapor pressure exceeding 40 psia at 100° F. [Sec. 173.300(a)] Non-liquefied compressed gas is a gas (other than gas in solution) which, under the charged pressure, is entirely gaseous at a temperature of 70° F. Liquefied compressed gas is a gas which, under the charged pressure, is partially liquid at a temperature of 70° F.

DOT HAZARD CLASS	UN CLASS	DEFINITION
		Compressed gas in solution is a compressed gas which is dissolved in a solvent.
FLAMMABLE GAS	2	Any compressed gas meeting criteria as specified in Sec. 173.300(b). This includes: lower flammability limit, flammability limit range, flame projection, or flame propagation.
NONFLAMMABLE GAS	2	Any compressed gas other than a flammable compressed gas.
COMBUSTIBLE LIQUID	3	Any liquid having a flash point at or above 100° F. and below 200° F. Authorized flash point methods are listed in Sec. 173.115(d). Exceptions are found in Sec. 173.115(b).
FLAMMABLE LIQUID	3	Any liquid having a flash point below 100° F. Authorized flash point methods are listed in Sec. 173.115(d). For exceptions, see Sec. 173.115(a). Pyroforic Liquid - Any liquid that ignites spontaneously in dry or moist air at or below 130° F. [Sec. 173.115(c)]
FLAMMABLE SOLID	4	Any solid material (other than an explosive) which is liable to cause fires through friction or retained heat from manufacturing or processing. It can be ignited readily and burns so vigorously and persistently, as to create a serious transportation hazard. Included in this class are spontaneously combustible and water-reactive materials. (Sec. 173.150) Spontaneously Combustible Material (Solid) - A solid substance (including sludges and pastes) which may undergo spontaneous heating or self-burning under normal transportation conditions. These materials may increase in temperature and ignite when exposed to air. (Sec. 171.8) Water Reactive Material (Solid) - Any solid substance (including sludges and pastes) which react with water by igniting or giving off dangerous quantities of flammable or toxic gases. (Sec. 171.8)
ORGANIC PEROXIDE	5	An organic compound containing the bivalent -0-0 structure. It may be considered a derivative of hydrogen peroxide where one or more of the hydrogen atoms have been replaced by organic radicals. It must be classed as an organic peroxide unless it meets certain criteria listed in Sec. 173.151(a).
OXIDIZER	5	A substance such as chlorate, permanganate, inorganic peroxide, or a nitrate, that yields oxygen readily. It accelerates the combustion or organic matter. (See Sec. 173.151)
POISON A	2	Extremely Dangerous Poisons - Poisonous gases or liquids -- a very small amount of the gas, or vapor of the liquid, mixed with air is dangerous to life. (Sec. 173.326)
POISON B	6	Less Dangerous Poisons - Substances, liquids or solids (including pastes and semi-solids), other than Class A or Irritating materials--so toxic (or presumed to be toxic) to man that they are a hazard to health during transportation. (Sec. 173.381)

DOT HAZARD CLASS	UN CLASS	DEFINITION
IRRITATING MATERIAL	6	A liquid or solid substance which, upon contact with fire or air, gives off dangerous or intensely irritating fumes. They do not include any poisonous material, Class A. (Sec. 173.381)
ETIOLOGIC AGENT	6	An "etiologic agent" means a living micro-organism (or its toxin) which causes (or may cause) human disease. (Sec. 173.386)
RADIOACATIVE MATERIAL	7	Any material, or combination of materials, that spontaneously gives off ionizing radiation. It has a specific activity greater than 0.002 microcuries per gram. (Sec. 173.389 [See Sec. 173.389(a) through (l) for details]
CORROSIVE MATERIAL	8	Any liquid or solid that causes visible destruction or irreversible damage to human skin tissue. Also, it may be a liquid that has a severe corrosion rate on steel. [See Sec. 173.240(a) and (b) for details]
ORM - OTHER REGULATED MATERIALS		(1) Any material that may pose an unreasonable risk to health and safety or property when transported in commerce; and (2) does not meet any of the definitions of the other hazard classes specified in this subpart; or (3) has been reclassed an ORM (specifically or permissively) according to this subchapter. [Sec. 173.500(a)]
ORM-A	9	A material which has an anesthetic irritating, noxious, toxic, or other similar property. If the material leaks during transportation passengers and crew would have extreme annoyance and discomfort. [Sec. 173.500(b)(1)]
ORM-B	9	A material (including a solid when wet with water) the leakage of which could cause significant damage to the vehicle transporting it. Materials meeting one or both of the following criteria are ORM-B materials: (1) Specifically designated by name in Sec. 172.101 *and/or* (2) a liquid substance that has a corrosion rate exceeding 0.250 inch per year (IPY) on non-clad aluminum. An acceptable test is described in NACE Standard TM-01-69. [Sec. 173.500(b)(2)]
ORM-C	9	A material which has other inherent characteristics not described as an ORM-A or ORM-B. It is unsuitable for shipment, unless properly identified and prepared for transportation. Each ORM-C material is specifically named in Sec. 172.101. [Sec. 173.500(b)(3)]
ORM-D	9	A material such as a consumer commodity which presents a limited hazard during transportation due to its form, quantity and packaging. They must be materials for which exceptions are provided in Sec. 172.101. A shipping description applicable to ORM-D material is found in Sec. 172.101. [Sec. 173.500(b)(4)]
ORM-E	9	A material that is not included in any other hazard class, but is subject to the requirements of *this subchapter*. Materials in this class include (1) HAZARDOUS WASTE and (2) HAZARDOUS SUBSTANCE, as defined in Sec. 171.8 [Sec. 173.500(b)(5)]

THE FOLLOWING ARE OFFERED TO EXPLAIN SOME OF THE ADDITIONAL TERMS USED IN PREPARATION OF HAZARDOUS MATERIALS FOR SHIPMENT. (Sec. 171.8)

DOT TERM	EXPLANATION
CONSUMER COMMODITY (See ORM-D on previous page)	A material that is packaged or distributed in a form intended and suitable for sale through retail sales-type agencies. The material is for use by individual- for personal care or household use. This term also includes drugs an medicines. (Sec. 171.8)
FLASH POINT	The minimum temperature at which the flammable vapors of a substance (i contact with a spark or flame) will ignite. For liquids, see Sec. 173.115.
FORBIDDEN	Material is prohibited from being offered or accepted for transportation. This prohibition does not apply if these materials are diluted, stabilized, o incorporated in devices AND they are classed in accordance with Sec. 172.101(d)(1).
HAZARDOUS SUBSTANCE	For transportation purposes, a material (and its mixtures or solutions) that is identified by the letter "E" in Column (1) of the Hazardous Materials Table, Sec. 172.101. The quantity of the material transported in one package (or in one transport vehicle, if not packaged) must equal or exceed the reportable quantity (RQ).
HAZARDOUS WASTE	Any material that is (1) subject to the hazardous waste manifest requirements of the Environmental Protection Agency specified in the CFR, Title 40, Parts 262; or (2) would-be-subject to these requirements (in the absence of an interim authorization to a State) see Title 40, CFR, Part 123, Subpart F; Sec. 171.8. Questions regarding EPA hazardous waste regulations, call Toll Free: (800) 424-9065 or in Washington: 554-1404.
LIMITED QUANTITY	The maximum amount of a hazardous material authorized for specific labeling and packaging exceptions. Consult the sections applicable to the particular hazard class. See Sec. 173.118, 173.118(a), 173.153, 173.244, 173.306, 173.345, 173.364 and 173.391.
REPORTABLE QUANTITY	The quantity of hazardous substance specified in the Hazardous Materials Table (Sec. 172.101). Reportable Quantity is identified by the letter "RQ" in Column (2). (Sec. 171.8)

*THIS HANDOUT IS DESIGNED AS A TRAINING AID FOR ALL INTERESTED PARTIES WHO MAY BECOME INVOLVED WITH HAZARDOUS MATERIALS. IT DOES NOT RELIEVE PERSONS FROM COMPLYING WITH THE DEPARTMENT OF TRANSPORTATION'S HAZARDOUS MATERIALS REGULATIONS. SPECIFIC CRITERIA FOR HAZARD CLASSES AND RELATED DEFINITIONS ARE FOUND IN THE CODE OF FEDERAL REGULATIONS (CFR), TITLE 49, PARTS 100-177.

NOTE: This material may be reproduced without special permission from this office. Any comments or recommendations should be sent to:

INFORMATION SERVICES DIVISION, DMT-11
OFFICE OF OPERATIONS AND ENFORCEMENT
MATERIALS TRANSPORTATION BUREAU
DEPARTMENT OF TRANSPORTATION
WASHINGTON, D.C. 20590

US Department of Transportation
Research and Special Programs Administration

EXAMPLES OF DOT PENALTY ACTIONS CONCERNING THE HAZARDOUS MATERIAL REGULATIONS

COMPANY	OFFENSE	PENALTY INITIATING AGENCY
Aeromexico (Air Carrier)	Accepting and transporting 12 shipments of radioactive materials on passenger-carrying aircraft which were not authorized. Shipments were not accompanied by the proper certificates and were in activities in excess to the prescribed amounts authorized for transport by air.	$32,000 (FAA)
Atchison, Topeka & Santa Fe RR Co.	Transported a tank car that last contained a flammable gas entrained next to the locomotive. (§ 174.93)	$2,500 (FRA)
Atlantic Cylinder Co. (Cylinder repairer)	Failure to properly heat-treat and test repaired DOT specification cylinders; failure to be a DOT approved cylinder repair facility. (§ 173.34(i)(6)	$9,000 (MTB)
Campbell Oil Co., Inc. (Carrier)	Requiring or permitting a driver used to transport hazardous materials to remain on duty more than 60 hours in seven consecutive days. (§§ 177.804 and 395.3(b)	$3,000 (FHWA)
Colrick Trucking Co., Inc. (Carrier)	Failing to maintain driver qualification file (§ 177.823); Failing to properly placard a motor vehicle (§ 177.842(b); Failing to block and brace a package of radioactive material labeled "RADIOACTIVE YELLOW III" so it cannot change position during transportation (§ 177.804, 391.51, 177.823, 177.842(b) & 177.842(d)).	$2,500 (FHWA)
Craig Systems (Shipper)	Offered a shipment described as hardware and hand tools which in fact contained 40 fiberboard cartons labeled flammable liquids. Due to the improper packaging of liquids within this shipment, leakage resulted. They were cited for 20 separate violations of the HMR's.	$32,000 (FAA)
Direct Courier of America, Inc. (Shipper)	Offered a shipment containing a 1-gallon can of Kopper Polyester Resin, a flammable liquid, without completing a shipping paper. The box was not properly marked, labeled, and failed to have the UN number noted. The package had been marked as printed matter and was not packed in accordance with the regulations and leaked while in transit.	$3,000 (FAA)
Emery Air Freight (Freight forwarder)	Offered a shipment of cigar and cigarette lighters charged with flammable gas without the proper annotations on the shipping paper (the proper shipping name, hazard class, UN number, total weight, and the words "Cargo Only Aircraft"). The lighters were not inspected by Bureau of Explosives and approved by the Director for Operations and Enforcement, MTB. The lighters were not properly packaged.	$5,000 (FAA)
Flying Tiger Line (Carrier)	Accepted a shipment of radioactive material, NOS, without the proper notations on the shipping document. The package was shipped under an exemption and the number was not noted on the package.	$3,000 (FAA)
Fort Edward Express (Carrier)	Failing to require a qualified person to remain in attendance of a cargo tank during the unloading of hazardous materials. (§ 177.834(i).	$2,000 (FHWA)
GSF Corp. (Carrier)	Failing to have adequate overturn protection on a cargo tank used to transport hazardous materials (§§ 177.802, 173.24(d), 173.33 & 178.340-8(c); failing to visually inspect a cargo tank at least once in every two-year period, as required. (§ 177.824)	$4,000 (FHWA)
Great Lakes Chemical Corp. (Shipper)	Offered a corrosive (Bromine) for rail transportation in a tank car loaded in excess of the maximum permitted filling density. (§ 173.252(a)(3)(i).	$1,500 (FRA)
Hawaii (Passenger)	Offered a shipment consisting of one cardboard box of Sears laundry detergent as checked baggage which contained two one-gallon plastic bottles containing hydrogen peroxide and sodium hydroxide solutions. During transport, the bottles leaked and caused injuries to baggage handlers during off-loading. The passenger was charged with 17 separate violations of the HMR's.	$1,500 (FAA)
Helena Chemical Co. (Carrier)	Using a driver not medically examined and certified as physically qualified to drive a motor vehicle during the preceding 24 months to transport hazardous materials (§§ 177.804, 391.41 & 391.45); transporting shipment of hazardous materials not accompanied by properly prepared shipping papers (§ 177.817).	$5,000 (FHWA)

COMPANY	OFFENSE	PENALTY INITIATING AGENCY
Nuclear Systems, Inc. (Shipper)	Offering a hazardous material for transportation that is not properly packaged and in condition for shipment to insure that at any time during normal conditions incident to transportation the radiation dose would not exceed 200 millirem per hour on the external surface and the transport index would not exceed 10 (§§ 171.2(a) & 173.393(l)); Failing to insure by examination that each closure device of the packaging for a radioactive material is properly installed and secured (§ 173.393(n)(3).	$1,500 (FHWA)
Pan American World Airways (Carrier)	Accepted and transported a motor vehicle that had fuel in the gas tank and the battery was not disconnected. The motor vehicle was not properly marked and the shipping paper did not include the proper shipping name, hazard class or UN number.	$2,500 (FAA)
Petroleum Transport, Inc. (Carrier)	Requiring and permitting drivers to remain on duty more than 70 hours in eight consecutive days. (§ 177.804)	$3,000 (FHWA)
St. Louis Southwestern Railway Co. (Carrier)	Transported a tank car that last contained Poison B entrained next to the engine. (§ 174.93)	$1,000 (FRA)
Sergent-Welch Scientific Co. (Shipper)	Offered a shipment with a shipping document stating the package contained one pint of nitric acid, over 40% in the oxidizer class. During a routine inspection, it was determined that the shipment actually contained a one pint bottle of 90% nitric acid, five 2.2 liter containers of acetic acid, glacial (RQ-1000/45%) 500 grams of potassium bromate, and miscellaneous chemistry supplies. All the items were not properly packaged and were not authorized in the same package. Further, the amount of acetic acid exceeded the authorized package limit.	$13,500 (FAA)
South Carolina Distributors, Inc. (Carrier)	Transporting a shipment of hazardous materials not accompanied by properly prepared shipping paper (§ 177.817); Failing to properly placard a motor vehicle used to transport hazardous materials. (§ 177.823)	$5,000 (FHWA)
Southwest Nuclear Co. (Carrier)	Shipping radioactive materials that were not packaged in strong, tight packages so there would be no leakage of radioactive materials under conditions normally incident to transportation. Shipping a package of radioactive materials containing significant removable surface contamination. Shipping a package of radioactive materials which exceeds a radiation dose rate of 10 millirem per hour at a point of 6 feet from the vertical planes of the transport vehicle. (§§ 173.392(c)(1), 173.392(c)(2), and 173.393(j)(3).	$5,000 (FHWA).
Steevens-Diy Air Freight, Inc. (Freight forwarder)	Offered a package containing flammable liquids in excess to the amounts authorized. The package was not properly marked or labeled and a shipping certificate was not tendered for this shipment.	$4,000 (FAA)
United Chemicals, Inc. (Carrier)	Failing to visually inspect a cargo tank at least once each 2-year period and/or failing to retain a copy of each such visual inspection report in the carrier's files as required (§ 177.824(b); Failing to properly secure a portable tank of corrosive material against movement within the vehicle on which it is being transported. (§ 177.834)	$3,000 (FHWA)

For questions concerning these Penalty Actions, write to the Office of Chief Counsel, Department of Transportation, 400 Seventh Street, S.W., Washington, D.C. 20590, indicating the appropriate agency:

MTB	George Tenley	DCC-1	FAA	Allan Horowitz	AGC-260
FHWA	James Stapleton	HCC-20	FRA	Michael Chase	RCC-30

Revised March 1985

US Department of Transportation
Research and Special Programs Administration

265

Indicators of Hazardous Materials Shipment Violations

This is a partial list of things which you as a shipper, container manufacturer, or carrier may use to spot check your compliance with the DOT Hazardous Materials Regulations. As stated in the title, these are indicators of violations and not necessarily violations in and of themselves.

