DCN PH4P001
COMMENTER Grady White Boats
RESPONDER JL
SUBJECT POLM
SUBJNUM 001
COMMENT

> This letter is in support of the EPA's proposal to add polymerization as an approved treatment technology for disposal of excess of polyester resin. I would like to thank the EPA for recognizing the National Marine Manufacturer Association's petition to add this treatment technology. The addition of this treatment technology will allow us to make usable products with previously unusable waste resin and reduce waste through pollution prevention.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the availability of this treatment method for high-TOC ignitable wastes will reduce the risks associated with these wastes and adequately protect human health and the environment.

DCN PH4P002
COMMENTER Olympic Boat Company
RESPONDER JL
SUBJECT POLM
SUBJNUM 002
COMMENT

It was with great interest that I read the proposed rule regarding "Polymerization as an approved treatment technology for polyester resin." Needless to say it makes me very happy. This material is no different than the boat that sets in the water.
This will allow boat builders as well as all the fiberglass industry the opportunity to reduce waste through pollution prevention, making usable products that were previously considered unusable waste.
Olympic Boat Company Inc. wants to thank NMMA for their petition on this mater and also we want to thank your department for taking these progressive steps toward the reducing of the waste stream.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that this new method of treatment will be beneficial to all concerned.

DCN PH4P003
COMMENTER Sunfish Laser
RESPONDER JL
SUBJECT POLM
SUBJNUM 003
COMMENT

Sunfish Laser is strongly in favor of approval of POLYM method of treatment for High-TOC Ignitable D001 wastes. By adding polymerization as an approved treatment technology we will be able to reduce waste through pollution prevention as well as reduce emissions through source reduction

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the addition of this method of treatment will be beneficial to all concerned.

DCN PH4P004
COMMENTER Larson
RESPONDER JL
SUBJECT POLM
SUBJNUM 004
COMMENT

> We fully support your proposal to amend the RCRA regulations that adds polymerization as an accepted method of treatment for TOC ignitable (D001) wastes. We believe that this method of treatment is environmentally acceptable and also the most economical for the manufacturing sector.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the addition of this method of treatment will be beneficial to all concerned.

DCN PH4P005
COMMENTER Arctco
RESPONDER JL
SUBJECT POLM
SUBJNUM 005
COMMENT

> Arctco feels that this is a very wise decision as this will reduce our waste and prevent environmental contamination. Arctco strongly agrees with the Agency's statement that "the ongoing practices of polymerizing characteristic waste to a non-characteristic inert mass adequately protect human health and the environment."

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the addition of the method of treatment will be beneficial to all concerned.

DCN PH4P006
COMMENTER Regal Marine Industries
RESPONDER JL
SUBJECT POLM
SUBJNUM 006
COMMENT

When considering the approved process for treatment of waste resins and gelcoats, being able to polymerize the product is most definitely a win/win situation. It helps in the following ways. First of all, a usable product can be made with the waste (parking lot bumpers), and it reduces the costs associated with hazardous waste removal. Enclosed are pictures of parking lot bumpers that our firm made using waste resin and gelcoat.
I applaud your efforts and support this proposal to add polymerization as an approved treatment technology for Polyester Resin.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. In addition, the Agency thanks the commenter for the information on recycled-content products provided by the commenter. The Agency agrees with the commenter that the availability of this treatment method for high-TOC ignitable wastes will be beneficial to all concerned.

DCN PH4P007
COMMENTER Godfrey Marine
RESPONDER JL
SUBJECT POLM
SUBJNUM 007
COMMENT

> We would like to applaud the EPA for recognizing the NMMA's position to add polymerization as an approved treatment technology for disposing of unusable resin waste.
> This technology will help reduce waste through pollution prevention and will also enable us to make usable products with previously unusable resin waste.
> This is a "win - win" situation for everyone and should be an action welcomed by all in the recreational boat building industry.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the availability of this treatment method for high-TOC ignitable wastes will be beneficial to all concerned.

DCN PH4P008
COMMENTER Florida DEP
RESPONDER JL
SUBJECT POLM
SUBJNUM 008
COMMENT

Polymerization Treatment of High TOC D001 Wastes: Based on what I know of boat builder waste management practices, non-polymerizable wastes are already being added to waste polymerized resins for disposal. Sometimes manufacturers have to discard resins because they won't polymerize properly. The resins remain semisolid, too thick to be properly tested by either the Pensky-Martens or Setaflash methods. If polymerization is incomplete, but the residual can't be tested, will EPA consider the waste to have been treated properly? Two modifications seem necessary:

1. Split the high TOC treatability group into 2, only allow polymerization for polymerizable organics that have not been mixed with other hazardous wastes.
2. Require the decharacterized high TOC waste to either be incinerated in a MSW facility operating in compliance with the Clean Air Act or meet the universal treatment standard.

