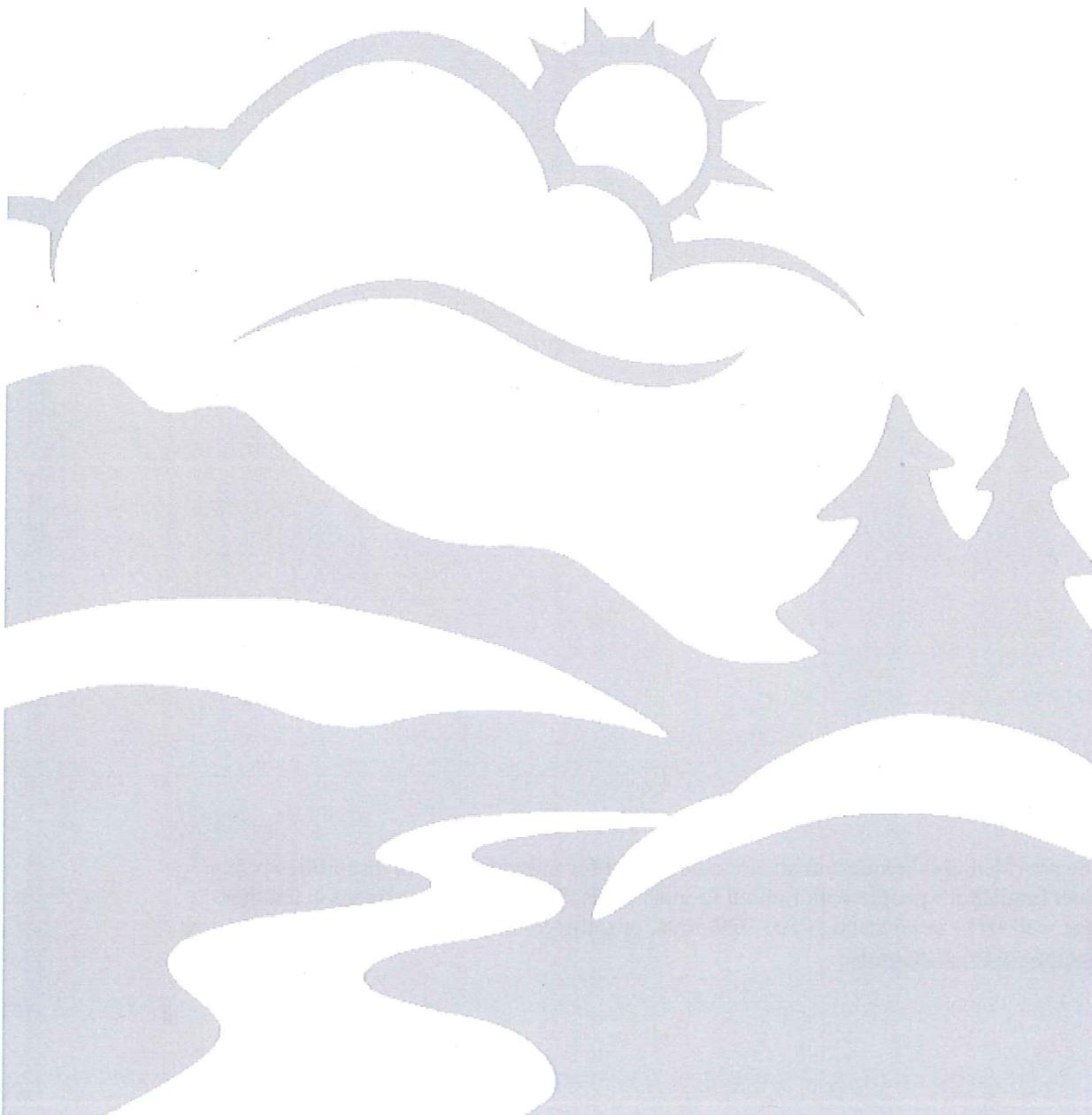


Applying Hazardous Waste, Universal Waste and State-Only Waste Pesticide Residue Management Standards



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Document Development

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1. Intent/Purpose/Statement of Need

The purpose of this Internal Management Directive is to promote consistent application of state-only hazardous waste rules to pesticide residues and waste pesticides across the Department, and to clarify applicable management and disposal options.