The hazardous materials regulations for shippers are organized in Parts 171, 172, 173, 178 and 179 in the Code of Federal Regulations (CFR), Title 49, Parts 100-199, as communication regulations and general requirements. When a compliance inspection is made, documentation, marking, labeling and packaging are observed for discrepancies. With this list as a guide, you may spot check your own documentation, marking, labeling and packaging for compliance. When using this information, remember this is intended to be used as an aid and does not cover all aspects of the regulations.

I. CLASSIFICATION AND PROPER SHIPPING NAME

A. Improper classification of hazardous materials.
B. Failure to properly classify material having more than one hazard.
C. Improper description and/or proper shipping name for material being shipped.
D. Omission of technical name of material following n.o.s. description of material offered for export by vessel.
E. The letters "RQ" not displayed in association with the proper shipping name when required.

II. PACKAGING (CONTAINERS IN GENERAL)

A. Use of DOT specification containers which are not authorized for the commodity being shipped.
B. Use of containers that are leaking.
C. Manufacturing and marking containers as meeting a DOT specification when they do not meet the specification.
D. Packagings exceeding maximum quantity limitations for materials.
E. Packages improperly marked.
F. Offering for shipment improperly packaged material.
G. Consignee or consignor's name marking omitted from packaging.
H. Omission of identification numbers on packagings.

III. CONTAINERS (MISCELLANEOUS)

A. STEEL

1. Labeled containers (without further overpack) with no DOT specification marking (commonly found are 5 gallon 29 guage metal pails and 5 gallon rectangular cans).
2. Packages of hazardous materials with temporary repairs.
   a. Damaged, sealed with tape, putty, chewing gum, or screws.
   b. Shipped upside down.
3. Labeled containers in improper condition.
   a. Dented.
   b. Rusted or corroded. (NOTE: These are judgemental decisions).
4. Labeled containers on which specification markings are illegible.
5. Labeled reused containers marked "NRC" (look for old date of manufacturer, dents, rust, and paint layers).
6. Labeled reused containers marked "STC" and/or 17C, 17E, and 17H with no reconditioner's marking.
7. Labeled reused containers with a reconditioner's marking that is not a DOT 17C, 17E or 17H container.
8. Labeled 55 gallon open-head drums with 2 rolling hoops and/or less than 5/8" ring bolt, non-drop forged ring lugs, and/or "lever lock" ring closures. (Good possibility of non-DOT specification.)
9. Imported drums marked as meeting the DOT hazardous materials regulations.

B. CORRUGATED FIBERBOARD

1. Boxes with no DOT specification marking when inside packagings larger than the "limited quantity" exception for the commodity and specification packaging is required.
2. Boxes marked with DOT specification markings which are poorly constructed (i.e., gaps, uneven closures, seams and joint separation).
3. If inner flaps do not meet, are fill-in pieces used to fill void?
4. Boxes damaged by water.
5. Improperly closed boxes (look for masking tape, cellophane tape, and string).
6. Leaking containers.
7. Non-DOT specification fiberboard box used in lieu of specification container when required.

C. POLYETHYLENE CONTAINERS

1. Open-head polyethylene containers (used for materials not authorized to be in them).
2. Illegibly marked containers.
3. Leaking containers offered for transportation.
4. When poison is shipped, is the container marked POISON?

D. FIBER DRUMS

1. Non-DOT specification fiber drums.
2. Fiber drums constructed of materials weaker than required by the specification.
3. Use of fiber drum marked DOT-21P without inside polyethylene liner.
4. Using fiber drum marked "STC" more than once for hazardous materials.
5. Fiber drum damaged by forklift truck.
6. Improper markings on containers for the commodity being shipped.

E. CYLINDERS
1. Re-use of single-use cylinders such as DOT Specification 39.
2. Cylinders in use beyond test date.
3. Cylinders in improper condition:
   a. No valve protection
   b. Bulge in side
   c. Dented or corroded
   d. Defective valve
4. Cylinders re-filled by other than the owner of the cylinder without permission.
5. Cylinders improperly marked (duplication of serial numbers).
6. Cylinders offered for transportation without proper identification of contents.
7. Identification symbols not registered with the Bureau of Explosives or the Department of Transportation.
8. Illegible cylinder markings.

F. PORTABLE TANKS
1. Name of owners or lessee omitted on tank.
2. No labels and/or placards displayed on tank containing hazardous materials.
3. No identification number displayed on the placard or on an orange panel.

G. CARGO TANKS
1. Using a cargo tank, marked for one hazardous material, for another hazardous material without proper identification of contents.
2. Improperly marked, e.g. size of marking or not marked in contrasting color.
3. Omission of the marking "QT" (Quenched and Tempered Steel) or "NQT" (other than Quenched and Tempered steel), when required on cargo tank.
4. Omission of identification number on placard or orange panel.

IV. MARKING OF CONTAINERS
A. No commodity description (proper shipping name) on the container.
B. No name and address of consignee or consignor on the container.
C. No DOT Exemption number on containers shipped under DOT Exemptions.
D. Container markings not in a contrasting color.
E. Container of liquid hazardous material not marked on outside "THIS END UP" or "THIS SIDE UP."
F. Gross weight not marked on Radioactive Materials packages weighing over 110 pounds.
G. Reconditioned drums improperly marked.
H. USA not included as part of the DOT Specification markings for Radioactive Materials packages destined for export.
I. Portable tanks not marked with proper name of the hazardous material.
J. Omission of identification numbers (when required) on placard or orange panel.

V. LABELING
A. No labels on outer container to represent mixed packaging of hazardous materials (materials with more than one hazard - dual labeling).
B. Label on the container not consistent with the hazard class on the shipping papers when appropriate.
C. Use of obsolete labels.
D. Color and/or size of label does not meet the standards of the CFR, Title 49, Sec. 172.407.
E. No label on container of hazardous materials when required.
F. No label on shipments destined for air transport.
G. Labeling containers not authorized to be labeled.
H. No label on "LIMITED QUANTITIES" offered for air transportation.
I. Less than two Radioactive Materials labels (White I, Yellow II or Yellow III) on containers (two opposite sides).

VI. PLACARDING
A. Failure to placard vehicle requiring placarding.
B. Failure to use more than one kind of placard to indicate more than one hazard class of material loaded within vehicle.
C. Freight container containing hazardous material over 640 cubic feet not placarded.
D. Placards not applied to both sides of cargo tank.
E. Placarding material not authorized to be placarded.
F. Ommission of identification numbers (when required) on placard or orange panel.

VII. SHIPPING PAPERS
A. No proper shipping name and/or classification of hazardous material entered on shipping papers.
B. Proper shipping name and/or classification abbreviated.
C. No certification for shipment.
D. No wordage for "LIMITED QUANTITY" on shipments excepted from specification packaging and labeling.
E. No DOT Exemption number on shipments moving under DOT Exemption.
F. Color of label indicated in lieu of the proper hazard class.
G. Improper format for hazardous materials description on shipping papers, e.g., HM entries not first, highlighted or no HM column.
H. No identification number (UN or NA) on shipping paper.

THIS MATERIAL MAY BE REPRODUCED WITHOUT SPECIAL PERMISSION FROM THIS OFFICE

NOTE: Send comments or suggestions to the address listed below:

Information Services Division, DMT-11
Office of Operations and Enforcement
Materials Transportation Bureau
U.S. Department of Transportation
Washington, D.C. 20590

REVISED JANUARY 1985

US Department of Transportation

Research and Special Programs Administration

HAZARDOUS MATERIALS TRANSPORTATION
GUIDE FOR SHIPPERS

USE OF GUIDE - This Guide is presented as an aid to shippers of hazardous materials. It does not contain or refer to all of the DOT requirements for shipping hazardous materials. For specific details, refer to all of the DOT requirements for shipping hazardous materials. For specific details, refer to the Code of Federal Regulations (CFR), Title 49, Transportation, Parts 100-199.

The following is offered as a step-by-step program to aid compliance with the applicable DOT Regulations.

STEP 1 - DETERMINE THE PROPER SHIPPING NAME - The shipper must determine the proper shipping name of the materials as listed in the Hazardous Materials Table, Sec. 172.101, Column (2).

STEP 2 - DETERMINE THE HAZARD CLASS OR CLASSES

A. Refer to the Table, Sec. 172.101, Column (3) and locate the hazard class of the material.
B. If more than one class is shown for the proper shipping name, determine the proper class by definition.
C. If the materials have more than one hazard, classify the material based on the order of hazards in Sec. 173.2.

STEP 3 - SELECT THE PROPER IDENTIFICATION NUMBERS

A. Refer to the Table, Sec. 172.101, Column (3a) and select the Identification Number (ID) that corresponds to the proper shipping name and hazard class.
B. Enter the ID number(s) on the shipping papers and display them, as required, on packagings, placards and/or orange panels.

STEP 4 - DETERMINE THE MODE(S) OF TRANSPORT TO ULTIMATE DESTINATION

A. As a shipper, you must assure yourself that the shipment complies with the various modal requirements.
B. The modal requirements may affect the following: (1) Packaging; (2) Quantity per Package; (3) Marking; (4) Labeling; (5) Shipping papers; (6) Certification.

STEP 5 - SELECT THE PROPER LABEL(S) AND APPLY AS REQUIRED

A. Refer to the Table, Sec. 172.101, Column (4) for required label(s).
B. For details on labeling refer to: (1) Additional Labels, Sec. 172.402; (2) Location of Labels, Sec. 172.406; (3) Packagings (Mixed or Consolidated), Sec. 172.404(a) and (b); (4) Packages Containing Samples, Sec. 172.402(h); (5) Radioactive Materials, Sec. 172.403; (6) Authorized Label Modifications, Sec. 172.405.

STEP 6 - DETERMINE AND SELECT THE PROPER PACKAGES

A. Refer to the Table, Sec. 172.101, Column 5(a) for exceptions and Column (5b) for authorized packagings. Consider the following when selecting an authorized container: Quantity per package; Cushioning material, if required; Proper closure and reinforcement; Proper pressure; Outage; etc. as required.
B. If packaged by a prior shipper, make sure the packaging is correct and in proper condition for transportation.

STEP 7 - MARK THE PACKAGING (INCLUDING OVERPACKS)

A. Apply the required markings (Sec. 172.300); Proper shipping name and ID number, when required (Sec. 172.301); Name and address of Consignee or Consignor (Sec. 172.306).
B. For details and other required markings, See Sections 172.300 through 172.338.

STEP 8 - PREPARE SHIPPING PAPERS

A. The basic requirements for preparing shipping papers include: Proper Shipping name; Hazard class; ID number; Total quantity; Shipper's certification.
B. Make all entries on the shipping papers using the information required and in proper sequence (Sec. 172.202).
C. For additional requirements, see Sections 172.200 through 172.205.

STEP 9 - CERTIFICATION

A. Each shipper must certify by printing (manually or mechanically) on the shipping papers that the materials being offered for shipment are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable DOT Regulations (Sec. 172.204).
B. For surface shipment, see Sec. 172.204(a) and (b); for air shipments, see Sec. 172.204(c).

STEP 10 - LOADING, BLOCKING AND BRACING - When loading hazardous materials into the transport vehicle or freight container, each package must be loaded, blocked and braced in acordance with the requirements for the mode of transport.

A. If the shipper loads the freight container or transport vehicle, the shipper is responsible for the proper loading, blocking and bracing of the materials.
B. If carrier personnel do the loading, the carrier is responsible.

STEP 11 - DETERMINE THE PROPER PLACARD(S) - Each person who offers hazardous materials for transportation must determine that the placarding requirements have been met.

A. For Highway, unless the vehicle is already correctly placarded, the shipper must provide the required placard(s) and required identification number(s) (Sec. 172.506).
B. For Rail, if loaded by the shipper, the shipper must placard the rail car if placards are required. (Sec. 172.508)
C. For Air and Water shipments, the shipper has the responsibility to apply the proper placards.

STEP 12 - HAZARDOUS WASTE/HAZARDOUS SUBSTANCE

A. If the material is classed as a hazardous waste or hazardous substance, most of the above steps will be applicable.
B. Pertinent Environmental Protection Agency Regulations are found in the Code of Federal Regulations, Title 40, Part 262.

"It is the duty of each person who offers hazardous materials for transportation to instruct each of his officers, agents, and employees having any responsibility for preparing hazardous materials for shipment as to the applicable regulations. . ." (Section 173.1(b))

This means that shippers are required to make certain that those officers, agents and employees who have any responsibility for preparing or offering hazardous materials for transportation are thoroughly instructed concerning the regulations as they apply to their job functions.

NOTE: The following suggestions will help to comply with this requirement:

1. Identify all personnel who have hazardous materials transportation responsibilities.
2. Determine what additional instruction or training each needs.
3. Assure that those needing instruction receive it.
4. Maintain record of training.
5. Periodically review training needs in order to maintain the required expertise.

AS A FINAL CHECK AND BEFORE OFFERING THE SHIPMENT FOR TRANSPORTATION, VISUALLY INSPECT YOUR SHIPMENT.

NOTE: This material may be reproduced without special permission from this office. Any comments or recommendations should be sent to:

INFORMATION SERVICES DIVISION, DMT-11
OFFICE OF OPERATIONS AND ENFORCEMENT
MATERIALS TRANSPORTATION BUREAU
U.S. DEPARTMENT OF TRANSPORTATION
WASHINGTON, D.C. 20590

US Department of Transportation

Research and Special Programs Administration

269

GUIDE FOR MARKINGS

USE OF GUIDE - This guide was prepared as an aid to shippers and carriers of hazardous materials. It does not contain or refer to all of the DOT requirements for marking. For specific details, refer to the appropriate Sections of the Code of Federal Regulations, Title 49, Transportation, Parts 100-199.

NOTE: Rulemaking proposals for new and/or existing regulations are outstanding or contemplated. Keep up to date with the changes.

MARKING - means the application of the descriptive name, proper shipping name, hazard class, identification number (when authorized), instructions, cautions, weight or a combination on the outside shipping container. Marking also includes any required specification marks both on the inside and outside shipping containers.