Polymerization conducted within the original container within 90 days of the decision to discard the material is already excluded from regulation under §261.4(c). The waste is not be subject to the accumulation provisions under 262.34, and therefore would not be subject to land disposal restrictions per §261.5 and §262. l(b). The polymerization process can generate excess heat and fumes and should not be conducted in units which are not subject to 262.34.

RESPONSE:

The commenter does not specify the characteristics of the non-polymerizable wastes that the commenter asserts are being added to waste polymerized resins for disposal. However, the Agency notes that if polymerization does not result in an inert mass, the treatment standard is not achieved. Such wastes must be treated further, or treated using an alternative treatment method (i.e., CMBST or RORGS). In addition, the Agency points out that polymerization is being added to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) only for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. This treatment technology is not being finalized for other hazardous wastes. Other hazardous wastes, including non-polymerizable wastes, must be characterized and must meet all applicable LDR treatment standards for the hazardous constituents contained in the waste, including the UTS, prior to land disposal. The mixing or dilution of non-polymerizable wastes with

polymerization process wastes is not acceptable treatment.

DCN PH4P009
COMMENTER National Marine Manufacturers
RESPONDER JL
SUBJECT POLM
SUBJNUM 009
COMMENT

The National Marine Manufacturers Association, with it's 1600 member companies, is grateful to the EPA for recognizing our petition and proposing to add polymerization as an approved treatment technology for polyester resin. By permitting boat builders to polymerize scrap resin, usable products can now be made with what had previously been unusable waste resin. We applaud this effort and are encouraged by EPA's response to our petition.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the availability of this treatment method for high-TOC ignitable wastes will be beneficial to all concerned.

DCN PH4P011
COMMENTER Blue Water Boats
RESPONDER JL
SUBJECT POLM
SUBJNUM 011
COMMENT

With present technology and design, large quantities of polyester resins are used in the production of fiberglass boats. As a result, there are a variety of containment systems required for storage and transportation. Our concern is how to clean and/or dispose of residual resin left in the used containers safely, cost effectively and within environmental guidelines. Here are some current options:
1. Cleaning containers requires solvents and rags. Solvents evaporate and the rags now contain the resin. Labor intensive, does not solve the problem
2. Incineration burns, depleting supplies of fuel and emits its own hazardous pollutants, which is dangerous and very expensive.
3. Organic recovery is not practical with the high level viscosity of polyester resins.
4. Fuel blending would require a chemist, an engineer and a pyro-tech to apply this method, which is not practical.
5. Polymerization requires taking two hazardous residual liquids (resin & MEKP) and putting them together to form a non-hazardous solid. Therefore, safe, environmentally sound, inexpensive and effective.
Allowing Fiberglass Reinforced Plastics (FRP) manufacturers to dispose of residual resins through polymerization involves a common sense approach toward the balance between the environment and business. Your consideration and approval of this technique are needed.

RESPONSE:

In today's final rule, EPA is adding polymerization (POLYM) to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter, and believes that polymerizing characteristic wastes to a non-characteristic inert mass adequately protects human health and the environment. The Agency notes that 40 CFR 262.34(a) provides that a generator may accumulate hazardous waste on-site for 90 days or less without a permit, or without having interim status, if the waste is placed either in containers that are in compliance with subparts I, AA, BB and CC of 40 CFR part 265 and/or in tanks in compliance with subparts J, AA, BB and CC of 40 CFR part 265 (except for §§265.197 and 265.200), and/or in drip pads if the generator complies with subpart W of 40 CFR part 265 as

well as additional record keeping requirements.