Oregon law includes discarded, useless or unwanted materials or residues resulting from any pesticides in the State's definition of hazardous waste.¹ DEQ regulations in OAR Chapter 340 Division 109 specify procedures for managing pesticide residues that are not federally regulated hazardous or universal waste. Implementation of hazardous waste and universal waste regulations has been difficult due to the complicated text of the rules and different interpretations of state guidance documents.

2. Applicability

DEQ staff will use this IMD when evaluating the appropriate waste management requirements for state-only hazardous waste pesticide residues.

This IMD does not address spills or releases or threatened spills or releases of pesticide, pesticide residue or waste pesticides subject to regulations in Division 142 during the emergency response phase. This IMD is not applicable to any pesticide that is used according to the label instructions for its intended purpose.

3. Summary

DEQ staff will use this IMD to determine the appropriate management standards for different wastes that result from pesticides in Oregon. The IMD will help staff to determine whether to apply federal regulations which Oregon DEQ is authorized to implement in lieu of the federal Agency or to apply state-only regulations.

In Oregon, there are three ways to manage waste pesticides.

1. Except for unused commercial pesticide products, state-only pesticide residues managed in compliance Division 109 are considered waste pesticides, that may be managed at a Class C facility, as authorized by DEQ, or if the waste meets aquatic toxicity or LDR standards, at a Class D landfill.

¹ OREGON REVISED STATUTES, CHAPTER 466, HAZARDOUS WASTE AND HAZARDOUS MATERIALS II; Section 466.005 Definitions for ORS 453.635 and 466.005 to 466.385. As used in ORS 453.635 and 466.005 to 466.385 and 466.992, unless the context requires otherwise:
(7) "Hazardous waste" ... does include all of the following which are not declassified by the commission under ORS 466.015 (3):

(a) Discarded, useless or unwanted materials or residues resulting from any substance or combination of substances intended for the purpose of defoliating plants or for the preventing, destroying, repelling or mitigating of insects, fungi, weeds, rodents or predatory animals, including but not limited to defoliant, desiccants, fungicides, herbicides, insecticides, nematocides and rodenticides.

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2. Pesticide residues managed as universal wastes, must be collected and managed as part of pesticide collection program.
3. Pesticide residues that are not managed as waste pesticides or as part of a collection program are hazardous waste.

Implementation of this IMD will ensure that hazardous wastes will be managed according to the regulatory standards that have been established to protect human health and the environment.

4. Background

Oregon law includes pesticides in the definition of hazardous waste which is broader in scope than the federal Resource Conservation and Recovery Act. The DEQ is authorized to implement federal regulations as well as additional state-only rules. In Oregon the OAR and the Code of Federal Regulations must be used together to determine the applicable hazardous waste regulations.² For example, the OAR definition of hazardous waste is, "Hazardous Waste" means a hazardous waste as defined in 40 CFR § 261.3, OAR 340-101-0033 and 340-102-0011." DEQ is authorized to implement the federal RCRA regulations and implement the state program in OAR for additional hazardous wastes and for more stringent management standards.

5. Definitions and references

Oregon Hazardous Waste Management Definitions in OAR 340-100-0010(3):

(h) "Pesticide" means any substance or combination of substances intended to defoliate plants or to prevent, destroy, repel, or mitigate insects, fungi, weeds, rodents, or predatory animals. Pesticide includes but is not limited to defoliant, desiccants, fungicides, herbicides, insecticides, and nematocides as defined by ORS 634.006.

(i) "Pesticide Equipment" means any equipment, machinery or device used in pesticide manufacture, repackaging, formulation, bulking and mixing, use, cleaning up spills, or preparation for use or application of pesticides, including but not limited to aircraft, ground spraying equipment, hoppers, tanks, booms and hoses.

(j) "Pesticide Residue" is a waste that is generated from pesticide operations and pesticide management, such as from pesticide use (except household use), manufacturing, repackaging, formulation, bulking and mixing, and spills.

² OAR 340-100-0002, Adoption of United States Environmental Protection Agency Hazardous Waste and Used Oil Management Regulations

(1) Except as otherwise modified or specified by OAR 340, divisions 100 to 106, 109, 111, 113, 120, 124 and 142, the Environmental Quality Commission adopts by reference and requires every person subject to ORS 466.005 to 466.080 and 466.090 to 466.215 to comply with the rules and regulations governing the management of hazardous waste, including its generation, transportation, treatment, storage, recycling and disposal, as the United States Environmental Protection Agency prescribes in 40 C.F.R. Parts 260 to 268, 270, 273 and Subpart A and Subpart B of Part 124, as enacted through June 30, 2014.