DESCRIPTIVE INFORMATION

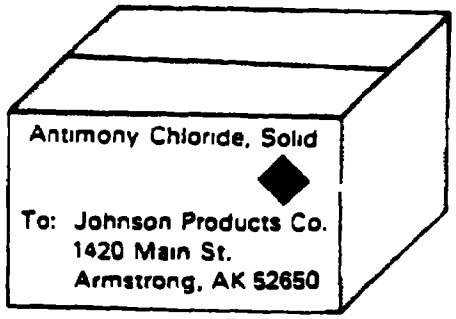
I. GENERAL REQUIREMENTS (Section 172.300-172.304)

Unless specifically exempted, all containers of hazardous materials, i.e. packages, freight containers, or transport vehicles, must be marked with the proper shipping name(s) of the contents and the name and address of either the consignee or consignor. All markings must be:

A. Durable, in English, and printed on (or affixed to the surface of) the package or on a label, tag or sign.

B. On a background of a sharply contrasting color AND unobscured by labels or attachments.

C. Away from other markings that could reduce its effectiveness.

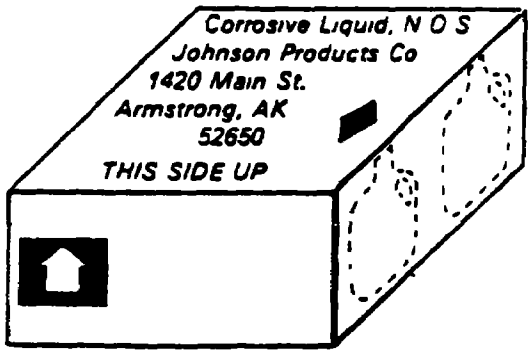


II. LIQUIDS - INSIDE CONTAINERS (Section 172.312)

A. Inside containers must be packed with closures in the upright position.

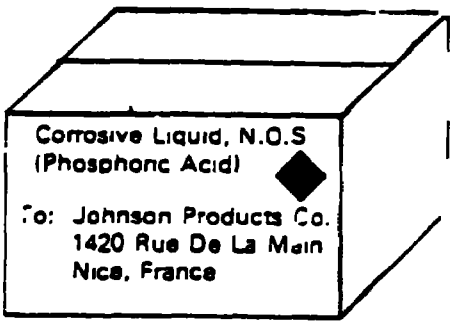
B. Must be marked on the outside with "THIS END UP" or "THIS SIDE UP".

C. Use arrow symbol to show upright orientation of package (See ANSI Standard MH6.11968 "Pictorial Marking for Handling Goods"). Example: "THIS SIDE UP" or "THIS WAY UP".



III. EXPORT BY WATER (Section 172.302)

When authorized in Sections 172.101 or 172.102, all n.o.s. entries for export by water must have the technical name(s) of the material immediately following the proper shipping name. For mixtures of two or more hazardous materials, the technical name of at least two components must be identified.

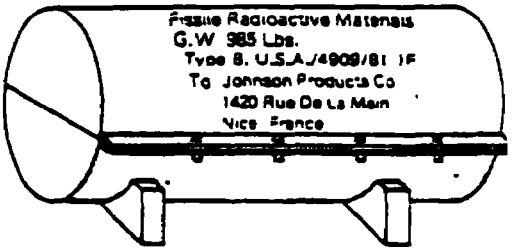


IV. RADIOACTIVE MATERIALS (Section 172.310)

A. Containers weighing over 110 pounds - the gross weight must be marked on the container.

B. Must be marked "TYPE A" or "TYPE B" as required in letters at least 1/2" high.

C. For export shipments, the letters "USA" must follow the specification markings or package certification.

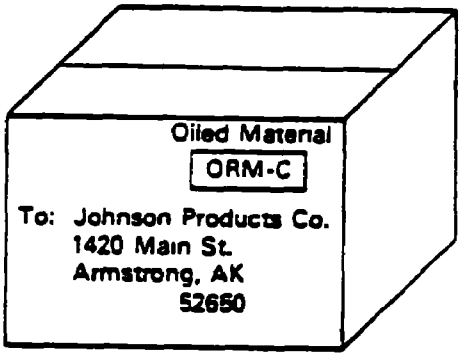


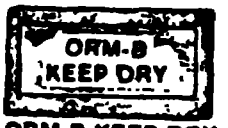
V. OTHER REGULATED MATERIALS (ORM's) (Section 172.316)

ORM materials must be so designated immediately following, or below, the proper shipping name. Marking must be within a rectangular border approximately 1/4 inch larger on each side of the designation. The appropriate designation must be one of the following:

A. ORM-A C. ORM-B E. ORM-D
B. ORM-B D. ORM-C F. ORM-D-AIR
G. ORM-E

NOTE: These markings serve as the certification by the shipper that the material is properly described, classed, packaged, marked and labeled (when appropriate) AND in proper condition for transportation. Use of this type of certification does not preclude the requirement for a certificate on the shipping paper (Section 172.316(c)).





ORM-B KEEP DRY

EXAMPLE

VI. AUTHORIZED CONTAINERS IN OUTSIDE CONTAINERS - When a DOT specification is required for a hazardous material and that container is overpacked in another container it must meet the requirements of Section 173.21 and Section 173.24. Also the outside container must be marked in accordance with Section 173.25. Examples: "THIS SIDE UP" or "INSIDE PACKAGES COMPLY WITH PRESCRIBED SPECIFICATIONS".

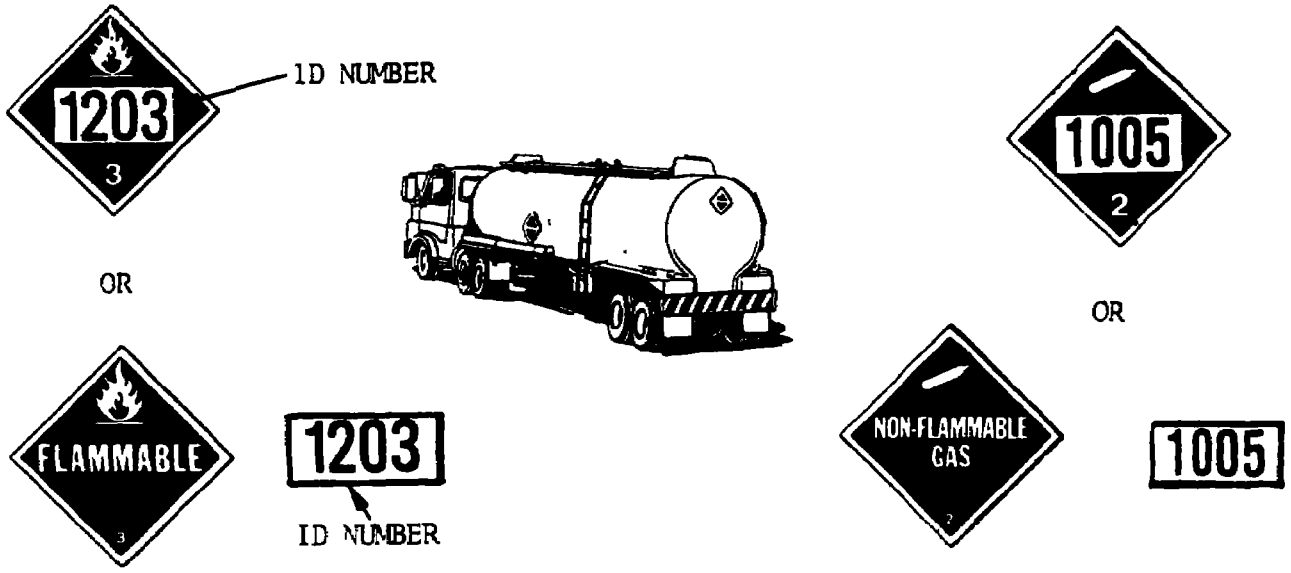
VII. CYLINDERS - All cylinders must be marked in accordance with Section 173.34 and Section 173.301 through Section 173.306. Cylinders passing reinspection and retesting must be marked in accordance with Section 173.34(e)(6).

VIII. PORTABLE TANKS (Sections 172.326 and 172.332) - Portable tanks must display the proper shipping name in letters at least 2 inches high and placed on two opposite sides. When authorized in the Hazardous Materials Tables, identification numbers must be applied on each side and each end for capacities of 1,000 gallons or more. For capacities of less than 1,000 gallons, mark on two opposing sides in association with the proper shipping name. The name of the owner or lessee must be displayed. Tanks carrying compressed gases (DOT-51) must have all inlets and outlets (except safety relief valves) marked. Designate whether or not the inlets and outlets communicate with vapor or liquid (Section 178.245-6(b)).

IX. CARGO TANKS - HIGHWAY (COMPRESSED GASES) (Section 172.328) - Cargo tanks must be marked, in letters no less than 2 inches high, with either the proper shipping name of the gas OR an appropriate common name, such as "Refrigerant Gas". Cargo tanks must only be marked for the material it contains. Use proper shipping name and identification number when authorized Sections 171.101 and 171.102. DOT MC 331 tanks must have inlets and outlets (except safety relief valves), marked. The markings will designate whether the inlets and outlets communicate with liquid or vapor, when the tank is filled to its maximum permitted filling density (Section 178.337-9(c)).

X. TANK CARS - RAIL (Section 172.330) - Certain tank cars are required to be marked with the proper shipping name by Parts 173 and 179. If so, they must be marked in letters at least 4 inches high with at least 5/8 stroke. Mark the tank with the proper shipping name or the appropriate common name. When authorized, identification number markings must be displayed on each side and each end (Sections 171.101 and 171.102). Tank cars must only be marked for the material it contains.

NOTE: See reference sections for requirements for DOT-106 and DOT-110 tank car tanks.



If the ID number is not displayed on the ends of the vehicle, check the sides of the transport vehicle. NOTE: When ID numbers are displayed on placards, orange panels are not required. When ID numbers are displayed on orange panels, appropriate placards are ALSO REQUIRED.

OTHER MARKING REQUIREMENTS

I. REQUALIFIED CONTAINERS - Reusable cylinders, portable tanks, cargo tanks and tank cars are required to be either visually inspected or retested at periodic intervals. When this is done the date of the requalification must be shown on the container (See Sections 173.24, 173.31, 173.32, 173.33, and 173.34).

II. REUSE OF CONTAINERS - Some steel containers in the DOT Series (DOT-17C, 17E and 17H) may be qualified for reuse by a reconditioner of drums. The reconditioner must be registered with the Department of Transportation. These drums must meet the requirements of Section 173.28(m). Remove old labels, remove exemption number (if any) and descriptive markings and recondition the drum. Other containers may be reused under varying conditions. See Section 173.28 for details.

III. CARGO HEATERS - Cargo heaters authorized for use with flammable liquid or gas must be marked in accordance with Section 177.834(1)(2)(e) and (f).

IV. MOTOR VEHICLES - A carrier may not move a transport vehicle containing a hazardous material unless the vehicle is marked in accordance with Part 172 or unless an emergency exists (See Section 177.823 and 177.824 for details).

SPECIFICATION CONTAINERS

I. GENERAL - Markings on specifications containers must have the DOT specification number to which the containers are made (Parts 178 & 179). The manufacturer's name and address or symbol must be registered with the Associate Director for the Office of Hazardous Material Regulation. Duplicate symbols are not authorized.

II. MARKINGS - All containers must comply with the marking requirements of Section 173.24 and the appropriate Section of Parts 178 and 179. Exception for Canadian and other import/export situations may be found in Sections 171.12 and 173.8.

NOTE: For certain containers, specific detailed information (such as original test date information and type of material) are required. (See Parts 178 and 179.

This handout does not contain all the marking requirements. It is designed as a guide only. For details on markings, consult the Code of Federal Regulations, Title 49, Parts 100-199.

This publication may be reproduced without special permission from this office.

INFORMATION SERVICES DIVISION, DMT-11
OFFICE OF OPERATIONS AND ENFORCEMENT
MATERIALS TRANSPORTATION BUREAU
RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION
DEPARTMENT OF TRANSPORTATION
WASHINGTON, D.C. 20590

REVISED JULY 1983

US Department of Transportation

Research and Special Programs Administration

SOURCES OF HAZARDOUS MATERIALS WARNING LABELS AND PLACARDS

273

This listing has been designed as a convenient reference for purchasing labels and placarc in order to comply with the Hazardous Materials Regulations, Code of Federal Regulations, Title 49, Parts 100-199, Subpart E - Labeling and Subpart F - Placarding, including Appendices A and B of Part 172.

It is the responsibility of the shipper to insure the labels and placards meet the specification requirements.

NOTE: The use of labels, placards and orange panels supplied by these sources or any other source by shippers and/or carriers does not relieve persons from complying with the Department of Transportation's Hazardous Materials Regulations.

American Trucking Assoc., Inc.[3]
1616 P Street, N.W.
Washington, D.C. 20036
(202) 797-5384

Avery Label Systems [1]
777 East Foothill Blvd.
Azusa, CA 91702
(213) 969-3311

Bee Line, Inc.[2]
265 Wattis Way
San Francisco, CA 94080
(415) 871-4848

W. H. Brady Co. [3]
727 W. Glendale Ave.
P.O. Box 571
Milwaukee, WI 53201
(414) 961-2233

California Labels Inc.[1]
461 North H Street
P.O. Box 12284
Fresno, CA 93779
(209) 485-1091
(800) 742-1033 (N. Calif)

Carlton Label & Decal Inc.
3150 Nasa Road One
Seabrook, TX 77586
(713) 334-1543

Contact Products, Inc. [2]
P.O. Box 31005
Dallas, TX 75231
(214) 231-6367

Creative Products Intl.[2]
P.O. Box 14356
Tampa, FL 33609
(813) 839-6356

Dawson Patterson Printing Lt
366 Wacouta Street
St. Paul, MN 55101
(612) 222-8445

E. I. DuPont de Nemours Co. [3]
Gen. Serv. Dept.-Graphics Div.
Stationery and Forms Section
Wilmington, DE 19898
(302) 774-4444

Ever Ready Label Corp. [2]
357 Cortlandt Street
Belleville, NJ 07109
(201) 759-5500

General Offset Company, Inc.
34 Hubert Street
New York, NY 10013
(212) 925-1700

Imperial Marking Systems, Inc. [3]
P.O. Box 2337
990 Carden Street
San Leandro, CA 94577
(415) 562-4459

J. J. Keller [3]
145 Wisconsin Avenue
Neenah, Wisconsin 54956
1-800-558-5011

Labelmaster [3]
7525 N. Wolcott Avenue
Chicago, IL 60626
(800) 621-5808
(312) 973-5100

Labeltape Inc. [1]
P.O. Box 8823
4275 Airwest Drive S.E.
Grand Rapids, MI 49508
(616) 698-8890

Lawrence Packaging Supply [2]
113 North 13th Street
Newark, NJ 07107
(201) 485-4400 (NJ)
(212) 962-4393 (NY)

Legible Signs, Inc. [2]
P.O. Box 1946
2210 Nimitz Road
Rockford, IL 61110
(815) 654-0100

Mar-Kal Products Corp.[2]
105 Walnut Street
Montclair, NJ 07042
(201) 783-7155

Meyers Printing Company[1]
Change-A-Label Division
500 South 3rd Street
Minneapolis, MN 55415
(612) 332-1591

MPI Label Systems[1]
P.O. Box 70 - 450 Courtney Rc
Sebring, Ohio 44672
(216) 938-2134

Penn Lithographics, Inc.[3]
7201 South Greenleaf Avenue
Whittier, CA 90602
(213) 698-8168

Prest-On Products Corp.[3]
110 West 18th Street
New York, NY 10011
(212) 242-3505

Quickway Staput, Inc.[2]
P.O. Box 1086
Muskegon, MI 49443
(616) 722-2044 or 739-895(

Related Products, Inc.[2]
3223 N. Western Avenue
Chicago, IL 60618
(312) 528-2900

Safety Systems Hawaii, Inc.[3]
302 Mokauea Street
Honolulu, Hawaii 96819

Salem Label Company, Inc.
838 S. Lundy Avenue
Salem, OH 44460
(216) 332-1591

Soabar Graphics[3]
P.O. Box J - 2305 Soabar Dr.
Greensboro, NC 27402
(919) 275-9397

Southeastern Label & Tape Co.[3]
P.O. Box 80443
Chamblee, GA 30366
(404) 451-9056 or 9063

Triangle Tape & Label[1]
Box 15455
Cincinnati, OH 45215
(513) 772-5649

UNZ & Company[3]
190 Baldwin Avenue
Jersey City, NJ 07306
(800) 631-3098
(212) 344-2270 (New York)

Whitlam Label Co., Inc.[3]
13920 E. Nine Mile Road
Warren, MI 48089
(313) 773-8170

Artcraft Converters, Inc.[1]
710 South Fourth Street
Memphis, TN 38101
(901) 525-1441

1 - Labels only 2 - Placards only 3 - Labels and Placards

NOTE: Companies not listed but would like to be placed on this listing must submit samples of their labels, placards, or orange panels to the attention of the address listed below.