DCN PH4P013
COMMENTER New York DEC
RESPONDER JL
SUBJECT POLM
SUBJNUM 013
COMMENT

DEC has no objections to the proposed polymerization (POLYM) method of treatment for D001 High-TOC ignitable wastes.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

DCN PH4P031
COMMENTER Department of Energy
RESPONDER JL
SUBJECT POLM
SUBJNUM 031
COMMENT

III.C POLYM Method of Treatment for High-TOC Ignitable D001 Wastes

1. p. 43679, col. 1 -- EPA proposes to add polymerization (POLYM) to the set of required methods of treatment designated Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. DOE believes that polymerization is a superior method for treating certain high-TOC ignitable D001 wastes, and supports its addition to the set of treatment methods designated as BDAT.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

DCN PH4P047
COMMENTER Merck
RESPONDER JL
SUBJECT POLM
SUBJNUM 047
COMMENT

4. The EPA has proposed to allow Polymerization as a method of treatment for high TOC D001 wastes. While we support this change, we request that the Agency also reconsider it's determination that biological waste treatment is not an appropriate method for high TOC D001 wastes. Merck and other companies have submitted extensive data demonstrating that wastewater treatment is an effective means of treating these wastes; that with equalization these wastes are easily assimilated and thoroughly treated in a waste treatment plant; that air emissions of these compounds in many cases are minimal (see comments on proposed Pharmaceutical Effluent guidelines); and that many of these streams have no underlying toxic constituents (such as a waste ethanol stream) and yet are prohibited from a very effective and safe means of treatment. There now exists information that would allow companies to predict which wastes have a higher tendency to volatilize in a waste treatment plant and as for "toxics along for the ride" if identifying underlying constituents is appropriate for low TOC D001 streams it is not clear why this would not be appropriate for high TOC D001 streams.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

The Agency thanks the commenter for submitting data along with the request for the Agency to reconsider its previous decision not to designate biological treatment as BDAT for high-TOC wastes. The commenter's request is beyond the scope of POLYM. However, EPA has addressed the issue of treating high-TOC wastes in tank based biological treatment systems in the preamble discussion of Point of Generation. The Agency is taking the position that this type of treatment is allowable if the system does not include any land disposal units. The sludge generated from the process should be evaluated as generated to see if it is a hazardous waste.

DCN PH4P048
COMMENTER Chemical Waste Management
RESPONDER JL
SUBJECT POLM
SUBJNUM 048
COMMENT

C. POLYM Method of Treatment for High-TOC Ignitable D001 Wastes (60 Fed. Reg. at 43,679)

The Agency is proposing to add polymerization (POLYM) to the set of required method of treatment for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. POLYM is proposed as an alternative to CMBST or RORGS for only those high-TOC D001 wastes which are chemical components in the manufacture of plastics (See 60 Fed. Reg. at 43,679). Typically waste polyester/styrene monomers and MEK peroxide are commonly disposed by reacting small quantities together to create fiberglass scraps that are no longer characteristics. POLYM would allow the practice of polymerizing high-TOC ignitable(D001) characteristic wastes to a non-characteristic inert mass which the Agency believes adequately protects human health and the environment.

CWM generally supports the promulgation of POLYM as a specified technology for high-TOC ignitable wastes from the plastics manufacturing industry; however, CWM believes that the description of POLYM proposed in 268.42 Table 1 should be modified. The current description reads as follows:

"POLYM - Formulation of complex high-molecular weight solids through polymerization of monomers in high-TOC D001 nonwastewaters."

CWM believes the description should be amended to reflect that this specified technology is only available for those high-TOC D001 wastes which are chemical components in the manufacture of plastics. CWM believes that a list which reflects some of the acceptable constituents would be helpful. In addition to the list the suggested change is as follows:

"POLYM - Formulation of complex high-molecular weight solids through polymerization of monomers in high-TOC D001 nonwastewaters which are chemical Components in the manufacture of plastics."

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-

TOC ignitable (D001) wastes resulting from commercial polymerization processes.

The Agency appreciates the commenter's suggestions for clarifying the availability of polymerization for high-TOC D001 wastes which are chemical components in the manufacture of plastics. The Agency has included this clarification in the preamble to the final rule.

At this time the Agency is not publishing a list of acceptable constituents. EPA believes that the definition of POLYM is explicit enough for generators to make a determination as to whether POLYM is applicable to their wastes. Anyone who has a question is always free to contact State or EPA officials at any time.

DCN PH4P063
COMMENTER Laidlaw
RESPONDER JL
SUBJECT POLM
SUBJNUM 063
COMMENT

4.0 POLYM as a Method of Treatment for High-TOC Ignitable D001 Wastes

LES does not support the Agency's decision to allow POLYM as a alternative method of treatment for those high-TOC D001 wastes which are chemical components in the manufacture of plastics. While the polymerization technology employed may reduce the toxicity of the waste (although this has not been adequately demonstrated), it does not reduce the overall volume of waste which goes against the general goals of waste minimization. Further, the Agency has not addressed whether the polymerization process adequately treats any underlying hazardous constituents that may be present in the waste.