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(A) Pesticide residue includes, but is not limited to, unused commercial pesticides, tank or container bottoms or sludge, pesticide spray mixture, container rinsings and pesticide equipment washings, and substances generated from pesticide treatment, recycling, disposal, and rinsing spray and pesticide equipment.

(B) Pesticide residue does not include pesticide-containing materials that are used according to label instructions, and substances such as, but not limited to, treated soil, treated wood, foodstuff, water, vegetation, and treated seeds where pesticides were applied according to label instructions. Pesticide residue does not include wastes that are listed in 40 CFR Part 261 Subpart D or that exhibit one or more of the characteristics identified in 40 CFR Part 261 Subpart C.

Rules Regarding Purpose, Scope and Applicability in OAR 340-102-0010:

(3) Any person identified in section (4) of this rule is exempt from compliance with Divisions 100 to 106 provided such person complies with the requirements of Division 109.

(4) A person is exempt under section (3) of this rule if that person produces an unwanted pesticide residue other than unused commercial chemical product pesticide from:

- (a) Pesticide manufacturing, repackaging, formulating, bulking, mixing, application, use, and cleaning up spilled material;
- (b) Agricultural pest control (for example, on crops, livestock, Christmas trees, commercial nursery plants or grassland);
- (c) Industrial pest control (for example, in warehouses, grain elevators, tank farms or rail yards);
- (d) Structural pest control (for example, in human dwellings);
- (e) Ornamental and turf pest control (for example, on ornamental trees, shrubs, flowers or turf);
- (f) Forest pest control;
- (g) Recreational pest control (for example, in parks or golf courses);
- (h) Governmental pest control (for example, for clearing a right-of-way or vector, predator, and aquatic pest control);
- (i) Seed treatment;
- (j) Pesticide demonstration and research; or
- (k) Wood treatment (for example, lumber, poles, ties and other wood products).

OAR 340-101-0033: Identification and Listing of Hazardous Waste

Additional Hazardous Wastes

(1)(a) This section applies to residues that have been determined not to be hazardous waste under 40 CFR 261, Subparts C and D.

(b) This section does not apply to residues that have been identified as hazardous waste under 40 CFR 261, Subparts C and D.

(6) Any pesticide residue, except residue listed in Table 1 of 40 CFR 261.24 and which passes the evaluation requirement of 40 CFR 261.24(a), is a hazardous waste and is added to and made a part of the list of hazardous waste in 40 CFR 261.31 until it is first managed in accordance with the standards in OAR 340-109-0010(2)(a).

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40 CFR § 261.24 Toxicity characteristic.

(a) A solid waste (except manufactured gas plant waste) exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, test Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in § 260.11 of this chapter, the extract from a representative sample of the waste contains any of the contaminants listed in table 1 at the concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this section.

OAR 340-109:Management of Pesticide Waste

340-109-0001

(1) This division specifies procedures for managing pesticide residues and empty pesticide containers. This division does not apply to any federally regulated pesticide waste, including waste regulated under 40 C.F.R. Part 273.

340-109-0010

Pesticide Residue Waste Management

(2) A person producing pesticide residue at a public-use airport, pesticide dealership or other permanent base of operation, and who does not beneficially use or reuse such residue, must manage the pesticide residue:

(a) According to the universal waste management standards in 40 CFR Part 273 and OAR 340 Division 113, and standards in this Division, whereby such residues are designated "waste pesticide." A waste pesticide designation occurs only when the owner or manager of the residue:

- (A) Contains the wastes; and
- (B) Labels the container with the words "waste pesticide," and
- (C) Marks the container(s) with the date the wastes are created, and
- (D) Manages the contained wastes according to the universal waste management standards in 40 CFR Part 273 and OAR 340 Division 113;

(3) Pesticide residue managed other than as specified in this Division, or by the Department remains a hazardous waste and is subject to OAR 340, Divisions 100 to 106 and 142.

