

<u>SUBJECT</u>		<u>DATE</u>
1188. RCRA Empty Containers vs. TSCA PCB Decontaminated Containers - Scenario II	ENCORE	AUG 11, 2016
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		OCT 6, 2016
1197. Asbestos and DOT Relief	ENCORE	OCT 13, 2016
1198. PCB Containers and Concentration of PCBs	ENCORE	OCT 20, 2016
1199. PCB Analytical Waste Disposal Requirements	ENCORE	OCT 27, 2016
1200. PCB Analytical Waste Disposal Requirements – Water vs. Organic Liquids and Non-aqueous Inorganic Liquids		NOV 3, 2016
1201. Listed Waste Codes and Pre-RCRA Wastes	ENCORE	NOV 10, 2016
1202. Purpose of the ≤90-day Hazardous Waste Accumulation Exemption		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		DEC 24, 2016
1208. The Household Waste Exclusion and Renovation Debris – Part II	ENCORE	DEC 29, 2016
1209. Absorbent Additions and Treatment		JAN 5, 2017
1210. Frozen RCRA Wastewater - DOT Liquid or Solid When Manifested?	ENCORE	JAN 12, 2017
1211. DOT Marking Specifications for the "UN", "NA" and "ID" Markings		JAN 19, 2017
1212. Satellite Accumulation within a ≤90-day Accumulation Area	ENCORE	JAN 26, 2017
1213. Washington State-Only Dangerous Waste Markings – Accumulation vs. Pre-Transport	ENCORE	FEB 2, 2017
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
1217. Multiple Characteristic Hazardous Waste Codes and Underlying Hazardous Constituents	ENCORE	MAR 2, 2017
1218. Multiple Characteristic and Listed Hazardous Waste Codes and the "in lieu of" LDR Principle	ENCORE	MAR 9, 2017
1219. LDR Storage Prohibitions and the One-Year Rule	ENCORE	MAR 16, 2017
1220. LDR Storage Prohibitions and Treated Wastes	ENCORE	MAR 23, 2017
1221. LDR Storage Prohibitions and Treated Hazardous Debris or Contaminated Soil		MAR 30, 2017
1222. LDR Requirements for Universal Wastes		APR 6, 2017
1223. LDR Requirements for Spent Lead-Acid Batteries Being Reclaimed		APR 13, 2017
1224. When is When Defined for the RCRA Phrase "When Reclaimed"?	ENCORE	APR 20, 2017
1225. RCRA Characteristic of Ignitability and DOT Oxidizers	ENCORE	APR 27, 2017
1226. Safety Data Sheets (SDSs) and Hazardous Wastes	ENCORE	MAY 4, 2017
1227. Containers and Tanks – RCRA Wastes vs. TSCA PCB Wastes	ENCORE	MAY 11, 2017
1228. Universal Waste Lamps and Prohibition on Crushing	ENCORE	MAY 18, 2017
1229. Operating Record vs. Operating Log		MAY 25, 2017
1230. Operating Records Not Referenced in "Facility Recordkeeping"		JUN 1, 2017
1231. Used Oil and Weekly Inspections	ENCORE	JUN 8, 2017
1232. Used Oil, Secondary Containment and Response to Spills	ENCORE	JUN 15, 2017
1233. Used Oil and Keeping Containers Closed – Washington State vs. The Feds	ENCORE	JUN 21, 2017
1234. DOT Shipping of Damaged, Defective or Recalled Lithium Batteries	ENCORE	JUN 29, 2017
1235. Conditioned Exclusion for Listed Hazardous Waste Debris Treated via Extraction/Destruction	ENCORE	JUL 6, 2017
1236. Conditioned Exclusion for Characteristic Debris Treated via Immobilization	ENCORE	JUL 13, 2017
1237. Office Waste and RCRA Regulatory Status	ENCORE	JUL 20, 2017
1238. Office Waste Management	ENCORE	JUL 27, 2017
1239. RCRA EPA Identification Numbers – Site Specifics	ENCORE	AUG 3, 2017
1240. RCRA EPA Identification Numbers – Transporters		AUG 9, 2017
1241. Laboratory Standards and Applicability of the "U" or "P" Hazardous Waste Listings	ENCORE	AUG 17, 2017
1242. Laboratory Standards and Applicability of the "F" Listings	ENCORE	AUG 24, 2017
1243. Paint Wastes and The Applicability of the F001-F005 Listings to Ingredients	ENCORE	AUG 31, 2017
1244. F Listings and Ingredients in Commercial Chemical Product Formulations		SEP 7, 2017
1245. LDR Waste That is Both Listed and Characteristic Hazardous Wastes	ENCORE	SEP 14, 2017
1246. Mercury Wet Cell Batteries - Debris or Not Debris?	ENCORE	SEP 21, 2017
1247. The "POLYM" Alternative Treatment Standard for Certain D001 Hazardous Wastes	ENCORE	SEP 28, 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: THE "POLYM" ALTERNATIVE TREATMENT STANDARD FOR CERTAIN D001 HAZARDOUS WASTES

DATE: SEPTEMBER 28, 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: The “POLYM” Alternative Treatment Standard for Certain D001 Hazardous Wastes

- Q:** A customer operates a recreational boat manufacturing company in which polyester/styrene (PS) is reacted with methyl ethyl ketone peroxide (MEKP) to form fiberglass. During cleanouts of manufacturing units, unreacted PS is collected in five-gallon pails. At the point of generation, the PS waste exhibits the characteristic of ignitability (D001). The customer currently adds MEKP to the PS waste creating inert fiberglass scraps. The scraps are then disposed of as nonhazardous wastes. In terms of the RCRA land disposal restriction standards, is this treatment and disposal acceptable for this D001 hazardous waste?
- A:** Per the [May 12, 1997, Federal Register](#) beginning on page 26007, EPA established an alternative treatment standard of [POLYM](#) for D001 (high total organic carbon) hazardous wastes originally intended as chemical components in the commercial manufacture of plastics. In the polymerization treatment process (POLYM), the PS wastes are reacted with MEKP to produce a chemically stable plastic in the same manner that the commercial plastics are formed.