RESPONSE:

Based upon public comment, the Agency decided to finalize the proposal to add polymerization to required methods of treatment designated Best Demonstrated Available Technology (BDAT) for high-TOC ignitable wastes resulting from commercial polymerization processes. The Agency made this determination after analyzing data made available to the Agency and after reviewing public comments submitted in response to the proposed rule. The Agency believes that the practice of polymerizing characteristic wastes to a non-characteristic inert mass adequately minimizes threats posed by land disposal of the waste.

The Agency has several goals for waste minimization. Although the primary goal of waste minimization is source reduction, other goals for waste minimization include reducing the quantities of wastes that are disposed and reducing the overall toxicity of wastes. A reduction in the toxicity level of wastes treated by polymerization is achieved through the reduction in mobility of the constituents in the wastestream. Although the treatment of high-TOC ignitable wastes that are chemical components in the manufacture of plastics may not necessarily result in a chemical conversion of the UHC, such treatment will result in reducing the mobility of UHC through chemical bonding.

The Agency believes that the addition of polymerization to the list of designated BDAT for wastes resulting from commercial polymerization processes also will allow some generators to recycle the waste into useable products. The Agency received public comments that included information on recycling alternatives for such wastes treated by polymerization. Therefore, the Agency disagrees with the commenter and asserts that the addition of polymerization to the set of required methods of treatment designated as BDAT for high-TOC wastes resulting from

commercial polymerization processes may further the Agency's waste minimization goals.

DCN PH4P065
COMMENTER Safety-Kleen Corp.
RESPONDER JL
SUBJECT POLM
COMMENT 11. Safety-Kleen supports the Agency's proposal to add polymerization (POLYM) as a BDAT treatment method for high-TOC ignitable (D001) wastes from commercial polymerization processes. Safety-Kleen believes that the POLYM treatment technology provides the regulated community with a cost-effective, environmentally sound method of management for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. However, Safety-Kleen seeks Agency clarification that it is possible to generate monomer D001 wastes which continue to undergo polymerization without the need for additional catalyst (e.g., where catalyst is present in lower concentration than needed for commercial production, such as a bad reaction batch). Thus, the addition of a polymerizing component or catalyst to the discarded material need not be a required condition where the material is deemed capable of polymerizing fully without additional catalysts. 12. For wastes which polymerize on a rapid time frame, Safety-Kleen requests that the Agency find that the point of generation is after such polymerization occurs for purposes of waste classification and therefore for LDR determination. Safety-Kleen requests that the Agency determine that materials that are undergoing rapid polymerization without catalyst addition can be evaluated as to their physical state (i.e., liquid or solid using the paint filter test) once the material has reached standard temperature and pressure, rather than at the immediate point and time of generation. Stated another way, a waste which is solid within minutes of being removed from a process can be viewed as a generated solid for purposes of waste classification.
RESPONSE
The Agency thanks the commenter for supporting EPA’s proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

Polymerization may be used to render both the reactive monomers and the catalysts in the reaction non-hazardous. In addition, other high-TOC (D001) monomers and catalysts, besides polyester/styrene monomer and MEK peroxide, that are hazardous because they exhibit the high-TOC/D001 characteristic, may be managed through polymerization. If a waste monomer has sufficient amounts of catalyst mixed with it for polymerization to occur, then that process may meet the definition of POLYM. However, treatment of the characteristic hazardous waste by

polymerization must result in the high-TOC ignitable waste being converted to an inert material that does not exhibit any characteristic of hazardous waste. Semi-solid materials would not achieve treatment as intended by polymerization.

If a waste is generated under the definition of POLYM (as defined in today's rule), then the point of generation is defined as being when an inert mass that does not exhibit any characteristic of hazardous waste is produced. If a waste monomer is discarded with sufficient catalyst mixed in at the time of discard, and the mixture produces an inert mass that does not exhibit any characteristic of hazardous waste, then POLYM has taken place regardless of the amount of time it takes for that mass to be produced, within storage and accumulation regulations.

DCN PH4P073
COMMENTER Outboard Marine Corp.
RESPONDER JL
SUBJECT POLM
SUBJNUM 073
COMMENT

OMC supports EPA's proposed change as described in the preamble to the proposed rule (60 F.R. 43679). OMC also supports the proposed changes to 40 CFR 268.42 (60 F.R. 43697) allowing polymerization as Best Demonstrated Available Technology (BDAT) for high TOC (Total Organic Carbon) D001 ignitable characteristic non-waste waters.

