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1189.	RCRA Empty Containers vs. TSCA PCB Decontaminated Containers - Scenario III	ENCORE AUG 18, 2016
1190.	Product Spills and Waste Determinations	ENCORE AUG 25, 2016
1191.	Product Spills, Waste Determinations, and LDR	ENCORE SEP 1, 2016
1192.	Regulatory Status of Caustic Rinse Waters Contaminated with Trace Solvents	ENCORE SEP 8, 2016
1193.	Regulatory Status of Sand Blast Grit Contaminated with Trace Listed Solvents	ENCORE SEP 15, 2016
1194.	Hazardous Waste "F" Listings and Trace Contamination	ENCORE SEP 22, 2016
1195.	Hazardous Waste "F" Listings and Trace Contamination – Again!	ENCORE SEP 29, 2016
1196.	Hazardous Waste Determinations and Phase Separation	ENCORE OCT 6, 2016
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1198.	PCB Containers and Concentration of PCBs	ENCORE OCT 20, 2016
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1201.	Listed Waste Codes and Pre-RCRA Wastes	ENCORE NOV 10, 2016
1202.	Purpose of the ≤90-day Hazardous Waste Accumulation Exemption	ENCORE NOV 17, 2016
1203.	Used Oil Eligibility for Turkey and Ham Oils	ENCORE NOV 23, 2016
1204.	PCB Reporting and Recordkeeping Relief	ENCORE DEC 1, 2016
1205.	Defining Criteria for Household Waste Exclusion	ENCORE DEC 8, 2016
1206.	The Household Waste Exclusion and Renovation Debris	ENCORE DEC 15, 2016
1207.	'Twas the Night before Christmas – The Twenty-Fourth Annual Edition	ENCORE DEC 24, 2016
1208.	The Household Waste Exclusion and Renovation Debris – Part II	ENCORE DEC 29, 2016
1209.	Absorbent Additions and Treatment	ENCORE JAN 5, 2017
1210.	Frozen RCRA Wastewater - DOT Liquid or Solid When Manifested?	ENCORE JAN 12, 2017
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1214.	RCRA Empty Tanker Trailers and Listed Waste Codes	ENCORE FEB 9, 2017
1215.	RCRA Empty vs. DOT Empty	ENCORE FEB 16, 2017
1216.	RCRA Empty vs. DOT Empty II	ENCORE FEB 23, 2017

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TWO MINUTE TRAINING

TO: CH2M HILL PLATEAU REMEDIATION COMPANY

FROM: PAUL W. MARTIN, RCRA Subject Matter Expert
CHPRC Environmental Protection, Hanford, WA

SUBJECT: RCRA EMPTY VS. DOT EMPTY II

DATE: FEBRUARY 23, 2017

<u>CHPRC Projects</u>	<u>CH PRC - Env. Protection</u>	<u>MSA</u>	<u>Hanford Laboratories</u>	<u>Other Hanford Contractors</u>	<u>Other Hanford Contractors</u>
Richard Austin Roni Ashley Tania Bates Rene Catlow Richard Clinton Larry Cole John Dent Brian Dixon Eric Erpenbeck Stuart Hildreth Mike Jennings Stephanie Johansen Jeanne Kisielnicki Melvin Lakes Jim McGrogan Stuart Mortensen Dean Nester Dave Richards Phil Sheely Connie Simiele Jennie Stults Jeff Westcott Jeff Widney	Ron Brunke Bob Bullock Bill Cox Laura Cusack Lorna Dittmer Ted Hopkins Sasa Kosjerina Jim Leary Rick Oldham Anthony Nagel Robert Nielson Linda Petersen Fred Ruck Ray Swenson Wayne Toebe Daniel Turlington Dave Watson Joel Williams	Brett Barnes Jerry Cammann Jeff Ehlis Garin Erickson Panfilo Gonzales Jr. Dashia Huff Mark Kamberg Edwin Lamm Candice Marple Jon McKibben Saul Martinez Jon Perry Christina Robison Lana Strickling Lou Upton	(TBD) <u>DOE RL, ORP, WIPP</u> Mary Beth Burandt Duane Carter Cliff Clark Tony McKarns Ellen Mattlin Greg Sinton Scott Stubblebine	Bill Bachmann Dean Baker Scott Baker Lucinda Borneman Paul Crane Tina Crane Jeff DeLine Ron Del Mar John Dorian Mark Ellefson Darrin Faulk Joe Fritts Lori Fritz Tom Gilmore Rob Gregory Gene Grohs James Hamilton Andy Hobbs Ryan Johnson Dan Kimball Megan Lerchen Richard Lipinski Charles (Mike) Lowery Michael Madison Terri Mars Cary Martin Marty Martin Grant McCalmant Steve Metzger Tony Miskho Matt Mills Tom Moon Chuck Mulkey Mandy Pascual Kirk Peterson	Jean Quigley Dan Saueressig Merrie Schilperoort Joelle Moss Glen Triner Greg Varljen Julie Waddoups Jay Warwick Kyle Webster Ted Wooley