On page 26008, 1st column, 1st paragraph, EPA stated:

“...POLYM is the same process that is used in the actual manufacturing of plastic products such as water pipe and watercraft. To allow materials and a process to be used to construct water pipe and boat hulls, but prohibit the same process to be used to treat excess materials from those same processes does not make sense. In addition, the treatment of these chemical components using POLYM does convert an ignitable waste into a non-ignitable solid prior to disposal. Treatment occurs as the organic materials react to form a hard, inert material.”

EPA also stated that the treatment can occur at the site of generation without having to obtain a RCRA permit provided that the treatment occurs in tanks or containers and in compliance with the less than 90-day accumulation requirements of [40 CFR 262.34](#).

Also note that this alternative treatment standard may be less stringent than State requirements and individual authorized States would have to formally adopt this rule prior to use by generators.

The customer’s PS waste is reacted with the MEKP in the same manner as the boat manufacturing process, creating inert fiberglass scraps. Since the customer treats the waste in containers, on-site and within his 90-day time frame, the polymerization treatment process meets the definition of the POLYM alternative treatment standard. Once the characteristic waste has been treated per the land disposal restrictions and is no longer ignitable, disposal as a nonhazardous waste is appropriate. Therefore the customer’s treatment and disposal methods are acceptable.

SUMMARY:

- POLYM is an alternative treatment standard for D001 wastes in the plastics industry.
- The treatment process is the same as the production process, i.e. the creation of inert plastic.
- On-site treatment is allowed, without a permit, in tanks or containers per 40 CFR 262.34.

An excerpt from the May 12, 1997, Federal Register is 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: 9/28/17

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TWO MINUTE TRAINING - ATTACHMENT

SUBJECT: The "POLYM" Alternative Treatment Standard for Certain D001 Hazardous Wastes

Federal Register / Vol. 62, No. 91 / Monday, May 12, 1997 / Proposed Rule

[Beginning page 26007]

D. POLYM Method of Treatment for High-TOC (Total Organic Carbon) Ignitable D001 Wastes

Summary: Today's rule establishes an alternative treatment standard of POLYM (polymerization) for high-TOC D001 wastes originally intended as chemical components in the commercial manufacture of plastics. In the polymerization treatment process (POLYM), the wastes are reacted to produce a chemically stable plastic in the same manner that commercial plastics are formed.

Discussion: The National Marine Manufacturer's Association contacted EPA with concerns that the May 1993 Interim Final Rule prohibited the practice of polymerizing excess polyester/styrene waste left over from the manufacture of modular shower stalls and recreational boats, among other things. EPA proposed to add polymerization (POLYM) to the set of required methods of treatment designated as BDAT for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. (60 FR 43679, August 22, 1995.) In these manufacturing processes, polyester/styrene reacts with methyl ethyl ketone (MEK) peroxide in a mold to form fiberglass. The ignitable waste polyester/styrene and MEK peroxide are the wastes of concern. Small quantities of polyester/styrene monomers and MEK peroxide wastes can be reacted together to create fiberglass scraps. The scraps are inert and do not exhibit the hazardous waste characteristics of toxicity, ignitability, corrosivity, or reactivity. It is this practice that is referred to as polymerization for the purposes of this rule. The waste polyester/styrene monomers and MEK peroxide are currently regulated as high-TOC ignitable wastes (40 CFR 268.9) for which the current standard is treatment by CMBST (combustion) or by RORGS (recovery of organics) before land disposal. Neither CMBST nor RORGS allows for polymerization (as an exclusive treatment method) of high-TOC ignitable wastes. The Agency believes that the practice of polymerizing high-TOC ignitable waste polymers and monomers which are chemical components in the manufacture of plastics to a noncharacteristic inert mass adequately minimizes threats posed by disposal of the waste.

Today EPA is establishing POLYM as an alternative to CMBST or RORGS only for those high-TOC D001 wastes originally intended as chemical components in the commercial manufacture of plastics. POLYM requires the addition of the same polymerizing component or catalyst to the deactivated high-TOC D001 monomer stream intended for land disposal. POLYM is defined as "formation of complex high-molecular weight solids through polymerization of monomers with high-TOC D001 nonwastewaters which are chemical components in the manufacture of plastics." EPA acknowledges that POLYM is not as effective at destroying all of the hazardous constituents of the materials as CMBST, the specified treatment standard for high-TOC D001 nonwastewaters. However, as defined, POLYM is the same process that is used in the actual manufacturing of plastic products such as water pipe and watercraft. To allow materials and a process to be used to construct water pipe and boat hulls, but prohibit the same process to be used to treat excess materials from those same processes does not make sense. In addition, the treatment of these chemical components using POLYM does convert an ignitable waste into a non-ignitable solid prior to disposal. Treatment occurs as the organic materials react to form a hard, inert material. Data submitted by the Composites Institute (see CI Memo 20 DEC 96) show that of the Appendix VIII constituents that are present in scrap uncured polyester resins, greater than 50% of the constituents are chemically converted by the polymerization process to form a part of the solid polymer. The remaining constituents are physically bound in the solid polymer matrix. The Agency believes that the low quantities of Appendix VIII constituents are sufficiently bound in the polymer matrix so as to minimize the threats posed by disposal of the noncharacteristic inert mass of scrap material. Below is a table showing the Appendix VIII constituents typically found in scrap uncured polyester resins:...

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