When this rule is finalized, OMC plans to use this technology for satisfying LDR requirements for waste polyester resin and gelcoat generated in the fiberglass boat manufacturing process. Based on OMC data, polymerization of waste resin and gelcoat results in a solid waste that does not exhibit any hazardous waste characteristics. OMC believes that polymerization of waste polyester resin and gelcoat eliminates the ignitability characteristic of a hazardous waste via a"common sense" approach.

We ask that the EPA clarify its preamble statements regarding the 90-day storage of this type of waste in tanks (60 F.R. 43679). The provisions of 40 CFR 262.34 allow large quantity generators to store hazardous waste up to 90 days in adequate containers and tanks. It is not clear why EPA specifically addressed tanks under 40 CFR 264.34 (a)(1)(ii) in the preamble. It is OMC's belief that the majority of fiberglass boat builders would store these types of wastes in containers as opposed to tanks. The preamble to the final rule should address this issue.

RESPONSE:

The Agency thanks the commenter for supporting EPA’s proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

Although the Agency only made mention of the generator accumulation provisions for storage in tanks in the preamble to the final rule, 40 CFR 262.34(a) provides that a generator may accumulate hazardous waste on-site for 90 days or less without a permit, or without having interim status, if the waste is placed either in containers that are in compliance with subparts I, AA, BB and CC of 40 CFR part 265 and/or in tanks in compliance with subparts J, AA, BB and CC of 40 CFR part 265 (except for §§265.197 and 265.200), and/or in drip pads if the generator complies with subpart W of 40 CFR part 265 as well as additional record keeping requirements.

The Agency's mention in the preamble to the proposed rule of the generator accumulation provisions related to tanks was provided only as guidance and in no way limits a generator's responsibility to comply with all applicable hazardous waste management requirements.

DCN PH4P076
COMMENTER Society of the Plastics Industry
RESPONDER JL
SUBJECT POLM
SUBJNUM 076
COMMENT

For over a decade, SPI, which represents all segments of the plastics industry in the United States, 1 has recognized the merits of polymerization as an acceptable waste management technique and promoted its use. SPI is a participant in EPA's Sustainable Industry Project for the express purpose of developing a proposal on polymerization as a LDR methodology for certain plastics operations. SPI commends EPA for taking the initiative in the proposed rule to approve polymerization as an acceptable LDR technology. Polymerization is a safe, efficient, and effective means of diminishing the toxicity and mobility of certain hazardous wastes and eliminating or minimizing any threat to human health or the environment.

EPA is proposing to add POLYM to the set of Best Demonstrated Available Technology ("BDAT") methods for D001 ignitable liquids high-Total Organic Carbon ("TOC") nonwastewater subcategory. Without jeopardizing the significant gain that even limited recognition of this technology represents, SPI asks EPA to consider some additional points which are detailed in the remainder of these comments:

Clarify that the rule is not intended to be limited to reactions which are initiated by chemical catalysts. Other methods of polymerization, including thermal and light-initiated reactions, should be allowed within the definition of POLYM.

Clarify that high-TOC D001 monomers and catalysts besides polyester/styrene monomer and MEK peroxide are covered under this proposal.

Consistent with EPA's Common Sense Initiative and the Sustainable Industry Project's "cleaner/cheaper/smarter" approach, consider expanding the use of polymerization beyond high-TOC D001 nonwastewaters to include managed waste that is listed (and has a specified treatment technology that does not include deactivation) or characteristic, as long as the hazard is eliminated.

Clarify that generators which polymerize waste are not regulated as treatment, storage and disposal facilities.

Specify that POLYM may be used as a deactivation technology to accomplish this goal.

I. Clarify Scope of Proposed Rule

EPA defines POLYM as the "formation of complex high molecular weight solids through polymerization of monomers in high TOC D001 nonwastewaters." 60 Fed. Reg. at 43679. EPA explains in this discussion that POLYM may be used to manage "those high-TOC wastes which are chemical components in the manufacture of plastics." The preamble discussion on page 43679 provides, as an example of an appropriate case in which POLYM may be used, the reaction of polyester/styrene with methyl ethyl ketone ("MEK") peroxide in a mold to form an inert fiberglass material that no longer exhibit a hazardous waste characteristic. The waste polyester/styrene monomer and the MEK peroxide are currently regulated as high-TOC ignitable wastes.

SPI understands the preamble language to mean that polymerization may be used to render both the reactive monomers and the catalysts in the reaction nonhazardous. As proposed by EPA, POLYM simply requires "the addition of a polymerizing component or catalyst to the discarded high-TOC D001 monomer stream." Therefore, SPI understands that other high-TOC D001 monomers and catalysts besides polyester/ styrene monomer and MEK peroxide may be managed through polymerization.