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TWO MINUTE TRAINING

SUBJECT: RCRA Empty vs. DOT Empty II

Q: Last week's "Two Minute Training" (2MT) basically stated that DOT cleaned and purged (DOT empty) for hazardous material containers is usually a higher standard than RCRA empty for hazardous waste containers. So what about this?

A tanker ships F039 hazardous waste leachate to a RCRA wastewater treatment facility. At the facility, the F039 leachate is removed until the tanker meets the definition of RCRA empty, i.e., all wastes have been removed that can be removed and no more than 0.3% of waste remains. The tanker was shipped containing a hazardous waste, and in this case the only DOT hazard present was Hazard Class 9, Miscellaneous Hazardous Material. Once the tanker is RCRA emptied and no longer contains a hazardous waste, the DOT Hazard Class 9 no longer applies. Is this tanker considered DOT cleaned and purged and hence not subject to DOT shipping paper requirements for "residue last contained"?

A: Per [49 CFR 173.29](#)(b), a DOT cleaned and purged container is basically a container that has been "sufficiently cleaned of residue and purged of vapors to remove any potential hazard". A DOT container that has not been cleaned and purged to remove any potential hazards is required to be "offered for transportation and transported in the same manner as when it previously contained a greater quantity of that hazardous material".

DOT has stated that in some instances a container can be emptied without undergoing a cleaning process and be considered DOT cleaned and purged. A March 7, 2002, DOT memo ([Ref. No. 02-0033](#)) states:

"The methods that can be used to clean and purge a packaging are intentionally not defined in the HMR because they vary greatly depending on the nature of the hazardous material and the type of packaging. In some instances, a packaging can be emptied of hazardous material, including residue, without undergoing a cleaning process and be considered cleaned and purged. In other instances, an active cleaning process may be necessary to clean and purge a packaging of hazardous residue."

Thus in some circumstances, a RCRA empty container can meet the DOT empty container requirements and not be subject to the DOT Hazardous Material Regulations.

Concerning the F039 leachate tanker, the only reason for DOT regulation was because it was RCRA regulated as a hazardous waste requiring a manifest, i.e., no other DOT hazard classes applied. Once the tanker was RCRA empty and not subject to RCRA or manifesting, the DOT Hazard Class 9 classification no longer applied and this tanker would meet the definition of sufficiently cleaned of residue and purged of vapors to remove any potential hazard. Since this RCRA empty tanker also meets DOT empty, a "residue last contained" shipping document is not required.

Note that if the tanker contained another hazardous waste such as an acid (Hazard Class 8) or a flammable liquid (Hazard Class 3), RCRA emptying the tanker would not necessarily remove the potential hazards of acidity or flammability and the tanker would be subject to manifesting as "residue last contained", unless emptied per DOT.