(4) Waste pesticide may be managed in:

(a) A RCRA Subtitle C hazardous waste facility meeting the requirements of Division 100 to 106 and 142; or

(b) A permitted RCRA Subtitle D facility meeting the requirements of OAR 340 Division 94 provided either the applicable land disposal concentration-based standards in 40 CFR 268.40 are met for waste pesticide containing any pesticide active ingredient(s) listed in 40 CFR 261.33(e) and (f), or if standards do not exist, the wastes do not fail the "Department of Environmental Quality Aquatic Toxicity Test," whereby a representative sample of a pesticide residue exhibits a 96-hour aquatic toxicity LC 50 equal to or less than 250 mg/l; or

(c) A facility having a Water Pollution Control Facility (WPCF) permit issued pursuant to OAR 340, division 14; or

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(d) As otherwise authorized by the Department. Such management shall be in conformance with the following performance standards:

(A) Containment by any one or combination of: physical means (e.g., natural or man-made liners), chemical means (e.g., adsorption-absorption layers), or other equivalent means, and

(B) Detoxification by any one or combination of: physical means (e.g., solar radiation), chemical means (e.g., hydrolysis), biological means (e.g., microbial degradation), or other equivalent means, and

(C) Volume reduction by any one or combination of: evaporation, evapo-transpiration, use for new product makeup, or other equivalent means, and

(D) Protection of groundwater and surface waters by any one or combination of: system design, construction materials, or a groundwater monitoring program.

(5) A person producing pesticide residue at a temporary base of operation, and who does not beneficially use or reuse such residue, must manage such residue either:

(a) At a permitted facility or site participating in a pesticide collection program; or

(b) By spraying on the ground, provided:

(A) The residue is sprayed under pressure through a nozzle which is moving at a sufficient rate of speed so as not to saturate the ground with waste;

(B) The person doing the spraying owns or controls the management of the ground, or receives permission from the manager, owner, or controller of the ground;

(C) The spray site location will not endanger surface water or groundwater, or pose a hazard to humans, wildlife (game and non-game animals) or domestic animals; and

(D) If applied to agriculture land, the pesticide residue will not result in excessive or prohibited residuals in current or subsequent crops.

(6) A person who spills pesticide residue shall report and clean up such spill in accordance with OAR 340, division 142.

OAR 340-113: Universal Waste Management

340-113-0010

Applicability

In addition to provisions under 40 CFR 273.1, the following wastes are subject to universal waste management standards but are not "Universal Wastes" as defined in OAR 340-113-0020(4): Waste pesticides as defined in OAR 340-109-0010(2)(a), and pesticide residues as defined in OAR 340-100-0010, that are collected and managed as part of any pesticide collection program that has notified the Department.

340-113-0020

The definitions of terms contained in this rule modify, or are in addition to, the definitions contained in 40 CFR 273.9, 40 CFR 260.10, and OAR 340-100-0010. When used in Divisions 109 and 113 of this chapter, the following terms have the meanings below:

(1) "Destination Facility" means a facility that treats, disposes of, or recycles universal waste. Facilities treating universal waste as allowed under 40 CFR 273.13 and 273.33 are not considered to be destination facilities for purposes of this rule. A facility at which universal waste is only accumulated, is not a destination facility for purposes of managing universal waste.

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(2) "Off-site Collection Site" means a site that receives and accumulates universal waste from off-site.

(3) "Pesticide Collection Program" means a pesticide collection program that has notified the Department of activity as required in OAR 340-113-0070³ and has received acknowledgment from the Department of Environmental Quality that such notification information is complete.

(4) "Universal Waste" means any waste that is a universal waste listed in 40 CFR 273.1 and subject to the universal waste requirements of 40 CFR Part 273 and OAR 340 Division 113.⁴

6. Acronyms Used in This Directive

CFR – Code of Federal Regulations

³ 340-113-0070 **Pesticide Collection Programs** (1) In addition to this section, pesticide collection programs accumulating more than 1,000 kilograms of pesticide waste at any time must also comply with the applicable requirements of OAR 340-113-0040 (standards for off-site collection sites).

(2) Pesticide collection programs may be operated by federal, state or local municipal entities as well as persons in private industry.