Further, the preamble language appears to limit POLYM to reactions initiated by "a polymerizing component or catalyst." The polymerization process need not be limited to a chemical reaction involving the addition of a catalyst. SPI is asking EPA to clarify in the final rule that at "a polymerizing component" includes typical polymerization methods, including thermally initiated polymerization. Another example might be ultra-violet (UV) light-initiated polymerization.

II. Polymerization Should Be Available For Any Reactive Monomer or Curing Agent Whether Listed or Characteristic Waste

SPI supports the use of polymerization technology to manage monomers, catalysts, and other reactive starting materials that are considered to be high-TOC D001 nonwastewater. More than this, SPI is asking EPA to allow POLYM to be used to manage other characteristic and/or listed wastes which are chemical components in the manufacture of plastics, although SPI does not wish to delay or derail the proposal in any way.

EPA does not provide a basis for limiting POLYM to high-TOC D001 nonwastewater monomers and catalysts. Indeed, there are several policy reasons for expanding the use of polymerization in the LDR program to characteristic and hazardous reactive waste streams. Expanding POLYM is consistent with EPA's endorsement of

"the ongoing practice of polymerizing characteristic wastes to a non-characteristic inert mass" as a practice which"adequately protects human health and the environment." 60 Fed. Reg. 43679. Expanding POLYM is consistent with the practice of waste minimization and pollution prevention. It will also reduce the incidence of cross-media releases via leakage, air emissions, or disposal because there is no cross-media contamination associated with polymerization. If EPA expands the circumstances under which POLYM can be used, more companies will be able to avoid the need to incinerate and create cross-media releases via air emissions.

In addition, current methods are not as safe, effective, or economical as polymerization for treating certain types of waste. Expanding the use of a known technology would substantially ease the compliance and cost burdens of the LDR program for many small businesses. Polymerization is the most efficient and environmentally sound way to render waste nonhazardous in many cases, in part because it eliminates the need for long term storage of ignitable and other hazardous materials. Also, manufacturers do not have to ship the hazardous material off-site, and this reduces both the cost and risk of hazardous waste management. Such a change is consistent with the "cleaner/cheaper/smarter" approach embodied in EPA's Common Sense Initiative and the Sustainable Industry Project.

A way to effect this change, in part, is to revise the definition of POLYM to eliminate the reference to high-TOC D001 nonwastewaters, so that POLYM is defined as: "Formation of complex high-molecular weight solids through a chemical or physical process of polymerization of reactive components used in the manufacture of plastics." In addition, EPA should make POLYM one of a number of available technologies for managing LDR waste when "deactivation" is the specified standard. "Deactivation" (or "DEACT") is defined as "to remove the hazardous characteristics of a waste due to its ignitability, corrosivity, and/or reactivity." 40 C.F.R. §268.42, Table 1. Polymerization fits this definition and would then be suitable for use with other D001 ignitable liquids, D002 (corrosive), D003 (reactive), and other wastes.

California serves as an example of why this change is needed. The State has tried to amend its rules to permit polymerization of small amounts of waste resin. However, because of LDR constraints, this effort was unsuccessful. EPA's recognition of POLYM will allow California and other states to go forward with their proposals. This will benefit many companies in the plastics industry.

SPI is urging EPA to expand the uses of POLYM beyond high TOC D001 nonwastewaters to at least include all hazardous reactive starting materials with specified methods of treatment under the land disposal restriction program. SPI understands that, in the case of listed wastes with specified concentration levels, polymerization may be used now to treat the waste to below these concentration levels. For those characteristic and listed wastes with specified
treatment technologies, a change in current regulations is needed. Furthermore, SPI's experience in this area leads us to suggest that the use of polymerization need not be tied to whether the reactive component is a monomer, curing agent, or other starting material used in the manufacture of plastics, or why the waste is hazardous. For example, 2,4-Toluene diisocyanate ("TDI") is a listed hazardous waste (LDR waste code U223). Although reacting polyol and TDI produces a nonhazardous polyurethane, currently EPA will only allow incineration or fuel substitution as treatment methods for U223 nonwastewaters. Another example is a small class of curing agents used in the polymerization of epoxy resin that may be flammable. A different set of epoxy curing agents exhibits the characteristic of corrosivity,
but, if polymerized, are rendered nonhazardous. Other thermoset or thermoplastic materials for which polymerization could be used to render reactive hazardous waste nonhazardous
include: polyurethanes, epoxies, phenolics, melamine formaldehyde, urea formaldehyde, alkyd polyester resins, and acrylic casting materials. The same principle applies to other thermosets in which the normal manufacturing process could be one which uses a process other than a catalyst, such as thermal or light polymerization to initiate the reaction.
Once polymerized, these wastes would be typically disposed of in landfills once polymerized, which is an acceptable environmental outcome because they would be rendered nonhazardous. The possible expansion of POLYM to other reactive polymer constituents would not result in a reduced level of protection for human health and the environment. POLYM would just be one a permissible way to manage hazardous waste, and facilities would still have generator's obligation to ensure that the waste is appropriately tested and handled prior to land disposal. Generators must ensure that the wastes they manage do not retain a hazardous characteristic or are otherwise nonhazardous prior to land disposal, or they are obligated to ensure that the waste continues to be properly managed for its associated hazard. Take the case of an off-specification