SUMMARY:

- A dangerous waste container can be RCRA empty by removing all waste that can be removed, etc.
- A hazardous material container can be DOT empty if sufficiently cleaned and purged to remove potential hazards.
- RCRA empty does not guarantee DOT empty or vice-versa, so both standards must be evaluated.
- A dangerous waste container that is only DOT Hazard Class 9 can meet the DOT cleaned and purged standard when it is RCRA empty since RCRA emptying removes any potential hazard in this specific case.

Excerpts from 49 CFR 173.29 and the March 7, 2002 DOT memo are attached. If you have any questions, please contact me at [Paul W Martin@rl.gov](mailto:Paul_W_Martin@rl.gov) or at (509) 376-6620.

FROM: Paul W. Martin

DATE: 2/23/17

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TWO MINUTE TRAINING - ATTACHMENT

SUBJECT: RCRA Empty vs. DOT Empty II

49 CFR §173.29 Empty packagings

(a) General. Except as otherwise provided in this section, an empty packaging containing only the residue of a hazardous material shall be offered for transportation and transported in the same manner as when it previously contained a greater quantity of that hazardous material.

(b) Notwithstanding the requirements of paragraph (a) of this section, an empty packaging is not subject to any other requirements of this subchapter if it conforms to the following provisions:

(1) Any hazardous material shipping name and identification number markings, any hazard warning labels or placards, and any other markings indicating that the material is hazardous (e.g., RQ, INHALATION HAZARD) are removed, obliterated, or securely covered in transportation. This provision does not apply to transportation in a transport vehicle or a freight container if the packaging is not visible in transportation and the packaging is loaded by the shipper and unloaded by the shipper or consignee;

(2) The packaging-

(i) Is unused;

(ii) Is sufficiently cleaned of residue and purged of vapors to remove any potential hazard;

(iii) Is refilled with a material which is not hazardous to such an extent that any residue remaining in the packaging no longer poses a hazard; or

(iv) Contains only the residue of-

(A) An ORM-D material; or

(B) A Division 2.2 non-flammable gas, other than ammonia, anhydrous, and with no subsidiary hazard, at a gauge pressure less than 200 kPa (29.0 psig); at 20 °C (68 °F); and

(3) Any material contained in the packaging does not meet the definitions in §171.8 of this subchapter for a hazardous substance, a hazardous waste, or a marine pollutant.

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TWO MINUTE TRAINING - ATTACHMENT

SUBJECT: RCRA Empty vs. DOT Empty II

U.S. Department
of Transportation

400 Seventh St., S.W.
Washington, D.C. 20590

**Research and
Special Programs
Administration**

March 7, 2002

Mr. Timothy Roberts
1106 Glendora Avenue
Oakland, CA 94602

Reference No. 02-0033

Dear Mr. Roberts:

This is in response to your letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) concerning the requirements in § 173.29 for empty packagings. Specifically, you ask whether cooking stoves and empty bottles previously containing white gas I are excepted from the HMR. You state the stoves and bottles are drained and dried by exposure to air prior to being offered for transportation and you plan to pack these items in your checked baggage.

Section 173.29(b)(2) excepts an empty packaging that previously contained a hazardous material from all HMR requirements provided it is Cleaned of residue and purged of vapors so that no hazard remains. The methods that can be used to clean and purge a packaging are intentionally not defined in the HMR because they vary greatly depending on the nature of the hazardous material and the type of packaging. In some instances, a packaging can be emptied of hazardous material, including residue, without undergoing, a cleaning process and be considered cleaned and purged. In other instances, an active cleaning process may be necessary to clean and purge a packaging of hazardous residue. Provided there is no residue or vapor meeting any of the hazard class definitions in Part 173, Subpart D, the cooking stoves and bottles you describe in your letter are not subject to the requirements of the HMR.

I hope this information is helpful. Please contact this office if you need additional assistance.

Sincerely,

John A. Gale
Transportation Regulations Specialist
Office of Hazardous Materials Standards

173.29(b)(2)

FROM: Paul W. Martin

DATE: 2/23/17

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