(3) Prior to initial collection of any unused pesticides or pesticide residues, the collection program sponsors must submit, in writing, to the Department, a summary of how the collection program will be operated. Information, at a minimum, shall include:

(a) Name of the person(s) who will be responsible for the operation of the pesticide collection program;

(b) Location(s) of collection site(s);

(c) A description of how the pesticide collection program will operate to comply with the applicable universal waste rule requirements;

(d) Type(s) of pesticides to be collected;

(e) Schedule of collection activity (i.e., annually, quarterly, as needed, etc.);

(f) Names and locations of all off-site handlers or destination facilities which will receive the waste pesticides collected by the program;

(g) Measures to be taken to insure safety of the public and employees or volunteers working for the pesticide collection program;

(h) Measures to be taken to prevent spills or releases of materials collected and a plan to respond to a spill or release if one occurs;

(i) A description of how difficult-to-manage waste pesticides will be managed (i.e., dioxin-containing pesticides (federal waste codes F020-F023 and F026-F028), mercury-containing pesticides or unknown waste pesticides);

(j) Any additional information that is needed to assure that adequate provisions have been taken to protect the public health, safety and the environment; and,

(k) A signed certification statement from the person responsible for the operation of the collection program that it will be operated in compliance with the universal waste rule and in the manner described in the operating information provided in the submitted notification.

(4) Before accepting waste from off-site, pesticide collection programs shall receive acknowledgment from the Department indicating that a complete application has been received.

(5) Pesticide collection programs, in addition to submitting the information required in section 3, shall comply with all applicable universal waste handler requirements.

⁴ 340-113-0010 **Applicability**

(1) In addition to provisions under **40 CFR 273.1**, the following wastes are subject to universal waste management standards but are not "Universal Wastes" as defined in OAR 340-113-0020(4):

(a) Waste pesticides as defined in OAR 340-109-0010(2)(a), and pesticide residues as defined in OAR 340-100-0010, that are collected and managed as part of any pesticide collection program that has notified the Department.

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DEQ – Department of Environmental Quality

EPA – Environmental Protection Agency

IMD – Internal Management Directive

OAR – Oregon Administrative Rules

ORS – Oregon Revised Statutes

RCRA - Resource Conservation and Recovery Act

WPCF – Water Pollution Control Facility

7. Directive

7.1 Applicability: This IMD applies to pesticide residue hazardous waste, an Oregon state-only hazardous waste. Pesticide residues which are federal hazardous waste under RCRA must be managed in accordance with federal rules for hazardous waste or universal waste.

7.2 Steps for applying the hazardous waste and universal waste management standards to pesticide residue:

7.2.1 Determine hazardous waste applicability based on whether the unwanted pesticide residue has been used, and if not an unused product determine the generation source:

- Unused state only pesticide products must undergo a hazardous waste determination, and are exempt if brought to a collection event.
- Other residues from pesticide manufacturing, repackaging, formulating, bulking, mixing, application, and cleaning up spilled material as well as residues from wood treatment and agricultural or general pesticide application are exempt from state-only hazardous waste regulation if managed in accordance with Division 109.

7.2.2 Make a hazardous waste determination. Is the waste:

- Federally regulated according to 40 CFR Part 261, or
- Regulated under the universal waste standards at 40 CFR Part 273 for pesticides recalled by the registrant and for other unused pesticide products that are collected and managed as part of a waste pesticide collection program, or
- A state-only hazardous waste pesticide residue as defined in OAR 340-100-0010 and listed in OAR 340-101-0033 (in section 5 above.)

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7.2.3 Implement the state-only pesticide residue waste management standards in Division 109 for any generator of pesticide residue at a public use airport, pesticide dealership or other permanent base of operation who does not beneficially reuse such residue, must manage the pesticide residue:

- According to the universal waste management standards in 40 CFR Part 273 and OAR 340 Division 113, and standards in this Division, whereby such residues are designated “waste pesticide.” A waste pesticide designation occurs only when the owner or manager of the residue:
 - (A) Contains the wastes; and
 - (B) Labels the container with the words “waste pesticide,” and
 - (C) Marks the container(s) with the date the wastes are created, and
 - (D) Manages the contained waste according to the state and federal universal waste rule; or
- as otherwise authorized by the Department on a case-specific basis with performance standards.

Pesticide residue not managed with these alternatives remains a state-only hazardous waste, subject to OAR 340 Divisions 100 to 106 and 142.