batch of material that does not polymerize well. The generator would have to manage the off-spec material using a method other than polymerization.

California serves as an example of why this change is needed. The State has tried to amend its rules to permit polymerization of small amounts of waste resin. However, because of LDR CONSTRAINTS, this effort was unsuccessful. EPA's recognition of POLYM will allow California and other states to go forward with their proposals. This will benefit many companies in the plastics industry.

III. Generators That Polymerize Waste Are Not Regulated As Treatment, Storage and Disposal Facilities

SPI supports EPA's efforts to streamline LDR requirements for generators who manage their own waste, such as by proposing to require only a one-time notification and certification to the receiving facility, eliminating the requirement to submit waste analysis plants to States and Regions, and reduce record retention periods from five to three years. 60 Fed. Reg. at 43677. It would be of further help for the final rule to remind manufacturers of their inherent obligations, and to inform them that the use of POLYM does not trigger the need for treatment, storage and Disposal facility ("TSDF") permitting. Although permitting is not required if a generator chooses to manage waste in tanks, containers or containment buildings to meet the applicable LDR standards, other RCRA generator and LDR obligations apply. 51 Fed. Reg. 10168 (March 24,1986). SPI believes that facilities will be able to perform the required polymerization well within the accumulated storage time limits. The involved facilities are familiar with safe handling techniques and the associated particulars of polymerization technology.

SPI believes that facilities will be able to perform the required polymerization well within the accumulated storage time limits. The involved facilities are familiar with safe handling techniques and the associated particulars of polymerization technology.

IV. CONCLUSIONS

Since 1984, the land disposal of hazardous waste has been prohibited unless the waste meets treatment standards set by EPA. RCRA requires that the treatment standards "substantially diminish the toxicity or mobility of hazardous waste such that short- and long-term threats to human health and the environment are minimized." 60 Fed. Reg. at 43655.

Polymerization is recognized as a way of handling material so that it no longer presents the hazard that prompted the characterization

of hazardous. The use of POLYM has benefits that extend far beyond one process. EPA is proposing that polymerization be limited to certain polymerized monomers and catalysts which are hazardous due to ignitability. As discussed in these comments, SPI is requesting certain clarification and believes that a broader application of polymerization is consistent with safe, effective, and economical waste management under RCRA, the Common Sense Initiative and the Sustainable Industry Project. The toxicity and mobility of hazardous waste are rendered nonexistent by the technology, regardless of whether the need to treat the waste is based on a hazardous waste listing or because the waste exhibits a hazardous characteristic. EPA should consider SPI's comments on additional sectors in which this technology may be effectively used, and incorporate these recommendations to the extent that it can do so without disrupting the finalization of the proposal for high-TOC ignitable wastes.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

The commenter is correct in stating that polymerization may be used to render both the reactive monomers and the catalysts in the reaction non-hazardous. In addition, other high-TOC (D001) monomers and catalysts, besides polyester/styrene monomer and MEK peroxide, that are hazardous because they exhibit the high-TOC/D001 characteristic, may be managed through polymerization. However, treatment of the characteristic hazardous waste by polymerization must result in the high-TOC ignitable waste being converted to an inert material that does not exhibit any characteristic of hazardous waste. As the commenter points out, if polymerization does not result in an inert mass, the treatment standard is not achieved, and the waste must be managed using a different form of treatment (i.e., CMBST or RORGS).

At this time, the Agency is limiting the definition of POLYM to include only those reactions initiated by a polymerizing component or catalyst. EPA has no data on other polymerization methods such as thermal or ultra-violet light initiated polymerization. The data you have submitted and any further data you or others submit will be evaluated and the Agency will revisit this issue in the future.