THIS MATERIAL MAY BE REPRODUCED WITHOUT SPECIAL PERMISSION FROM THIS OFFICE

Information Services Division, DM
Office of Operations and Enforcem
Materials Transportation Bureau
Department of Transportation
Washington, D.C. 20590

REVISED MARCH 1982

PRESERVATION, CHAIN-OF-CUSTODY, SHIPPING

PRESERVATION, CHAIN-OF-CUSTODY, SHIPPING

PRESERVATION - SEE TABLES

CUSTODY

- IN YOUR POSSESSION
- IN YOUR VIEW AFTER BEING IN YOUR POSSESSION
- LOCKED UP
- DESIGNATED SECURE AREA

SHIPMENT

- DOT REGULATIONS
- PACKAGING

Preservation, Chain-of-Custody, Shipping

Pass
Samples

Custody: in your possession
in your view after being in your possession
locked up
designated secure area
splits - always taken
- not always offered
receipt for samples and documents taken

Shipment
recommend Federal Express
avoid mail

Demo - Jar and can and ice chest

DOT regulates shipping and packaging 49 CFR 172 and 173

- Hazardous Material Table 49 CFR 172.101
  - proper shipping name
- Packaging 49 CFR 173.21(a) and air shipping 49 CFR 173.6 (b)
- ullage for waste samples
- overpack water samples
  VOAs in cubitainers
- dry ice: "carbon dioxide, solid"
- No abbreviations unless in H.M. table
  N.O.S. okay
- shipper signing is liable for damage/violation
- labels on outer container - no tape overlaps or label overlaps

SAMPLE PRESERVATION

SAMPLE TYPE	CONTAINER	FIELD	STORAGE	TIME
PLANT				
Individual	PB	I	F	DI
Grid	PB	I	F	DI
Gradient	PB	I	F	DI
Composite	PB	I	F	DI
Disbursed	GJ	I	F	DI
Commodity (i.e., packed)	PB	I	R	WI
SOIL				
Indiv. (surface)	GJ	C	F	DI
Indiv. (known depth)	GJ	C	F	DI
Indiv. (furrowed field)	GJ	C	F	DI
Grid	GJ	C	F	DI
Gradient	GJ	C	F	DI
Composite	GJ	C	F	DI
SEDIMENT	GJ	C	F	DI
WATER	GJ	WI	R	WI
AIR	GJ	DI	F	DI
FEED, MILK/DAIRY FOODS, EGG	(Refer to appropriate protocol)			
PESTICIDE FORMULATIONS	GJ	COOL	COOL	COOL
ANIMALS, FISH, HONEYBEES	GJ	C	F	DI
SURFACE				
Swab	GJ	C	F	DI
Grid	GJ	C	F	DI
Gradient	GJ	C	F	DI
CLOTHING	PB	C	F	DI
TANK-MIX	GJ	C	R	WI

NOTE: all sample containers sealed in a plastic bag in the field and placed in a second plastic bag with sample data sheets, custody forms.

(I)	Chill (Wet Ice or "Blue-Ice")
(DI)	Dry Ice
(F)	Freeze
(GJ)	Glass Jar/sealed in Plastic Bag
(R)	Refrigerate
(PB)	Paper Bag/sealed in Plastic Bag
(WI)	Wet Ice

TABLE 2-16. REQUIRED CONTAINERS, PRESERVATION TECHNIQUES, AND HOLDING TIMES (CONTINUED)

Name	Container[1]	Preservation	Maximum holding time
Sulfate	P, G	Cool, 4°C	28 days
Sulfide	P, G	Cool, 4°C, add zinc acetate plus sodium hydroxide to pH>9	7 days
Sulfite	P, G	None required	Analyze immediately
Surfactants	P, G	Cool, 4°C	48 hours
Temperature	P, G	None required	Analyze
Turbidity	P, G	Cool, 4°C	48 hours
Organic Tests:			
Purgeable Halocarbons	G, Teflon-lined septum	Cool, 4°C, 0.008% $Na_2S_2O_3$	14 days
Purgeable aromatic hydrocarbons	G, Teflon-lined septum	Cool, 4°C, 0.008% $Na_2S_2O_3$, HCl to pH2	14 days
Acrolein and acrylonitrile	G, Teflon-lined septum	Cool, 4°C, 0.008% $Na_2S_2O_3$, Adjust pH to 4-5	14 days
Phenols	G, Teflon-lined cap	Cool, 4°C, 0.008% $Na_2S_2O_3$	7 days until extraction, 40 days after extraction
Benzidines	G, Teflon-lined cap	Cool, 4°C, 0.008% $Na_2S_2O_3$	7 days until extraction
Phthalate esters	G, Teflon-lined cap	Cool, 4°C	7 days until extraction 40 days after extraction
Nitrosamines	G, Teflon-lined cap	Cool, 4°C, store in dark, 0.008% $Na_2S_2O_3$	40 days after extraction
PCBs, acrylonitrile	G, Teflon-lined cap	Cool, 4°C	40 days after extraction
Nitroaromatics and Isophorone	G, Teflon-lined cap	Cool, 4°C, 0.008% $Na_2S_2O_3$ store in dark	40 days after extraction
Polynuclear aromatic hydrocarbons	G, Teflon-lined cap	Cool, 4°C, 0.008% $Na_2S_2O_3$ store in dark	40 days after extraction
Haloethers	G, Teflon-lined cap	Cool, 4°C, 0.008% $Na_2S_2O_3$	40 days after extraction
Chlorinated hydrocarbons	G, Teflon-lined cap	Cool, 4°C	40 days after extraction
TCDD	G, Teflon-lined cap	Cool, 4°C, 0.008% $Na_2S_2O_3$	40 days after extraction
Total organic halogens	G, Teflon-lined cap	Cool, 4°C, H_2SO_4 to pH<2	7 days
Pesticides Tests:			
Pesticides	G, Teflon-lined cap	Cool, 4°C, pH 5-9	40 days after extraction
Radiological Tests:			
Alpha, beta and radium	P, G	HNO_3 to pH<2	6 months

[1] Polyethylene (P) or Glass (G)

TABLE 2-16. REQUIRED CONTAINERS, PRESERVATION TECHNIQUES, AND HOLDING TIMES

Name	Container[1]	Preservation	Maximum holding time
Bacterial Tests:			
Coliform, fecal and total	P, G	Cool, 4°C, 0.008% $Na_2S_2O_3$	6 hours
Fecal streptococci	P, G	Cool, 4°C, 0.008% $Na_2S_2O_3$	6 hours
Inorganic Tests:			
Acidity	P, G	Cool, 4°C	14 days
Alkalinity	P, G	Cool, 4°C	14 days
Arsenic	P, G	Cool, 4°C, H_2SO_4 to pH<2	28 days
Biochemical oxygen demand	P, G	Cool, 4°C	48 hours
Bromide	P, G	None required	28 days
Biochemical oxygen demand, carbonaceous	P, G	Cool, 4°C	48 hours
Chemical oxygen demand	P, G	Cool, 4°C, H_2SO_4 to pH<2	28 days
Chloride	P, G	None required	28 days
Chlorine, total residual	P, G	None required	Analyze immediately
Color	P, G	Cool, 4°C	48 hours
Cyanide, total and amenable to chlorination	P, G	Cool, 4°C, NaOH to pH>12, 0.6g ascorbic acid	14 days
Fluoride	P	None required	28 days
Hardness	P, G	HNO_3 to pH<2, H_2SO_4 to pH<2	6 months
Hydrogen ion (pH)	P, G	None required	Analyze immediately
Kjeldahl and organic nitrogen	P, G	Cool, 4°C, H_2SO_4 to pH<2	28 days
Metals:			
Chromium VI	P, G	Cool, 4°C	24 hours
Mercury	P, G	HNO_3 to pH<2	28 days
Metals, except chromium VI and mercury	P, G	HNO_3 to pH<2	6 months
Nitrate	P, G	Cool, 4°C	48 hours
Nitrate-nitrite	P, G	Cool, 4°C, H_2SO_4 to pH<2	28 days
Nitrite	P, G	Cool, 4°C	48 hours
Oil and grease	G	Cool, 4°C, H_2SO_4 to pH<2	28 days
Organic carbon	P, G	Cool, 4°C, HCl or H_2SO_4 to pH<2	28 days
Orthophosphate	P, G	Filter immediately, cool, 4°C	48 hours
Oxygen, Dissolved Probe	G Bottle and top	None required	Analyze immediately
Winkler	do	Fix on site and store in dark	8 hours
Phenols	G only	Cool, 4°C, H_2SO_4 to pH<2	28 days
Phosphorus (elemental)	G	Cool, 4°C	48 hours
Phosphorus, total	P, G	Cool, 4°C, H_2SO_4 to pH<2	28 days
Residue, total	P, G	Cool, 4°C	7 days
Residue, Filterable	P, G	Cool, 4°C	7 days
Residue, Nonfilterable (TSS)	P, G	Cool, 4°C	7 days
Residue, Settleable	P, G	Cool, 4°C	48 hours
Residue, volatile	P, G	Cool, 4°C	7 days
Silica	P	Cool, 4°C	28 days
Specific conductance	P, G	Cool, 4°C	28 days

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
Building 53 Box 25227 Denver Federal Center
Denver, Colorado 80225

CHAIN OF CUSTODY RECORD

PROJ NO	PROJECT NAME	NO OF CONTAINERS	REMARKS
SAMPLERS *(Signature)*			

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION

Relinquished by *(Signature)*	Date / Time	Received by *(Signature)*	Relinquished by *(Signature)*	Date / Time	Received by *(Signature)*
Relinquished by *(Signature)*	Date / Time	Received by *(Signature)*	Relinquished by *(Signature)*	Date / Time	Received by *(Signature)*
Relinquished by *(Signature)*	Date / Time	Received for Laboratory by *(Signature)*	Date / Time	Remarks	

280

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

NATIONAL ENFORCEMENT INVESTIGATIONS CENT
Building 53 Box 25227 Denver Federal Center
Denver, Colorado 80225

RECEIPT FOR SAMPLES

PROJ NO	PROJECT NAME	Name of Facility
SAMPLERS *(Signature)*		Facility Location
Split Samples Offered ( ) Accepted ( ) Declined		

STA NO	DATE	TIME	COMP	GRAB	SPLIT SAMPLES	TAG NUMBERS	STATION DESCRIPTION	NO OF CONTAINERS	REMARKS

Transferred by *(Signature)*

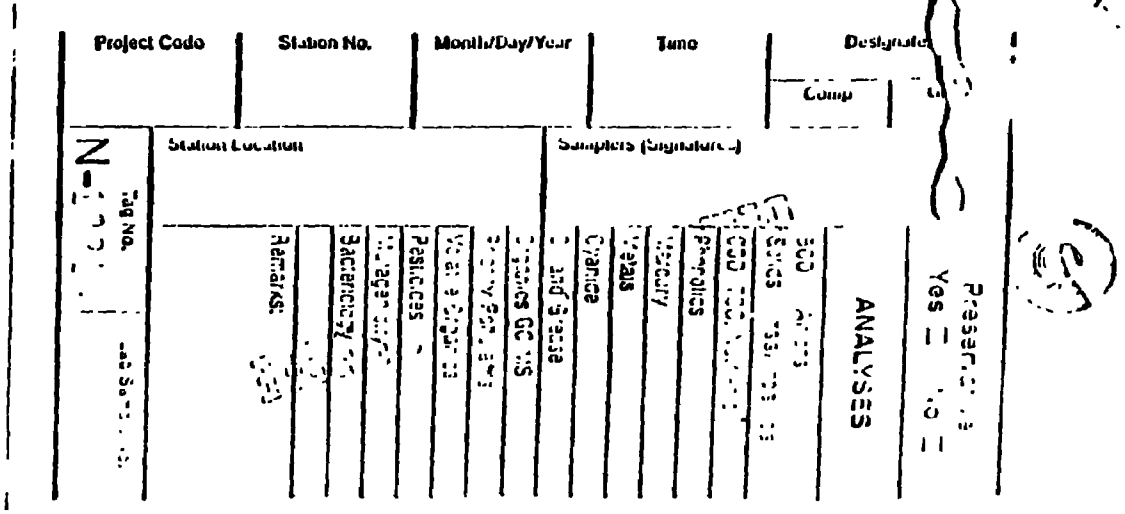
Title: Date: Time:

Received by *(Signature)*

Title: Date: Time: Telephone:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
Building 53, Box 25227, Denver Federal Center
Denver, Colorado 80225



282

CRIMINAL AND CIVIL PROCEDURES
INCLUDING REFERRALS

3C ENFORCEMENT RESPONSES

An enforcement action is always a response to something a person or company has done in violation of a law or regulation. The violator started the chain of events that led to an agency's enforcement action; the agency gets involved to correct the situation. It is EPA's policy that every instance of noncompliance is responded to by some form of enforcement response.

EPA has a range of options when contemplating an enforcement response against a violator. These options range from informal actions that take little effort to formal ones involving large commitments of time and money. EPA views these as a collection of enforcement tools, from which the most appropriate one must be selected for the job at hand.

The Goals of Enforcement

In choosing the appropriate enforcement response to a given violation, EPA tries to achieve several goals:

- o Correction of the violation as quickly as possible. In many cases an environmental problem or threat has been created by a violation. It is the Agency's goal to resolve that problem or threat quickly.
- o Deterrence of future violations by the same party or by other parties.
- o Equitable treatment of the regulated community through use of a uniform approach to selecting enforcement responses (i.e. similar violations are treated similarly).
- o Punishment of serious, willful wrongdoing by imposition of criminal sanctions, such as fines and jail time.
- o Effective use of enforcement resources by using the enforcement response that achieves the environmental and health goals at the least expenditure in money and staff time.

Types of Enforcement Responses

A broad array of possible enforcement responses is available under the environmental laws EPA administers. The Agency usually has room to exercise judgement in selecting the response to a given noncompliance situation. The broad spectrum of responses reflects four "levels of action," differing in severity and in the scale of Agency resources required. Inspectors play a role in each type of response. They may help in drafting informal responses or even formal complaints; they are often key witnesses in cases which are litigated.

A given violation may be addressed by actions at more than one level. It is EPA's policy to escalate its enforcement response in a given case, if a lower-level response fails to achieve satisfactory results in a timely manner.

The four levels of action are described here in order of increasing severity:

- Informal responses are administrative actions, such as a notice of noncompliance or a warning letter, that are advisory in nature. In these actions, EPA advises the manager of a facility what violation was found, what corrective action is needed, and by what deadline the violation should be corrected. Generally, informal actions are used for lower priority violations and for first-time violators. Although informal actions carry no penalties nor power to compel action, the record of informal actions can be used later to support more severe actions of the types discussed below.

- Formal administrative responses are formal, legal actions that result in an order requiring the violating facility to correct the violation and, in most cases, to pay a civil penalty amount commensurate with the seriousness and the circumstances of the violation. These administrative actions are strong enforcement tools; if a company violates the terms of an administrative order, EPA may obtain U.S. Court action to force compliance with the order.

  Because they are generally the most expedient means of requiring correction, administrative actions are used heavily by most programs that have the authority for them. Administrative actions also include more rarely used options such as revoking or suspending permits or removing violating products from commerce.

  Administrative actions in several programs are taken under EPA's internal administrative litigation system, which is comparable to any court system, except that it is presided over by EPA's own administrative law judges (ALJs). All administrative actions have the potential to be challenged in the U.S. Court system, so conduct of these actions is governed by an extensive set of procedural rules designed to provide due process to the alleged violator and ensure the integrity of the system. Violating firms may appeal rulings of the ALJ to the EPA Administrator and ultimately to the U.S. Courts.

