

MANAGEMENT OF WASTE WOODEN AMMUNITION AND MUNITION BOXES IN CALIFORNIA

Introduction:

[This guidance does not address explosive safety procedures required by NAVSEA OP prior to disposal]

When ready for disposal, wooden **military munition (also referred to as ammunition and explosives)** boxes that are treated with chemical preservatives registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) that exhibit the characteristics of toxicity under California hazardous waste regulations are considered **Treated Wood Waste (TWW)** in California. Waste ammunition & munition boxes should be presumed to be a hazardous waste (HW) unless toxicity testing demonstrates otherwise.

Boxes that are HW must be managed, and disposed of, in accordance with the **Alternative Management Standards (AMS)** or as **non-RCRA HW**. However, if it can be demonstrated that ammunition & munition boxes do not exhibit the characteristics of toxicity through a waste determination ⁽¹⁾, they may be disposed of as solid waste. In addition, waste boxes that were never chemically treated are not TWW and can be disposed of as solid waste without toxicity testing.

Munition Boxes as TWW:

Stamps on the outside of the boxes provide information on the type of treatment and chemical preservatives used for the treatment. Make sure to check the entire box for stamps, even the underside. Stamps observed to-date on munition boxes:

- **HT:** Heat Treated (no chemical treatment)
- **PA:** Copper-8-quinolinolate
- **PB:** Zinc naphthenate
- **PC:** Copper naphthenate
- **PD:** Mixture of propiconazole, tebuconazole, imidacloprid, and borate

Boxes treated with other FIFRA-registered chemicals, such as pentachlorophenol (PCP or P stamp), for which there is no supporting lab data, should be managed as **Presumptive HW or complete a new waste determination.**¹

Based on recent analyses (refer to Table 1), waste munition boxes treated with PA, PB, PC, and PD must be managed as follow:

- **AMS or Non-RCRA hazardous waste:** Boxes with PA or PC stamps
- **Solid waste:** Boxes with PB or PD stamps

Boxes stamped with **only HT** (no other stamps observed anywhere on the box) are not considered TWW and can be disposed of as solid waste.

***Note:** New waste determinations are needed if the demilitarization process introduces a new characteristic (e.g. painting over boxes with paint containing toxic metals), and/or waste ammunition boxes have been treated with chemicals (e.g. fire retardants) other than, or in addition to, the ones addressed here.*



(1) Waste determination must include the following tests: Total Digestion (compare results to Total Threshold Limit Concentration (TTL) values), Waste Extraction Test (WET - compare results to Soluble Threshold Limit Concentrations (STLC) values), and the Acute Aquatic Toxicity (per 22 CCR 66262.24).

AMS Requirements (Health and Safety Code (HSC) 25230 – 25230.18):

AMS requirements present alternative standards that are less stringent than hazardous waste requirements for the compliant management of TWW, i.e. non-RCRA hazardous waste ammunition boxes (PA and PC). These requirements are summarized below:

- **Storage and accumulation time (HSC 25230.6):**
 - Off the ground and protected from precipitation: 90 days
 - Containment pad with impervious surface and protected from precipitation: 180 days
 - Closed containers/dumpsters: 1 year (or 90 days after being filled)
 - Inside a storage building: 1 year
 - Prevent unauthorized access

- **Labeling (HSC 25230.5(b)):**
 - Each unit or area used for the accumulation of TWW must be labelled ⇒

- **Transportation and offsite disposal (HSC 25230.7 & 25230.8)**
 - Hazardous waste manifest not needed – use a non-hazardous shipping paper and keep records for 3 years
 - Transporter doesn't need to be a hazardous waste hauler - contact your solid waste service provider
 - TWW can be taken either to a Class 1 hazardous waste landfill or to a **composite-lined solid waste landfill that is authorized by the Regional Water Quality Control Board** to accept TWW (click [here](#) for the list of authorized landfills)