7.2.4 Apply the universal waste management standards in Division 113 to “waste pesticides,” without being part of a pesticide collection program. Waste pesticide may be managed in:

- A RCRA Subtitle C hazardous waste facility meeting the requirements of Division 100 to 106 and 142; or
- A permitted RCRA Subtitle D facility meeting the requirements of OAR 340 Division 94 provided either the applicable land disposal concentration-based standards in 40 CFR 268.40 are met for waste pesticide containing any pesticide active ingredient(s) listed in 40 CFR 261.33(e) and (f), or if standards do not exist, the wastes do not fail the “Department of Environmental Quality Aquatic Toxicity Test,” whereby a representative sample of a pesticide residue exhibits a 96-hour aquatic toxicity LC 50 equal to or less than 250 mg/l; or
- As otherwise authorized by the Department on a case-specific basis with performance standards.

7.2.5 Apply the universal waste management standards in Division 113 to pesticide residues that are collected and managed as part of any pesticide collection program that has notified the Department.

7.3 State-Only Pesticide Residue Management Options:

If not managed as a “waste pesticide,” or a pesticide residue managed at a collection program, or as otherwise authorized by the Department, then the pesticide residue remains a hazardous waste and is subject to OAR 340, Divisions 100 to 106 and must be manifested to a permitted hazardous waste treatment, storage or disposal facility.

Pesticides residues from temporary operations may be managed at a permitted facility, or sprayed in accordance with OAR 340-109-0010(5).

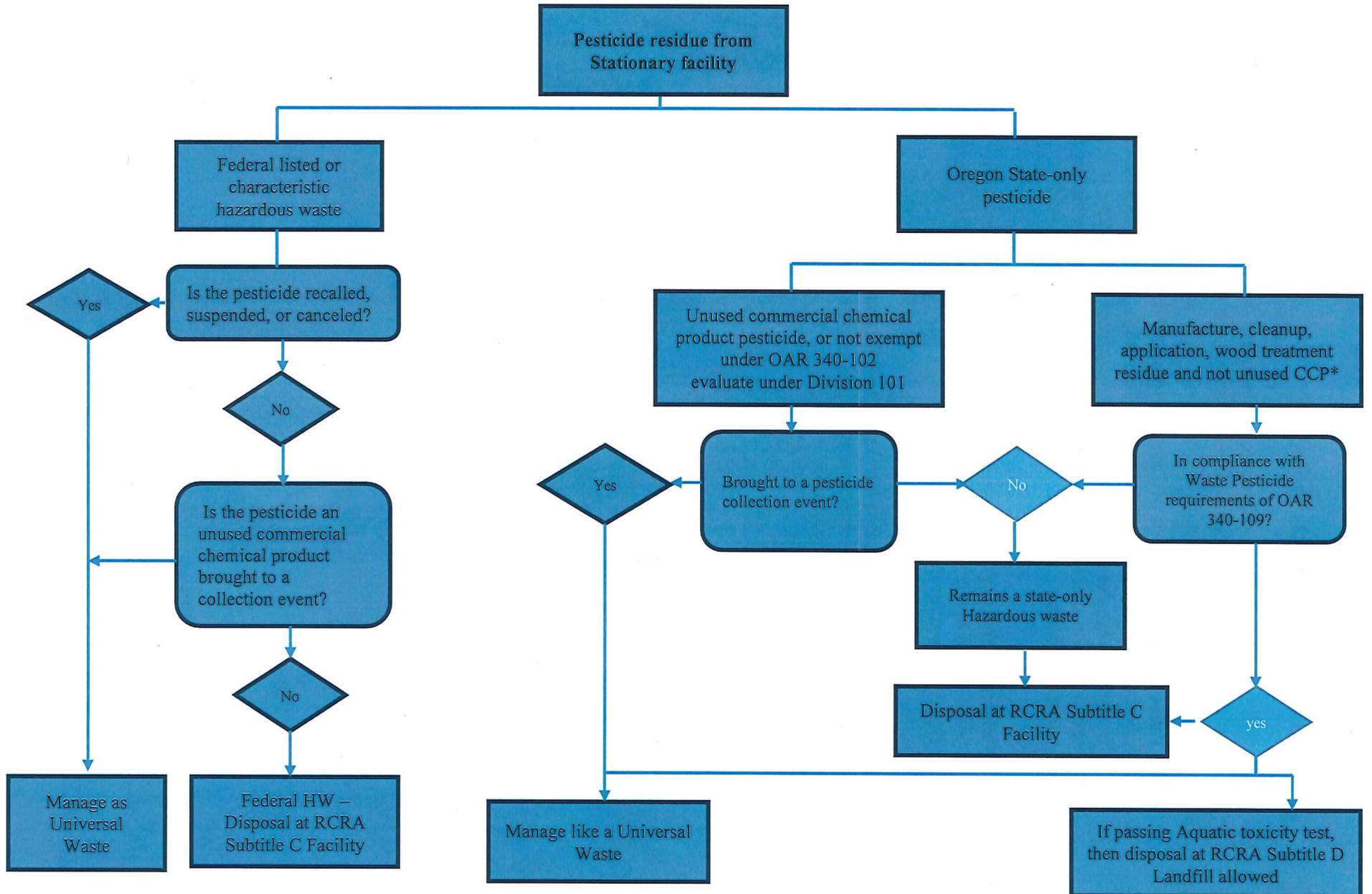
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7.4 Documenting the Determination Decision:

- 7.4.1 DEQ staff inform regional managers about site-specific implementation of this IMD in order to develop and maintain consistency in its use.
- 7.4.2 File written confirmation of a state-only pesticide residue waste determination in the Directive Tracker, with the key word “pesticide,” along with other relevant key words. Include information about the waste management alternative that was implemented by the generator, that is, universal waste, as otherwise authorized by the Department or as hazardous waste.
- 7.4.3 Inform Operations Division of state-only hazardous waste (X001) generators. Notification and reporting staff will review generator status and reporting history in HazWaste.net for discrepancies.
- 7.4.4 Communicate with Toxics Use Reduction Program about state-only universal wastes that are expected to be collected and managed as part of a pesticide collection program or event they may be supporting.

8. Appendices

Appendix A – Pesticide Waste Management Options Flowchart



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Appendix B – Aquatic Toxicity Test



State of Oregon Department of Environmental Quality

Hazardous Waste Aquatic Toxicity Test

700 NE Multnomah Street, Suite 600

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Scope and Application

This method is used to determine the lethal characteristics of pesticides or pesticide manufacturing residues to aquatic organisms in accordance to Oregon Administrative Rule 340-101-0033 (5)(a); Aquatic Toxicity Bioassay.

Summary of Method

1. The permittee must conduct a 96-hour static renewal test with *Ceriodaphnia dubia*¹, *Daphnia magna* or *Hyaella azteca*².
2. All test methods and procedures must be in accordance with **Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms**, Fifth Edition, EPA-821-R-02-012, October 2002, or most current edition. Any deviation of the bioassay procedures outlined in this method must be submitted in writing to the DEQ Laboratory for review and approval prior to use.
3. Acute tests must be conducted on a control (0 percent) and test solution (100 percent) of 250 ppm (mg/L) concentration of the pesticide or pesticide manufacturing residue. Dilution water shall be moderately hard laboratory water.
4. No treatments to the test solution once prepared (i.e. pH adjustment, etc), except those included as part of the methodology, shall be performed by the laboratory unless approved by DEQ prior to analysis.
5. The material is characterized as acutely toxic if mortality of test organisms exceeds 50 percent in test solution and all test required control conditions are met.

Quality Assurance/Reporting

Quality assurance criteria, statistical analyses and data reporting for the Whole Effluent Toxicity tests must be in accordance with the EPA documents (EPA-821-R-02-012 or most current edition).

A bioassay laboratory report for each test must be prepared according to the EPA method documents referenced in this Schedule. This will include all QA/QC documentation, statistical analysis for each test performed, standard reference toxicant test (SRT) conducted on each species required for the toxicity tests, and completed Chain of Custody forms for the samples including time of sample collection and receipt.

Alternative formats

Documents can be provided upon request in an alternate format for individuals with disabilities or in a language other than English for people with limited English skills. To request a document in another format or language, call DEQ in Portland at 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696; or email deqinfo@deq.state.or.us.

¹ *Ceriodaphnia dubia* is a commonly found acute species.

² *Hyaella azteca* is a sediment dwelling organism.

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9. Record of Revisions to IMD

Revision	Date	Changes	Editor