- Civil judicial responses are formal actions taken in the U.S. Court system by the U.S. Department of Justice (DOJ) at the request of EPA. Typically they are used against the more serious or recalcitrant violators of environmental laws, and to seek prompt correction of imminent hazard situations posing an immediate threat to human health or the environment. Preparation of civil judicial cases is resource-intensive, both because of DOJ involvement and the more formalized procedures required for court actions than for administrative actions. Sometimes litigation may take several years to complete. For these reasons, EPA often addresses violations through other mechanisms, if possible.

Civil judicial cases often result in penalties and court orders requiring correction of the violation and requiring specific actions (such as specialized monitoring) to prevent future noncompliance.

- Criminal judicial responses are taken when a person or company has knowingly and willfully committed a violation of the law. In a criminal case, the Department of Justice prosecutes an alleged violator in the U.S. Court system, seeking criminal sanctions, usually including fines and incarceration (imprisonment, or "jail time"). Criminal actions are taken for flagrant, intentional disregard for environmental laws (such as midnight dumping) and deliberate falsification of documents or records. Criminal cases are usually brought by DOJ at the request of EPA, but DOJ also can initiate them on its own.

  Criminal cases are the most difficult to pursue. They require special investigation and case development procedures, and they involve the highest standard of proof, including proof of the intent of the violator to commit the violation.

Enforcement Response Policies

Ideally, every potential violation observed by the inspector would be fully documented, including collection of physical samples as appropriate. However, when multiple potential violations are observed, time and logistical constraints sometimes require decisions to be made in the field about the extent of documentation that should be collected.

While there are no hard and fast rules for making these judgments, the inspector can prepare for them by being familiar with the particular program's enforcement priorities and how serious the Agency considers various categories of violations.

As a quick guideline when choices must be made in the field, inspectors should most fully document the more serious violations, being sure to collect the information needed to determine an appropriate enforcement response. This is because, stated generally, the likelihood that the Agency will pursue a formal enforcement action -- and the size of the civil penalty assessment, when appropriate -- increases with the seriousness of the violation. The standard of proof required to prove that a violation occurred also increases with the level of enforcement action taken (informal, administrative, judicial). Likewise, the likelihood of a challenge to the Agency's action increases with the level of action and size of penalty assessment.

Nearly all EPA programs have issued penalty policies based on an Agency-wide framework that sets out the principles and rationale for determining the seriousness (or "gravity") of various types of violations as a factor in assessing penalty amounts.[1] Some programs have also issued broader enforcement response

[1] Factors other than gravity (e.g., economic benefit, compliance history, culpability) are also considered in determining penalty amounts. The gravity factor, however, is the most relevant to the inspector.

policies indicating the level of enforcement action that is appropriate to different violation and compliance history situations. Some program policies also set out which individual violations would be grouped together in a formal enforcement action and counted as one charge (with one penalty assessed), and other types of violations that would normally be considered "other lesser charges" (no penalty assessment).

Factors Affecting Gravity of Violations

In a penalty policy, categories of violations are often ranked according to their seriousness, considering the following factors:

- Actual or possible harm. This factor focuses on whether the activity of the violator actually resulted or was likely to result in a discharge or exposure which the regulatory scheme was designed to prevent.

- Importance to the regulatory scheme. This factor focuses on the importance of the requirement to achieving the goal of the statute or regulation. For example, if labelling is the only method used to prevent dangerous exposure to a chemical, then failure to label should result in a relatively high penalty. By contrast, a warning sign that was visibly posted but was smaller than the required size would not ordinarily be considered as serious.

- Availability of data from other sources. The violation of any recordkeeping or reporting requirement is a very serious matter. But if the involved requirement is the only source of information, the violation is far more serious. By contrast, if the Agency has another readily available and cheap source for the necessary information, the violation is less serious.

Beyond the hierarchy of categories of violations within a program, the facts of a particular violation distinguish its seriousness among violations within the category. The factors considered are usually quantifiable, and the information (e.g., data, samples, observations) necessary to support the calculations would ordinarily be collected as part of the inspection. Such factors include:

- Amount of pollutant. The seriousness of the violation may vary according the amount and/or concentration of the pollutant involved in the violation.

- Toxicity of the pollutant. Violations involving highly toxic pollutants are more serious.

- o Sensitivity of the environment. This factor focuses on the location where the violation was committed. For example, improper discharge into waters near a drinking water intake or recreational beach is usually more serious than discharges not near any such use.

- o Length of time a violation continues. In most circumstances, the longer a violation continues uncorrected, the greater the risk of harm.

Chapter Five

Determination of Appropriate Enforcement Response

Chapter Contents

		Page
1	Introduction	5-1
2	Level of Action Policy	5-3
	Advertising Letters	5-3
	Notices of Detention	5-4
	Notices of Warning	5-4
	Terminations of Establishment Registrations	5-5
	Denials, Suspensions, Modifications, or Revocations of Applicator Certifications	5-6
	Recall Requests	5-8
	Stop Sale, Use, or Removal Orders	5-10
	Civil Administrative Penalties	5-13
	Injunctions	5-14
	Seizures	5-15
	Criminal Proceedings	5-16
	Exhibit 5-1: Efficacy Standards and Level of Action Guidance for Disinfectants and Rodenticides	5-18
	Exhibit 5-2: Criteria for Determining the Gravity of a Use Violation for Purposes of a Certification Action	5-21

Chapter Five

1 Introduction

Once the documentation of a violation is complete and EPA personnel have determined that an enforcement action is warranted, EPA must decide upon the appropriate level of action called for by the severity of the violation. There are two categories of action—administrative and judicial. Generally, the Agency uses administrative actions for violations of a lesser nature, for first-time violators, or to obtain relief on short notice, as in the case of stop sale, use, and removal orders. The Agency reserves judicial actions for use in violations of an especially egregious nature that result in serious harm to human health or the environment, and for willful or repeated violations.

Administrative levels of action include the following:

- Advertising letters;
- Notices of detention under Section 17(c);
- Notices of warning under Sections 9(c)(3) and 14(a)(2);
- Terminations of establishment registrations under 40 C.F.R. §167.3;
- Denials, suspensions, modifications, or revocations of applicator certifications under 40 C.F.R. §171.11;
- Recall requests;
- Stop sale, use, or removal orders under Section 13(a); and
- Civil administrative penalties under Section 14(a).

The criteria for the use of each of the above levels of action are discussed later in this chapter. Specific procedures for preparing and issuing these actions are found in Chapter Six, "Administrative Enforcement Actions: Notices of Violation and Administrative Orders," and Chapter Seven, "Administrative Enforcement Actions: Civil Penalty Proceedings."

Judicial actions may involve either civil or criminal proceedings. Civil proceedings include:

- Injunctions under Section 16(c); and
- Seizures under Section 13(b).

Criminal proceedings are authorized under Section 14(b). The criteria for the use of judicial actions are also found later in this chapter. Chapter Eight, "Judicial Enforcement: Civil Actions," and Chapter Nine, "Judicial Enforcement: Criminal Actions," discuss procedures for civil and criminal judicial proceedings.

In addition, Exhibit 5-1 contains level of action guidance applicable to efficacy standards for hospital or medical use disinfectants and rodenticides.

2 Level of Action Policy

Advertising Letters

An advertising letter is a letter issued by EPA as notice to a company that collateral literature concerning a product (i.e., literature or advertising that does not accompany the product) bears unaccepted pesticide statements or pesticide or device claims. An advertising letter may be issued by the Agency upon receipt of or knowledge of such literature and without EPA having in its possession an official sample of the pesticide or device accompanied by the literature. An advertising letter should identify:

- The literature; and
- The unaccepted statements (if related to a registered product), the pesticide claims (if related to an unregistered pesticide), or the device claims (if related to a device).

In addition, the advertising letter should request a written response from the recipient informing the Agency of whatever action the company plans to take in response to the concerns expressed by EPA. The Agency will take no further action* (even when the company fails to respond to the letter) until and unless EPA collects an official product sample with the offending literature. At that time, EPA may issue a notice of warning or civil complaint, as warranted by the circumstances.

* The Agency may, however, refer a case of unacceptable advertising to the Federal Trade Commission for action.

Notices of Detention

Section 17 of FIFRA authorizes EPA to refuse admission of a pesticide or device being imported into the United States if EPA determines that such pesticide or device violates any provisions of the Act. This refusal is known as a Notice of Detention and Hearing. Upon receiving a copy of the notice, the Department of the Treasury, through the Customs Service, will refuse delivery to the consignee and will oversee destruction of any pesticide or device refused delivery that is not exported by the consignee within 90 days from the date of the notice. However, under the Customs regulations for the enforcement of Section 17(c) of FIFRA, the District Director of Customs may release a shipment to the importer or the importer's agent before an EPA inspection of the shipment. Such a release occurs only upon execution of a bond in the amount of the value of the pesticide or device, plus duty. Should the shipment subsequently be refused entry and the importer or agent fails to return the pesticide or device, the bond is forfeited. A shipment released to the importer cannot be used or otherwise disposed of until EPA makes a determination of the admissibility of that shipment.

Notices of Warning

Section 14(a)(2) Notices of Warning

Section 14(a)(2) of FIFRA requires EPA to use a notice of warning in response to the first civil offense committed by a private applicator or other person not covered under Section 14(a)(1). Section 14(a)(1) covers registrants, commercial applicators, "for hire" applicators, wholesalers, dealers, retailers, and other distributors. "For hire" applicators are applicators who apply general use pesticides as a service in controlling pests but who do not deliver any unapplied pesticides.

Section 9(c)(3) Notices of Warning

Since the Agency is attempting to concentrate its pesticides enforcement resources on serious violations and repeat offenders, EPA may also issue notices of warning under Section 9(c)(3) of FIFRA in response to first-time violations committed by those persons covered by Section 14(a)(1), with the following exceptions:

- The Agency should pursue a remedy more severe than a warning in response to first offenses that result in (1) a real risk to humans or the environment or (2) any actual harm stemming from the violator's failure to exercise due care (i.e., the degree of care a reasonably prudent person would exercise in similiar circumstances); and

- The Agency should apply a remedy other than a notice of warning in the case of a violation by a person who has already been placed on notice of the existence of FIFRA or its requirements. (EPA will consider a person to have been placed on notice if that person has been subject to a formal inspection by EPA personnel or has interacted with the Agency by obtaining a product registration, an establishment registration, or any other similar license, permit, or certification.)

The Agency, in its discretion, may decide to issue a Section 9(c)(3) warning notice against persons included in the latter exception or against a repeat violator whose second violation is an extremely minor one, if EPA enforcement officials believe that justice will be served by employing such a remedy.

Termination of Establishment Registration

The regulations related to the registration of pesticide-producing establishments (40 C.F.R. §167.3) state that an establishment registration will remain in effect so long as the establishment continues to submit annual pesticides reports. If the establishment fails to submit a report in any year, the Agency may issue either a notice of warning or a civil penalty, based on the provisions of FIFRA Sections 7(c)(1) and 12(a)(2)(L).* A notice of warning would be the typical action for a newly registered establishment that failed to submit its initial pesticides report. The Agency should initiate a civil penalty in response to the failure to file a pesticides report on the part of an establishment that previously filed at least one annual report and is thus on notice as to its continuing responsibility to submit annual reports. If the establishment does not submit an annual pesticides report within 20 days after the date of receipt of the notice of warning or civil penalty, EPA will initiate procedures to terminate the establishment registration, independent of the other action.

Non-Enforcement Termination

Termination of establishment registration may also occur upon request of the establishment or parent company, typically because the establishment has gone or will go out of business, no longer produces pesticides, or otherwise no longer falls under the purview of FIFRA Section 7. In such cases the procedures for terminating establishment registration are

* Newly registered establishments must submit reports within 30 days of notification of establishment registration; subsequent reports are due by February 1 of each year. The Agency may, however, grant discretionary extentions of up to 30 days for filing a report before the report is considered delinquent.

strictly technical and are based on the operating procedures of the FIFRA and TSCA Enforcement System (FATES). Termination of establishment registration in such situations should not be confused with termination for cause.

Denials, Suspensions, Modifications, or Revocations of Applicator Certifications

The regulations relating to the certification of pesticide applicators (40 C.F.R. Part 171) authorize EPA to deny, suspend, modify, or revoke federally issued applicator certifications if the certificate holder violates FIFRA or its regulations. The Agency views an enforcement action affecting certification status as a very strong measure, to be taken only when the "public health, interest or welfare warrants immediate action" [40 C.F.R. §171.11 (f)(5)(i)]. Therefore, EPA will deny, suspend, modify, or revoke a certification only in response to serious violations or against persons with a history of noncompliance. The Agency may take any of these actions if it determines that an applicant for or holder of a certification has:

- Been convicted under Section 14(b) of FIFRA;
- Been subject to a final order imposing a civil penalty under Section 14(a);
- Misused a pesticide;
- Made available for use, or used, a registered pesticide classified for restricted use other than in accordance with Section 3(d);
- Refused to keep and maintain records required by 40 C.F.R. Part 171;
- Made false or fraudulent records, invoices, or reports;
- Failed to comply with any limitations or restrictions on or in a previously issued certificate; or
- Violated any other provision of FIFRA or its regulations.

Denial/Revocations

The denial or revocation of a certification not only deprives an applicator of the authority to apply restricted use pesticides but also, as compared to suspension of a certification, forces the applicator to take additional steps to acquire or re-acquire certification. In addition, the Agency will not consider an application to acquire or re-acquire certification for a period of not less than six months following denial or revocation. Thus EPA will deny or revoke a certification only where a violation has resulted

in a fatality or created an imminent danger of a fatality, where the violator's certification has been suspended as a result of a previous violation, or where a person has made fraudulent records or reports.

Suspensions

When considering invoking the less severe alternative of suspending a certification, EPA personnel must determine whether it is appropriate to pursue a suspension and for how long such suspension should be in effect. These determinations will depend upon the gravity of the violation in question.

Suspension (Misuse Violation). In suspending a certification due to an incident of misuse, EPA will refer to criteria for assessing the gravity of a use violation (see Exhibit 5-2). The gravity of a use violation is a function of:

- The risk of harm posed to human health and the environment by the violation; and
- The degree of misconduct exhibited by the violator.

The Agency will assign weightings, based on the gravity criteria, for each use violation relative to the pesticide involved, the harm to human health and/or to the environment, the history of noncompliance, and the culpability of the violator. (For purposes of this section of the manual, EPA will not distinguish between commercial and private applicators. Consideration of applicator status is inherent in the policy in that suspensions have a more substantial impact on commercial applicators, affecting their primary business activity.) The Agency will use the gravity value thus obtained to decide whether and for how long to suspend a certification, in accordance with the following table:

Total Gravity Value	Enforcement Remedy
4 or below	No action or Notice of Warning
5 to 8	Suspension of up to 2 months
9 to 12	Suspension of between 2 and 4 months
13 or above	Suspension of between 4 and 6 months

To determine whether the term of a suspension should be at the higher or lower end of the given ranges, EPA will consider any gravity-related factors not accounted for in the gravity criteria. In addition, EPA will consider the degree to which the suspension will have an adverse economic impact on the applicator. Applicators who would be minimally affected by a suspension, such as those who apply restricted use pesticides infrequently, should receive longer suspensions than applicators whose day-to-day

business activities would be severely disrupted by the loss of their certifications.

Suspensions should generally be pursued against individual applicators in lieu of a Section 14(a) civil administrative penalty. This, however, does not preclude EPA from issuing both a suspension as well as issuing a warning letter or from assessing a civil penalty against the employer of the applicator in addition to suspending the certification of the applicator.