- **Prohibited activities (HSC 25230.4)**
 - Do **not** burn, scavenge, commingle with non-hazardous waste
 - Do **not** treat (can only resize for containerizing purposes and sawdust generated by resizing must be managed under AMS or as HW)
 - Do **not** grind, sand, chip for mulch
 - Do **not** paint over, remove, obliterate, deface or destroyed stamps identifying the boxes as TWW
 - Do **not** allow contact with the ground during accumulation

- Do **not** dispose at a landfill that is not a hazardous waste landfill or is not authorized to accept TWW (*Note: Miramar Landfill is not an authorized landfill for TWW; it accepts non-hazardous wood waste as “Special Waste” – Click [here](#) for more information*)

- **Notification requirements (HSC 25230.9)**
 - DTSC must be notified **within 30 days** when **10,000 lbs** of TWW have been generated within a calendar year, based on location identified by EPA ID. Project managers accumulating and disposing of TWW must coordinate with the Installation EV staff.
 - A copy of the notification form can be found on the next page; it can also be found online here: <https://dtsc.ca.gov/tww-handler-notification-form/>

<p>“TREATED WOOD WASTE - Do not burn or scavenge.</p> <p>Treated Wood Waste Handler Name and Address:</p> <p>_____</p> <p>_____</p> <p>Accumulation Date: _____</p>

- **Training requirements (HSC 25230.12)**
 - Training must include: procedures for ID & segregating TWW; safe handling practices; requirements of AMS; proper disposal method

FOR ADDITIONAL SUPPORT, CONTACT YOUR INSTALLATION ENVIRONMENTAL TEAM OR THE CORE EV1.3 TEAM



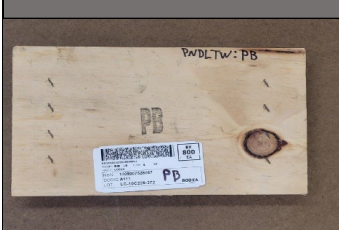

TREATED WOOD WASTE NOTIFICATION

Date:	
TWW Generator Name:	
EPA ID Number:	
Mail Label:	
Mailing Address 1:	
Mailing Address 2:	
City:	
State:	
Zip Code:	
TWW Contact, First Name:	
Last Name:	
Telephone:	
TWW Activity:	
Street/Location 1:	
Street/Location 2:	
City:	
State:	
County:	
Zip Code:	
E-mail Address:	
Date Exceeded 10,000 lbs:	

Please email completed form to: tww_help@dtsc.ca.gov

By submitting this notification, I am indicating that I am a duly authorized representative of this TWW Handler and that the TWW Handler has generated more than 10,000 pounds of TWW this calendar year.

Table 1: Munition Boxes – Analytical Waste Determination and Management Options - Analytical reports available on [EV1.3 Sharepoint](#)

CODE	TREATMENT DESCRIPTION	TTLc	STLC	AqTox - LC 50	TCLP	MANAGEMENT
 PA	Copper-8-quinolinolate (aqueous)	< thresholds	< thresholds	Failed	< thresholds	non-RCRA HW
 PC	Copper Naphthenate (Note: gives the wood a greenish tint)	Failed for Copper (NBC)	Failed for Copper (Camp Pendleton)	> 750 mg/l	< thresholds	non-RCRA HW
 PB	Zinc Naphthenate (aqueous)	< thresholds	< thresholds	> 750 mg/l	< thresholds	Solid waste
 PD	Mixture of propiconazole, tebuconazole, imidacloprid, and borate (aqueous)	< thresholds	< thresholds	> 750 mg/l	< thresholds	Solid waste
Based on analyses conducted by Camp Pendleton (*) and NBC / Explosive Safety (**) (*) Total Threshold Limit Concentration (TTLc) values, Waste Extraction Test (WET) for Soluble Threshold Limit Concentration (STLC) values, acute aquatic toxicity, and Toxicity Characteristic Leaching Procedure (TCLP) on PA, PB, PC, PD (**) TTLc on PB, PC, PD						