Suspension (Recordkeeping Violation). EPA may also suspend certifications of commercial applicators who violate restricted use pesticides record-keeping requirements [see 40 C.F.R. §171.11(c)(7); 40 C.F.R. §171.11(f)(1)(iii)]. These violations do not lend themselves to analysis utilizing gravity of harm criteria. Consequently, EPA will suspend the certifications of persons who fail to maintain restricted use pesticides records based solely on gravity of misconduct considerations. The Agency will assess suspensions of up to two months for the second independent violation resulting from the failure to maintain restricted use pesticides records. For each additional violation, two months may be added to the term of the suspension up to a limit of six months. In cases where the violation involved keeping fraudulent records (i.e., where the violator intentionally concealed or misrepresented the true circumstances and the extent of the use of restricted use pesticides), EPA may revoke the violator's certification in response to the initial infraction.

If EPA decides to suspend certification, it must notify the applicator of the time period during which the suspension will be in effect. In order for the suspension to function as a deterrent, the suspension should take effect during the time when the applicator is most likely to be applying restricted use pesticides.

Recall Requests

No explicit authority exists in FIFRA for the recall of products. The effectiveness of a recall action, therefore, is contingent on the cooperation of the involved company.

Recalls should be initiated by EPA in all cases where available information indicates that the product is either potentially hazardous when used as directed or ineffective for the purposes claimed. The Agency should consider a recall of a product when, among other things, its use as directed is likely to result in:

- Injury to the user or handler of the product;
- Injury to domestic animals, fish, wildlife, or plant life;

- Physical or economic injury because of ineffectiveness or due to the presence of actionable residues; or

- Identifiable adverse effect on the environment.

EPA personnel must view a request for recall as a serious and extraordinary matter and must make a request for recall of a product only in those cases where the evidence clearly supports such action. The initial decision that a product should be withdrawn from the market will be based on information in the sample file including laboratory analyses, staff evaluations and opinions, and such other information as may be available and relevant. All information supporting a recall decision must be included in the official file.

Formal and Informal Recalls

There are two types of recalls—formal and informal. Formal recalls are used for more serious problems when it is essential that EPA regional personnel follow up the recall with a visit to the company. Formal recall involves EPA monitoring, detailed reporting by the company involved, and notification to State officials. This type of recall is normally accompanied by another enforcement action, generally a civil penalty.

The Agency uses informal recalls in cases where a recall is necessary but the level of potential hazard is not great or when it is unlikely that significant amounts of the defective product remain in the marketplace. An informal recall is conducted entirely by the company involved with no monitoring by EPA or State officials.

Level of Recall Determination

The level of recall is the point in the distribution chain from which the product is to be recalled. The determination of that point is based on the potential hazard, use pattern, and distribution pattern of the product. The following recall levels should be considered:

- Wholesale or First Point of Distribution. This will normally include all informal recalls and those formal recalls in which the product distribution is limited and consequently the potential danger is low.

- Retail Level. This will be the normal level for most formal recalls.

- User Level. This level will be requested only in cases in which there is a known serious hazard to human health or the environment.

Scope of the Recall

EPA must also consider the scope of the recall (i.e., the amount of the product that the recall will cover). In the case of labeling violations, the recall should include all of the product bearing the unacceptable labeling. For chemical violations, the recall should include all of the product bearing the same batch code(s) as the sample(s) found in violation. If the product is uncoded, EPA will determine the scope of the recall after contacting the responsible company. After reviewing the firm's manufacturing and shipping records, EPA personnel should be able to determine a range of manufacturing dates to include in the recall.

The recall of a defective product by the manufacturer or distributor is the most effective and efficient means of removing such a product from the market. However, since it is strictly voluntary, the success of the recall program depends on the industry's knowledge that:

- EPA will make a recall request only in those cases where there is a likelihood of physical or economic injury from the use of a product according to label directions;
- The Agency will use all legal means available to it to support or supplement any recall request, including stop sale, use, or removal orders, seizures, and civil penalties; and
- State officials will cooperate with the Agency in the removal of such products.

Stop Sale, Use, or Removal Orders

A stop sale, use, or removal order (SSURO) should be issued by EPA if the violation is of an ongoing nature and threatens to cause serious or widespread harm. This remedy is not designed to prevent future violations, but rather is intended to limit the amount of harm that might result from a violation. In order to preserve the hearing rights of the recipient of an SSURO, EPA should supplement the order with a civil penalty assessment.

An SSURO is among the most expedient and effective remedies available to EPA in its efforts to prevent illegal sale, distribution, and use of pesticides. Its advantages over other actions (such as seizures) are that:

- It may be issued without prior adjudication of the violative character of the product (i.e., EPA may issue an SSURO simply when it has reason to believe that the product is in violation of the Act);
- It is easier to prepare and issue than a seizure;

- It can be written so as to include future amounts of the product that may come into the custody of the person on whom the SSURO is served; and

- It can be easily adapted to particular circumstances.

Criteria for Use

The language of Section 13(a) confers broad authority upon EPA to issue SSUROs. The Agency may issue an SSURO when any one of three situations exists:

- If, upon inspection or testing, EPA believes a product is in violation of the Act;

- If EPA believes that a product has been or is intended to be distributed or sold in violation of the Act; or

- If EPA has cancelled or suspended the registration of a product.

An SSURO is ordinarily issued by EPA without prior notice to the person served. Because an order is issued without notice, the actual or potential danger to human health or the environment posed by the violative product or situation must be both serious and imminent. In addition, the danger must require such urgent relief that there is no time to seek other remedies or that other administrative remedies would be inappropriate. Accordingly, EPA officials must observe stringent guidelines in determining whether issuance of an SSURO is appropriate, as outlined below.

Mandatory Issuance of an SSURO. The Agency must issue an SSURO against persons who own, control, or have custody of pesticides in the following categories:

- Pesticides whose registrations have been cancelled or suspended by EPA, except cases in which the Agency has permitted the use of existing stocks, or where continued marketing presents no human health or environmental hazard;

- Pesticides for which there is reason to believe present a potential hazard to man or the environment because:

  - They are not registered, or are so grossly overformulated or adulterated, as to present a serious health hazard, or
  - They are packaged in improper or damaged containers, or are so inadequately labeled, as to make safe or effective use unlikely or impossible;

- Pesticides or devices with labeling that is materially misleading or fraudulent and, if observed by a user, is likely to cause a life-endangering health hazard or serious adverse environmental condition. (A pesticide lacking a restricted use label is an especially serious labeling violation.) This provision includes labeling for products that:

  - Are ineffective for the purposes claimed,
  - Are so chemically deficient as to affect deleteriously the product's efficacy, as determined by laboratory test results, or
  - Bear false or misleading safety claims;

- Pesticides or hazardous devices* that are in violation of the Act and are the subject of a voluntary recall, but which the responsible party refuses to remove, is recalcitrant in removing, or is unable to remove from channels of trade; and

- Pesticides or hazardous devices that are in violation of the Act and for which a civil penalty has been issued but which have not been brought into compliance.

Discretionary Issuance of an SSURO. EPA may exercise its discretion in issuing an SSURO in cases where a product either is in violation of the Act or is intended to be distributed or sold in violation of the Act, and the gravity of the violation is less than that required for issuance of a mandatory SSURO. In addition to an analysis of the relative severity of the violation (or lack thereof), the following factors should be considered:

- Whether the violation is another in a series of violations by the producer or distributor. In cases of recidivism, of uncorrected violations previously brought to the individual's attention, or of repeated negligent conduct, an SSURO may be appropriate where other enforcement remedies have failed to bring about corrective action or where it is deemed necessary to prevent continued marketing of the violative product;

- Whether the violation is easily corrected. If it appears that the individual is cooperative and can easily remedy the violation, an SSURO may be unnecessary; and

* A hazardous device is one presenting a direct threat to human health or the environment by its use (e.g., a water treatment device whose labeling makes false, misleading, or fraudulent claims to purify raw well water or other untreated water supplies). For nonhazardous devices (e.g., an electromagnetic rodent repelling device) that are misbranded, Agency policy is to complete civil penalty proceedings before issuing an SSURO. See December 19, 1979 Memorandum: "Enforcement Actions Concerning Nonhazardous Pesticide Devices."

- Who has custody of the product. An SSURO may be more appropriate, and a violation more immediately cured, if the violative product is found at the producer level rather than at the retail level.

In all other cases, EPA should consider an alternative enforcement remedy available under FIFRA.

Use of SSURO for Minor Violations

While EPA will usually reserve the use of an SSURO to relatively serious violations, the need to issue an SSURO may arise in certain cases involving minor violations. For example, in the face of continued and repeated minor violations, or when several minor violations appear together on a label, EPA may decide to issue an SSURO to ensure that the product will be distributed only in compliance with the Act.

Alternative Approaches

Even in cases where the existence of a serious violation would justify the issuance of an SSURO, the Agency may consider the use of alternative approaches to achieve compliance. For example, certain pesticide labeling violations can be rectified through a voluntary recall by the manufacturer, and this may be the most expeditious way to prevent any harm to human health or the environment. Thus, in certain cases that could legitimately call for the issuance of an SSURO, particularly those concerned with labeling violations, EPA might first consider contacting the appropriate responsible party and negotiating a voluntary recall.

Civil Administrative Penalties

A civil penalty, as authorized by Section 14(a) of FIFRA, is the remedy of choice for most violations. A civil penalty should be proposed where the violation presents (a real but not an extreme and unreasonable) risk to humans or the environment; is likely to be an isolated occurrence; was apparently committed as a result of ordinary negligence, inadvertence, or mistake; and either:

- Involves a first offense under the Act by any registrant, commercial applicator, "for hire" applicator, wholesaler, dealer, retailer, or other distributor (no prior warning is required by FIFRA for violators in this category); or

- Involves a private applicator or other person, other than any party specified in the first category, who has received a prior warning or citation for a violation of FIFRA. (The prior warning or citation may have been for the same or a different FIFRA violation.)

Injunctions

Section 16(c) of FIFRA gives EPA the authority to initiate injunctive actions before district courts.* Because an injunction is an extraordinary form of relief, the Agency's arguments must be clear and compelling. In initiating a permanent injunction action, EPA must indicate to the court that:

- The Agency's administrative or other judicial enforcement remedies would be inadequate either at restraining the violation or at preventing unreasonable risk to human health or the environment;
- The Agency has, in fact, already diligently exercised all appropriate administrative remedies (such as SSUROs and civil penalties), yet the violation continues unabated; and
- Irreparable injury, loss, or damage will result if relief is not granted.

In the case of a preliminary injunction or temporary restraining order, the Agency must additionally demonstrate that:

- Immediate and irreparable injury, loss, or damage will result if relief is not granted; and
- There is a likelihood of success at trial, based on facts before the court.

Under FIFRA, there are a number of specific circumstances that may justify injunctive relief. These include but are not limited to:

- The violation of a Section 6 suspension order;
- The violation of an SSURO where a civil penalty or criminal prosecution would not provide a timely or effective remedy to deter further violations;
- There is continued production, shipment, sale, or use of an unregistered pesticide after the Agency has taken civil or criminal action; and

* These actions may consist of permanent injunctions, preliminary injunctions, or temporary restraining orders. These types of injunctions are discussed in more detail in Section 4 of Chapter Eight.

- The Agency has exercised an enforcement remedy and a person continues to make available for use a restricted use pesticide other than in accordance with FIFRA Section 3(d), or continues to use a pesticide in a manner inconsistent with its labeling or in a manner contrary to an experimental use permit.

Seizures

Section 13(b) of FIFRA gives EPA the authority to initiate in rem condemnation proceedings in district court. Once a court grants the Agency's request for authority to conduct a seizure, FIFRA Section 9(b) authorizes duly designated Agency employees to obtain and execute warrants for the purpose of seizing any pesticide or device that is in violation of the Act.

Since seizures are judicial actions directed against violative products rather than against individuals, EPA may initiate actions in court against:

- A pesticide that is adulterated, misbranded, unregistered, not colored or discolored as required, or bears claims or directions for use that differ from those made in connection with its registration;

- A device that is misbranded; or

- A pesticide or device that causes unreasonable adverse effects upon the environment, even when used in accordance with requirements imposed by the Act.

The above examples are similar to those that would lead the Agency to initiate an SSURO. Because an SSURO can be effected in less time and with less preparation than that required for a seizure, it is the preferred remedy in terms of expediency. Nevertheless, the Agency should consider initiating a seizure in the following circumstances:

- The Agency has issued an SSURO, but the recipient of the order has not complied with it;

- The Agency has reason to believe that a person, if issued an SSURO, will not comply with it;

- There exists a pesticide so hazardous that it should be removed from the marketplace or place of use;

- The seizure will be used to support a recall; or

- It is necessary to dispose of products being held under an SSURO for which the responsible party has taken no corrective action and has expressed an intent not to take corrective action.

Criminal Proceedings

Section 14(b) of FIFRA provides EPA with the authority to proceed with criminal sanctions against violators of the Act, subject to the following distinctions:

- A registrant, commercial applicator, wholesaler, dealer, retailer, or other distributor who knowingly violates the Act is subject, upon conviction, to a fine of not more than $25,000, or imprisonment for not more than one year, or both.

- A private applicator or other person not included above who knowingly violates the Act is subject, upon conviction, to a fine of not more than $1,000, or imprisonment for not more than 30 days, or both.

The Agency may initiate criminal proceedings in every case in which EPA can meet the stringent requirements of evidence and proof leading to a conviction. However, Agency policy, as well as pragmatic resource considerations, argues against the use of criminal sanctions in any but the most serious instances of environmental misconduct, as determined by the nature of the violation, the history of compliance on the part of the responsible person, or the seriousness of the environmental consequences.

Considerations

There are a number of specific factors that the Agency must carefully consider before proceeding with a criminal prosecution. (Chapter Nine, "Judicial Enforcement: Criminal Actions," addresses these considerations in much greater detail.)

Knowledge. The Agency must determine that the violator in question knowingly violated the statute. That is, there must be evidence of intent in the commission of the violative act, rather than it merely being the result of accident or mistake.

Seriousness. Criminal actions should be considered for the most serious types of environmental misconduct. This consideration will be judged by reviewing the extent of environmental harm or human health hazard that resulted from, or was threatened by, the prohibited conduct. Factors such as the duration of the conduct and the toxicity of the pollutants are considered. Also of significance in assessing the seriousness of the conduct is the impact—real or potential—upon EPA's regulatory function.

Deterrence. The Agency must consider the importance of and need for deterrence of criminal conduct, either on the part of a specific person, or on the part of the larger community. In the case of a serious and willful violation, the interests of deterrence may well best be served by the imposition of criminal sanctions.

Compliance History. The compliance history of the person who is the subject of possible criminal proceedings will enter into the Agency's deliberations. While a history of noncompliance is not requisite for pursuing criminal sanctions, certainly criminal prosecution becomes more appropriate when a history of noncompliance exists.

Simultaneous Actions. The Agency may consider whether there is a need for criminal enforcement proceedings contemporaneous with a civil or administrative enforcement action, or whether one type of action alone will serve the situation in question. While simultaneous proceedings are permissible, and there may be very compelling reasons for pursuing both, the legal and practical difficulties inherent in so doing argue against such an approach except in the most extraordinary circumstances.

Use of Criminal Proceedings

The Agency has identified a number of specific situations that may be considered of such a serious nature that criminal prosecution is particularly appropriate. To list these situations, however, should not be viewed as precluding criminal prosecution in circumstances not included below:

- Failure to report information on the unreasonable adverse effects of a registered pesticide;
- Falsification of records;
- Violation of an order suspending or cancelling a product registration;
- Violation of an SSURO;
- Unlawful uses of pesticides; and
- Illegal distribution of unregistered pesticides.

Efficacy Standards and Level of Action Guidance for Disinfectants and Rodenticides

Efficacy standards have been developed and are being utilized by the Agency for hospital or medical use disinfectant products and rodenticides. The efficacy standards and level of action guidance for these two types of pecticides are summarized below. However, for the complete disinfectants laboratory testing procedures and level of action guidance, refer to December 17, 1980 Memorandum: "Regulation of Public Health Related Disinfectant Products." Additionally, for both disinfectants and rodenticides, consult the civil penalty matrix in Appendix 6 for the appropriate civil penalty calculations.

Disinfectants

Only hospital or medical use products that make claims for Salmonella choleraesius, Staphylococcus aureus, or Pseudomonus aeruginosa* are tested.

Level I Testing

In Level I testing, 60 carriers must be tested against each of the above organisms with each of three samples, representing three different batches. This amounts to 180 carriers per sample; a total of 540 carriers.

- Disinfectant Sample(s)

  Performance Standard: A sample is determined to fail efficacy testing if organisms on 2 or more of the 60 carriers are not destroyed.

  Level of Action: For each sample that fails the above standard, an SSURO is issued on the batch from which the sample was collected and a civil penalty is issued for failure of the batch to meet the efficacy requirements.

---

* Failure of a product to destroy Pseudomonus aeruginosa is considered equal to failure of a product to destroy Staphylococcus aureus or Salmonella choleraesius.

- Disinfectant Product(s)

  Performance Standard: A product provisionally fails efficacy testing if two or more of the three samples fail to destroy any test organism.

  Level of Action: Level II testing is initiated for each product that fails the above standard.

Level II Testing

If a product fails Level I testing, five additional samples representing five different batches are collected for testing at Level II. Sixty carriers are tested for each organism that the product fails to destroy in Level I.

- Disinfectant Sample(s)

  Performance Standard: A sample is determined to fail efficacy requirements if organisms on 2 or more of the 60 carriers are not destroyed.

  Level of Action: For each sample that fails the above standards, an SSURO is issued on the batch from which the sample was collected, and a civil penalty is issued for failure of the batch to meet the efficacy requirements.

- Disinfectant Product(s)

  Performance Standard: A product is determined to fail efficacy testing if three or more of the five samples fail to destroy any organism.*

  Level of Action: Initiation of cancellation proceedings.

Rodenticides

Both single dose (acute) and multiple dose rodenticides that make claims for commensal rodents are tested for efficacy.

---

* Level II product failures are based on the upper bounds of the 95 percent confidence level. Consequently, a sample must fail 5 out of 60 carriers (not 2 out of 60 as in Level I tests) to count as a failure.

- Acute or Single Dose

  Performance Standard: The minimum standard is 90 percent rodent mortality after eight days of testing for the product to be effective in commensal rodent control.

  Level of Action: A civil penalty is issued for failure of the batch to meet the above efficacy requirements.

- Multiple Dose

  — Cereal or water baits

  Performance Standard: The minimum standard is 33 1/3 percent bait acceptance and 90 percent mortality in order for the product to be considered effective in a commensal rodent population.

  Level of Action: A civil penalty is issued for failure of the batch to meet the above efficacy requirements.

  — Paraffin blocks

  Performance Standard: The minimum standard is 25 percent bait acceptance and 80 percent mortality in order for the product to be considered effective in a commensal rodent population.

  Level of Action: A civil penalty is issued for failure of the batch to meet the above efficacy requirements.

Criteria for Determining the Gravity of a Use Violation for Purposes of a Certification Action

Violation	Weighting	Activity
GRAVITY OF HARM		
Pesticide	2	Toxicity—Category I pesticides, restricted use pesticides, or pesticides that are associated with chronic health effects (mutagenicity, oncogenicity, teratogenicity, etc.)
	1	Toxicity—Categories II through IV, no known chronic effects
Harm to Human Health	5	Serious or widespread actual harm to human health
	3	Serious or widespread potential harm to human health
	1	Minor potential or actual harm to human health, neither serious nor widespread
Environmental Harm	5	Substantial or widespread actual harm to the environment (e.g., crops, water, livestock, wildlife, wilderness, or other sensitive natural areas)
	3	Substantial or widespread potential harm to the environment
	1	Minor potential or actual harm to the environment, neither widespread nor substantial

Violation	Weighting	Activity
GRAVITY OF MISCONDUCT		
Noncompliance History	4	More than one prior violation of FIFRA by the applicator
	2	One prior violation
	0	No prior violations
Culpability	4	Knowing or willful violation
	2	Violation resulting from negligence
	0	Violation was neither knowing nor willful and did not result from negligence; good faith efforts made to comply with the law

Sections 12(a)(1)(E); 2(q)(2)(C)

Any pesticide that was misbranded in that there was not affixed to its container, and to the outside container or wrapper of the retail package, if there be one, through which the required information on the immediate container cannot be clearly read, a label bearing the required information.

ELEMENTS OF THE VIOLATION	ESTABLISHING THE VIOLATION
1. Respondent (person) distributed, sold, offered for sale, held for sale, shipped, delivered for shipment, or received and (having so received) delivered or offered to deliver a pesticide.	1. Identification of the responsible party for suspected violation in commerce. See "Additional Sources of Documentation" (Chapter 4).
2. Determination that the product is a pesticide.	2. Appropriate regional or RD personnel review product labeling claims to determine whether the product is a pesticide. See "Further Processing of the ID Jacket—Enforcement Case Review" (Chapter 4).
3. Determination that the product label does not bear the following required information: • The name and address of the producer, registrant, or person for whom the pesticide was produced; • The name, brand, or trademark under which the pesticide is sold; • The net weight or measure of the contents, unless an exemption is granted by the Administrator; and • The registration number assigned to the pesticide and the use classification.	3. Appropriate regional or RD personnel review product labeling to determine if the label obtained in the inspection conforms to the label accepted in conjunction with the product's application for registration. For the significance of the omissions, see "Level of Action Policy" (Chapter 5) and for the penalty amount, see Appendix 6.

Sections 12(a)(1)(E); 2(q)(2)(D)

Any pesticide that was misbranded in that it contained a substance or substances highly toxic to humans and its label failed to bear:

- The skull and crossbones;
- The word "Poison" in red on a distinctly contrasting background; and
- A statement of practical treatment (first aid or otherwise) in case of poisoning.

ELEMENTS OF THE VIOLATION	ESTABLISHING THE VIOLATION
1. Respondent (person) distributed, sold, offered for sale, held for sale, shipped, delivered for shipment, or received and (having so received) delivered or offered to deliver a pesticide.	1. Identification of the responsible party for suspected violation in commerce. See "Additional Sources of Documentation" (Chapter 4).
2. Determination that the product is a pesticide.	2. Appropriate regional or RD personnel review product labeling claims to determine whether the product is a pesticide. See "Further Processing of the ID Jacket—Enforcement Case Review" (Chapter 4).
3. Determination that the product label does not bear the required statements or designs.	3. Appropriate regional or RD personnel review the product labeling to determine whether the label obtained during inspection conforms to the label accepted in conjunction with the product's registration application. Consult 40 C.F.R. §162.10(h) for the requirements. For the significance of the omission, see "Level of Action Policy" (Chapter 5) and for the penalty amount, see Appendix 6.

Sections 12(a)(1)(E); 2(c)

Any pesticide that was adulterated in that:

- Its strength or purity fell below the professed standard of quality under which it was sold;
- Another substance had been substituted wholly or in part for the pesticide; or
- A valuable constituent of the pesticide had been wholly or in part abstracted.

ELEMENTS OF THE VIOLATION	ESTABLISHING THE VIOLATION
1. Respondent (person) distributed, sold, offered for sale, held for sale, shipped, delivered for shipment, or received and (having so received) delivered or offered to deliver a pesticide.	1. Identification of the responsible party for suspected violation in commerce. See "Additional Sources of Documentation" (Chapter 4).
2. Determination that the product is a pesticide.	2. Appropriate regional or RD personnel review product labeling claims to determine whether the product is a pesticide. See "Further Processing of the ID Jacket—Enforcement Case Review" (Chapter 4).
3. Determination that the product was adulterated in a manner described by the Act.	3. Appropriate regional or RD personnel review chemistry laboratory tests to determine whether the product composition conforms to the composition accepted in conjunction with the application for registration. See "Scientific Review" under "Further Processing of the ID Jacket—Enforcement Case Review" (Chapter 4). For the significance of the adulteration, see "Level of Action Policy" (Chapter 5) and for the penalty amount, see Appendix 6.

Section 12(a)(2)(G)

A person used a registered pesticide in a manner inconsistent with its labeling.

ELEMENTS OF THE VIOLATION	ESTABLISHING THE VIOLATION
1. Determination that the product is a registered pesticide.	1. Regional personnel ensure that product is registered through regional files or RD review. Review accepted label to determine acceptable uses. See "Labeling Review" under "Further Processing of the ID Jacket—Enforcement Case Review" (Chapter 4).
2. Determination that the product was used in a manner inconsistent with its labeling.	2. Review documentation to determine whether the actions of the respondent (use of the pesticide) were inconsistent with the product's label. For the significance of the alleged violation, see "Level of Action Policy" (Chapter 5) and for the penalty amount, see Appendix 6.

315

DEPT OF CONSUMER AND REGULATORY AFFAIRS

OFFICE OF CIVIL INFRACTIONS

NOTICE OF INFRACTION

Issuing Administration

A ☐ HERA D ☐ BRA G ☐ OCOM
B ☐ IA E ☐ BLRA ☐
C ☐ SFRA F ☐ OPLA ☐

Date of Service

On _____
Date of Infraction Time ☐ a m ☐ p m

At _____
Place of Infraction

Respondent s Full Name (Last First Middle)

Street

City, State Code

Formal ID ☐ Yes ☐ No Recidivist ☐ Yes

Social Security No or Tax Identification No

License/Permit _____
Type Number

You are charged with violating the District of [illegible] set out below You must indicate below each infraction listed whether you [illegible] infraction, admit the infraction with an explanation, or deny the infraction [illegible] right to request a hearing

Code		Regulation	Fine $

Nature of Infraction _____

☐ Admit with explanation ☐ Deny

Code		Regulation	Fine $

Nature of Infraction _____

☐ Admit ☐ Admit with explanation ☐ Deny

Code		[illegible]	Fine $

Nature of Infraction _____

☐ Admit ☐ Admit with explanation ☐ Deny

Code		Regulation	Fine $

Nature of Infraction _____

☐ Admit ☐ Admit with explanation ☐ Deny

Total fine applicable [illegible] above infraction(s) $ _____

WARNING [illegible] you do [illegible] the required fine or request a hearing or an adjudication by mail (see re[illegible] of the date of service of this notice, you will be subject to the maximum [illegible] law and suspension of your license/permit The fine amount will double if [illegible] has not been received within 15 days The fine amount will triple if payment has not been [illegible] within 30 days If this is not your first infraction, you will be subject [illegible]

I [illegible] investigated the commission of the infraction(s) noted above

Inspector s/Investigator's Signature ID No

I hereby acknowledge receipt of this Notice of Infraction

RESPONDENT S SIGNATURE DATE

87—P5878-A wd201

OCI/VPD COPY

WARNING

SCHEDULE OF FINES
PESTICIDES AND HAZARDOUS WASTE

	INTERNAL CODE	STATUTORY CITE OR REGULATION	CLASS	FINE	DESCRIPTION
1.	12201	20 DCMR 1007.2	2	$500	Recommendation for pesticide use inconsistent with labeling
2.	12202	20 DCMR 1007.4	2	$500	Using fraud or misrepresentation in applying for certification or license
3.	12203	20 DCMR 1007.6	2	$500	False claims on effects of pesticides or application method
4.	12204	20 DCMR 1007.7	2	$500	Applying ineffective improper pesticide and operating faulty or unsafe equipment
5.	12205	20 DCMR 1010.2	2	$500	Using faulty or unsafe equipment.
6.	12206	20 DCMR 1007.10	2	$500	Aiding/abetting/conspiring to evade pesticide laws
7.	12207	20 DCMR 1010.5	2	$500	Applying pesticides in a harmful manner
8.	12208	20 DCMR 1011.3	2	$500	Distributing/storing/transporting pesticides in a dangerous manner
9.	12209	20 DCMR 1007.1	2	$500	Using pesticides inconsistent with label directions
10.	12210	20 DCMR 1010.1	2	$500	Misuse of registered pesticides
11.	12211	20 DCMR 1007.3	2	$500	Falsifying/refusing/neglecting to maintain or make records available
12.	12212	20 DCMR 1007.9	2	$500	Making false/fraudulen records, invoices or reports

SCHEDULE OF FINES
PESTICIDES AND HAZARDOUS WASTE

	INTERNAL CODE	STATUTORY CITE OR REGULATION	CLASS	FINE	DESCRIPTION
13.	12213	20 DCMR 1007.8	2	$500	Faulty, careless or negligent use of pesticides
14.	12214	20 DCMR 1007.11	2	$500	Making fraudulent/misleading statements during inspection
15.	12215	20 DCMR 1106.3	2	$500	Certified applicator not licensed with each employing operator
16.	12216	20 DCMR 1200.1	2	$500	No operator's license
17.	12217	20 DCMR 1308.1	2	$500	Not meeting records or report requiremnts
18.	12218	20 DCMR 1308.3	2	$500	No restricted use pesicide records maintained
19.	12219	20 DCMR 1308.10	2	$500	Failure to report pesticide accidents or incidents
20.	12301	20 DCMR 1007.5	3	$100	Non-compliance with restrictions on certificate or license
21.	12302	20 DCMR 1007.12	3	$100	Impersonating an inspector
22.	12303	20 DCMR 1007.13	3	$100	Distributing an adulterated pesticide
23.	12304	20 DCMR 1008.5	3	$100	Selling pesticide under the name of another
24.	12305	20 DCMR 1008.8	3	$100	Labeling does not contain directions for use
25.	12306	20 DCMR 1008.9	3	$100	Pesticide labels without ingredient statement
26.	12307	20 DCMR 1008.11	3	$100	Pesticide labels without statement of use classifications

SCHEDULE OF FINES
PESTICIDES AND HAZARDOUS WASTE

	INTERNAL CODE	STATUTORY CITE OR REGULATION	CLASS	FINE	DESCRIPTION
27.	12308	20 DCMR 1008.12	3	$100	Pesticide labels without warning or cautionary statement
28.	12309	20 DCMR 1008.14	3	$100	Labeling not indicating toxic pesticides
29.	12310	20 DCMR 1010.8	3	$100	Unlicensed operator inspecting for wood destroying pest
30.	12311	20 DCMR 1011.1	3	$100	Injurious use of pesticides and pesticide containers
31.	12312	20 DCMR 1012.2	3	$100	Not providing safety equipment and protective clothing
32.	12313	20 DCMR 1010.6	3	$100	Applying a pesticide with wind velocity too high
33.	12314	20 DCMR 1012.3	3	$100	Non-compliance with re entry requirements
34.	12315	20 DCMR 1015.1	3	$100	Unlicensed or uncertified applicator performing fumigation operation
35.	12316	20 DCMR 1015.2	3	$100	Untrained fumigation crew members
36.	12317	20 DCMR 1015.3	3	$100	Performing fumigation without notification
37.	12318	20 DCMR 1015.5	3	$100	Warning signs not conspicuously posted on treated area
38.	12319	20 DCMR 1015.7	3	$100	No guard on site during fumigation
39.	12322	20 DCMR 1100.1	3	$100	Application of restricted use pesticides by unlicensed person

SCHEDULE OF FINES
PESTICIDES AND HAZARDOUS WASTE

	INTERNAL CODE	STATUTORY CITE OR REGULATION	CLASS	FINE	DESCRIPTION
40.	12324	20 DCMR 1111.1	3	$100	Applying pesticides without supervision of licensed certified applicator
41.	12325	20 DCMR 1203.3	3	$100	Cancellation of pesticide operators insurance without notification
42.	12326	20 DCMR 1203.6	3	$100	Insurance not kept in full force or effect
43.	12327	20 DCMR 1203.7	3	$100	Failure to carry prescribed limits of liability insurance
44.	12328	20 DCMR 1302.2	3	$100	Disregarding a "stop sale use or removal" order
45.	12329	20 DCMR 1307.3	3	$100	Non-renewal of pesticide license
46.	12330	20 DCMR 1309.4	3	$100	Selling or transferring restricted use pesticides to an uncertified person
47.	12331	20 DCMR 1012.1	3	$100	Employees not notified of pesticide hazards
48.	12401	20 DCMR 1005.5	4	$50	Invalid use of public applicator license
49.	12402	20 DCMR 1007.14	4	$50	Using unregistered pesticides
50.	12403	20 DCMR 1008.4	4	$50	Non-compliance with package or container requirements
51.	12404	20 DCMR 1010.3	4	$50	Using pesticide containers for other purposes

SCHEDULE OF FINES
PESTICIDES AND HAZARDOUS WASTE

	INTERNAL CODE	STATUTORY CITE OR REGULATION	CLASS	FINE	DESCRIPTION
52.	12405	20 DCMR 1010.4	4	$50	Anti-siphon device for equipment not provided
53.	12406	20 DCMR 1010.7	4	$50	Displaying or selling pesticides in damaged container
54.	12407	20 DCMR 1100.17	4	$50	Applicators license no conspicuously posted on premises
55.	12408	20 DCMR 1100.18	4	$50	Applicators license inaccessible for inspection
56.	12409	20 DCMR 1200.8	4	$50	Operator's license not conspicuously posted o premises
57.	12410	20 DCMR 1200.9	4	$50	Operator's license not accessible for inspection
58.	12411	20 DCMR 1309.1	4	$50	Restricted use pesticide records not maintained three years
59.	12412	20 DCMR 1309.2	4	$50	Non-compliance with request for records
60.	12413	20 DCMR 1309.3	4	$50	Incomplete restricted use pesticide records
61.	12414	20 DCMR 1004.1	4	$50	Unregistered employee applying pesticide
62.	12415	20 DCMR 1004.4	4	$50	Licensed pesticide operator fails to register employees
63.	12418	20 DCMR 1008.7	4	$50	Pesticide label posted inconspicuously and stated in terms not understood by the ordinary individual

SCHEDULE OF FINES
PESTICIDES AND HAZARDOUS WASTE

	INTERNAL CODE	STATUTORY CITE OR REGULATION	CLASS	FINE	DESCRIPTION
64.	12419	20 DCMR 1008.13	4	$50	Labels not properly affixed on pesticide containers
65.	12420	20 DCMR 1106.4	4	$50	Non-submission of applicator's license/credentials to operator afte termination
66.	12421	20 DCMR 1106.5	4	$50	Director not notified when applicator terminated and credentials not returned
67.	12422	20 DCMR 1200.6	4	$50	Non-submission of operator's license/credentials after termination
68.	12423	20 DCMR 1202.4	4	$50	Director unnotified that applicator supervisor unavailable
69.	12501	20 DCMR 1000.1	5	$20	Using pesticides not registered with EPA
70.	12502	20 DCMR 1008.6	5	$20	No registration number on pesticides labels
71.	12503	20 DCMR 1015.8	5	$20	Guard not capable, alert, awake and on site throughout fumigation period
72.	12504	20 DCMR 1004.7	5	$20	Failure to carry registration ID card
73.	12505	20 DCMR 1004.8	5	$20	Failure to notify and return registered employees credentials
74.	12506	20 DCMR 1111.7	5	$20	Failure to have pesticides labels at job site
75.	12507	20 DCMR 1000.3	5	$20	Failure to register a pesticides product in D.C.

U.S. v. Argent Chemical Laboratories et al. (W.D. Wash.)

Eliot Lawrence Lieberman, the President and Treasurer of Argent Chemical Laboratories, Inc., which represented itself as the nation's largest manufacturer of aquatic pesticides, was sentenced in U.S. District Court in Seattle on March 31, 1988, to one year imprisonment, with 10 months suspended, a $20,000 fine, and was placed on 5 years probation. The jail term for Lieberman was the first to be imposed on a corporate officer of a pesticide manufacturer for the sale of unregistered pesticides.

In 1982, the State of Washington and the EPA advised the defendants, in connection with a Stop Sale Order concerning Argent's sale of its unregistered algacide, Copper Control, of the federal requirements for the registration of all pesticide products. Nonetheless, EPA investigators determined that the defendants continued their sales of Copper Control and other unregistered pesticides produced by the company. While engaged in such sales, Lieberman, on January 20, 1985, submitted a written affidavit to state and federal authorities falsely asserting that Argent had not produced or sold any pesticide products. In conjunction with the FIFRA violations, the government also established that the defendants were engaged in the interstate sale of misbranded veterinary drugs in violation of the Federal Food, Drug and Cosmetic Act (FDCA), 21 U.S.C. § 301 et seq., and that Argent falsely reported through Lieberman to the FDA that Argent was not manufacturing and distributing one such drug when in fact it was doing so.

Lieberman pled guilty on January 14, 1988, to three counts of illegal pesticide sales, between 1984 and 1986, to state fish hatcheries in Arkansas, Mississippi and Arizona, in violation of FIFRA, 7 U.S.C. § 136j(a)(1)(A). The sales involved herbicides used by fish farms or hatcheries to eliminate predacious or trash fish. Lieberman also had pled guilty to two counts of illegal sales of unapproved veterinary drugs to fisheries in Oregon and Indiana, in violation of the FDCA, 21 U.S.C. §§ 331(a) and 333(a). The Vice-President and Secretary of Argent, Beatriz Faith Shanahan, was sentenced to a suspended, indeterminate period of imprisonment and fined $10,000 for her guilty plea to two misdemeanor counts for her role in the illegal sales of unregistered pesticides. Argent was fined $70,000 for its guilty plea to two felony counts of illegal sales of pesticide products. Argent also was placed on five years of probation.

'HINGTON POST

Orkin Guilty of Violation in 2 Deaths

Failure to Use Monitor in Va. Couple's Home a Federal Charge

United Press International

ROANOKE, Aug. 8—Orkin Exterminating Co., charged in two fumigation deaths in 1986, was found guilty today of violating federal pesticide law.

The company was convicted of not using a monitoring device before exterminators allowed a Galax, Va., couple to return home after their house had been treated with chemicals.

A sentencing hearing has been scheduled for Sept. 6 to determine whether the violation constituted negligence.

Orkin, the nation's largest exterminator, faces a maximum fine of $500,000 if the government can prove negligence in the deaths of Hubert and Freida Watson.

If the government cannot link the violation and the deaths, the maximum fine is $100,000, said Assistant U.S. Attorney Richard Pierce.

In an unusually short trial in which no evidence was presented, U.S. District Judge James Turk dismissed four other misdemeanor charges.

The single conviction of violating the federal pesticide act comes a little more than a year after more serious state charges, including manslaughter, were dropped.

The two men who applied the pesticides reached a plea bargain last summer to avoid manslaughter charges, and a $2.5 million civil suit is pending against the company.

Orkin's Roanoke attorney, Sam Wilson, declined to comment after the 15-minute trial.

The Atlanta-based company was charged in a five-count indictment April 21 with improperly using Vikane, a Dow Chemical Co. product, to exterminate wood borers at the Watsons' home in September 1986.

The Watsons were allowed to return to their home the day after it was treated, even though exterminators did not use a Vikane detector and removed several warning signs concerning the chemical's toxicity.

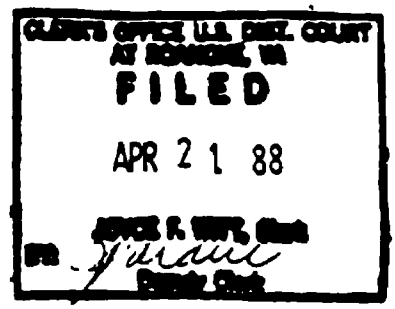
Hubert Watson, 73, died the following day, and Freida Watson, 65, died five days after the treatment.

Earlier this year, the Environmental Protection Agency approved a $5,000 fine against Orkin in the case of Patricia and Walter Sexton of Galax, who alleged that an improper termite treatment at their former home in Carroll County in July 1985 caused them to lose their unborn child.

An $18.2 million civil lawsuit filed by the Sextons in March 1987 was dismissed this year but is expected to be refiled.

Also pending against Orkin is a $10.9 million lawsuit that was filed by a Pulaski County, Va., couple who alleged that an extermination at their house several years ago caused them to suffer numerous medical problems.

IN THE
UNITED STATES DISTRICT COURT
FOR THE
WESTERN DISTRICT OF VIRGINIA
AT ROANOKE
APRIL, 1988, SESSION



UNITED STATES OF AMERICA :
:
v. : Criminal No. 88-40
:
ORKIN EXTERMINATING CO., INC. :

COUNT ONE

The Grand Jury charges:

That on or about September 26, 1986, in the Western District of Virginia, ORKIN EXTERMINATING COMPANY, INC., a commercial applicator, dealer and retailer under the terms of The Federal Insecticide, Fungicide and Rodenticide Act did knowingly use a registered pesticide in a manner inconsistent with its labeling; in that, agents of ORKIN EXTERMINATING COMPANY, INC., acting for the benefit of the said corporation and within the scope of their authority did use Vikane, a registered pesticide, at the home of Hubert H. and Freida S. Watson, 101 Bona Vista Lane, Galax, Virginia, and allowed the fumigation site to be occupied before the aeration operation was completed contrary to the Vikane labeling.

All in violation of Title 7, United States Code, Section 136j(a)(2)(G), 1361(b)(1) and Title 18, United States Code, Section 3623.

A TRUE COPY, TESTE:
JOYCE F. WITT, CLERK
BY: DEPUTY CLERK

COUNT TWO

The Grand Jury charges:

That on or about September 26, 1986, in the Western District of Virginia, ORKIN EXTERMINATING COMPANY, INC., a commercial applicator, dealer and retailer under the terms of The Federal Insecticide, Fungicide and Rodenticide Act did knowingly use a registered pesticide in a manner inconsistent with its labeling; in that, agents of ORKIN EXTERMINATING COMPANY, INC., acting for the benefit of the said corporation and within the scope of their authority did use Vikane, a registered pesticide, at the home of Hubert H. and Freida S. Watson, 101 Bona Vista Lane, Galax, Virginia, and removed warning signs before aeration was determined to be complete by the use of a suitable fumigant monitoring instrument as required by the Vikane labeling.

All in violation of Title 7, United States Code, Section 136j(a)(2)(G), 1361(b)(1) and Title 18, United States Code, Section 3623.

COUNT THREE

The Grand Jury charges:

That on or about September 25, 1986, in the Western District of Virginia, ORKIN EXTERMINATING COMPANY, INC., a commercial applicator, dealer and retailer under the terms of The Federal Insecticide, Fungicide and Rodenticide Act did knowingly use a registered pesticide in a manner inconsistent with its labeling;

in that, agents of ORKIN EXTERMINATING COMPANY, INC., acting for the benefit of the said corporation and within the scope of their authority did use Vikane, a registered pesticide, at the home of Hubert H. and Freida S. Watson, 101 Bona Vista Lane, Galax, Virginia, without removing mattresses and pillows completely enveloped in water proof covers and removing the covers as required by the Vikane labeling.

All in violation of Title 7, United States Code, Section 136j(a)(2)(G), 1361(b)(1) and Title 18, United States Code, Section 3623.

COUNT FOUR

The Grand Jury charges:

That on or about September 25, 1986, in the Western District of Virginia, ORKIN EXTERMINATING COMPANY, INC., a commercial applicator, dealer and retailer under the terms of The Federal Insecticide, Fungicide and Rodenticide Act did knowingly use a registered pesticide in a manner inconsistent with its labeling; in that, agents of ORKIN EXTERMINATING COMPANY, INC., acting for the benefit of the said corporation and within the scope of their authority did use Vikane, a registered pesticide, at the home of Hubert H. and Freida S. Watson, 101 Bona Vista Lane, Galax, Virginia, without using chloropicrin as a warning agent five to

ten minutes prior to fumigation as required by the Vikane labeling.

All in violation of Title 7, United States Code, Section 136j(a)(2)(G), 1361(b)(1) and Title 18, United States Code, Section 3623.

COUNT FIVE

The Grand Jury charges:

That on or about September 26, 1986, in the Western District of Virginia, ORKIN EXTERMINATING COMPANY, INC., a commercial applicator, dealer and retailer under the terms of The Federal Insecticide, Fungicide and Rodenticide Act did knowingly use a registered pesticide in a manner inconsistent with its labeling; in that, agents of ORKIN EXTERMINATING COMPANY, INC., acting for the benefit of the said corporation and within the scope of their authority did use Vikane, a registered pesticide, at the home of Hubert H. and Freida S. Watson, 101 Bona Vista Lane, Galax, Virginia, without using an approved positive pressure, self-contained breathing apparatus to enter the space under fumigation as required by the Vikane labeling.

All in violation of Title 7, United States Code, Section 136j(a)(2)(G), 1361(b)(1) and Title 18, United States Code, Section 3623.

A TRUE BILL, this 21 day of April, 1988.

FOREMAN

UNITED STATES ATTORNEY

FIFRA Criminal: Orkin Found Guilty In Vikane Case:

Orkin Exterminating Co. was found guilty of removing warning signs from a fumigated home before chemical fumes had dissipated, and faces a $500,000 fine. U.S. v. Orkin Exterminating Co., DC WDVa, No. 88-0040.

In a sentencing hearing, U.S. attorneys attempted to prove that the deaths of two people which came within five days of the fumigation, were linked to exposure to illegally high levels of Vikane, a Dow Chemical Co. sulfuryl fluoride fumigant. In a trial Aug. 8, the U.S. District Court Judge dismissed four of the five criminal misdemeanor charges brought against Orkin by a federal grand jury April 21. No evidence was presented at the trial because both sides agreed on the basic facts involved. Orkin was found guilty of the remaining count, removing warning signs before aeration was complete, a violation of FIFRA. Orkin could be fined up to $100,000 if no link is made to the deaths, and up to $500,000 if the government can prove the connection.

Government lawyers opted to seek fines under an alternative fine schedule from the Criminal Fine Enhancement Act of 1984, which allows a $500,000 penalty under any federal statute for a misdemeanor by a corporation that results in a death. Criminal provisions of FIFRA allow a maximum fine of $25,000 per violation. This was the first time the alternative fine schedule was used for a FIFRA case.

The couple's home was fumigated by Orkin Sept. 25, 1986. Orkin employees violated the labeling directions for Vikane by allowing the house to be occupied the following day without properly monitoring the level of sulfuryl fluoride in the air. Structures fumigated with Vikane cannot be inhabited until the level of the chemical in the air is below 5 parts per million, according to the product's label. An appeals court turned down an attempt by Orkin to have the case dismissed. The company argued that the federal government cannot prosecute criminal violations of the federal pesticides law because states are delegated primary enforcement responsibility for misuse under FIFRA (12 CRR 516). (U.S. v. Orkin, CA 4, No. 88-5821) this defense was rejected.

FIFRA Criminal: $100,000 Fine; Corporate Officer Sentenced To Jail For Pesticides Violations

A pesticide manufacturer has received a jail sentence for selling unregistered pesticide products. Argent Chemical Laboratories President Eliot Lieberman was sentenced to serve one year in jail, with 10 months suspended, for violations of FIFRA. U.S. v. Argent Chemical Laboratories Inc., DC WWash, No. CR 88-023D.