The Agency notes that the addition of polymerization to the set of required methods of treatment designated as BDAT applies to high-TOC ignitable (D001) non-wastewaters only. The Agency is not designating polymerization as BDAT for any listed hazardous wastes. The Agency does not have sufficient data at this time to make a determination of the applicability of polymerization as

BDAT for listed hazardous wastes.

In addition, the Agency is not adding polymerization to the list of designated BDAT for any characteristic hazardous wastes other than high-TOC D001. The Agency does not have the data to make a determination of the applicability of this treatment technology to other characteristic hazardous wastes at this time. Such a determination is beyond the scope of today's rulemaking.

The Agency appreciates the commenter's suggestions for clarifying the availability of polymerization for high-TOC ignitable wastes which are chemical compounds in the manufacture of plastics. The Agency has included this clarification in the preamble to the final rule.

The Agency notes that 40 CFR 262.34(a) provides that a generator that manages high-TOC ignitable D001 wastes on-site, may manage the wastes through polymerization while accumulating the wastes on-site without obtaining a permit, or without having interim status, provided the wastes are not stored for more than 90 days and provided the wastes are placed either in containers that are in compliance with subparts I, AA, BB and CC of 40 CFR part 265 and/or in tanks in compliance with subparts J, AA, BB and CC of 40 CFR part 265 (except for §§265.197 and 265.200), and/or in drip pads if the generator complies with subpart W of 40 CFR part 265 as well as additional record keeping requirements.

DCN PH4P089
COMMENTER ASTSWMO
RESPONDER JL
SUBJECT POLM
SUBJNUM 089
COMMENT

10. The Task Force has no objection to the proposed Polymerization (POLYM) method of treatment for D001 High-TOC ignitable wastes.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

DCN PH4P092
COMMENTER Union Carbide Corp.
RESPONDER JL
SUBJECT POLM
SUBJNUM 092
COMMENT

III.B. Union Carbide supports addition of the proposed POLYM standard for treatment of high TOC ignitable nonwastewaters. The proposed definition of POLYM appropriately includes applications beyond styrene monomer. For example, the proposed POLYM option will facilitate the most safe and effective management of the following emergency response scenario: Union Carbide manufactures a product using a highly reactive monomer. The reaction system is designed so that the contents can be purged in case of process upset. The unreacted mixture, which would exhibit the characteristic of ignitability, would be sent to a section of piping (a totally enclosed treatment unit) into which caustic soda is introduced. The caustic would cause the polymerization of the monomer and remove the characteristic of ignitability. The polymer in this case would be a fine suspension of particles in an aqueous stream. The most practical means to continue treatment would be to sewer the polymerized stream for further biological treatment in the location's surface impoundments.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

The Agency notes that the commenter is incorrect in assuming that polymerization is appropriate treatment for a high-TOC ignitable waste where the treatment results in a fine suspension of particles in an aqueous stream. Treatment by polymerization must result in an inert mass, and not result in suspended particles in an aqueous stream that must be further treated by biological treatment.

DCN PH4P097
COMMENTER Hazardous Waste Management
RESPONDER JL
SUBJECT POLM
SUBJNUM 097
COMMENT

Polymerization Method of Treatment for High-TOC Ignitable D001 Wastes (60 CFR 43679)

The Agency proposes to add polymerization to the set of required methods of treatment for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. Polymerization is proposed as an alternative to CMBST or RORGS for only those high-TOC D001 wastes which are chemical components in the manufacture of plastics (60 F.R. 43679).Typically, waste polyester/styrene monomers and MEK peroxide are commonly disposed by reacting small quantities together to create fiberglass scraps that are no longer characteristics. Polymerization would allow the practice of polymerizing high-TOC ignitable (D001)characteristic wastes to a non-characteristic inert mass which the Agency believes adequately protects human health and the environment.

HWM generally supports the promulgation of polymerization as a specified technology for high-TOC ignitable wastes from the plastics manufacturing industry; however, the description of polymerization proposed in §268.42 Table 1 should be modified. The description should be amended to reflect that this specified technology is only available for those high-TOC D001 wastes which are chemical components in the manufacture of plastics. A list which reflects some of the acceptable constituents would be helpful and should be included. In addition to the list, the suggested change is as follows:

"POLYM" - Formulation of complex high-molecular weight solids through polymerization of monomers in high-TOC D001 nonwastewaters which are chemical components in the manufacture of plastics.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

The Agency appreciates the commenter's suggestions for clarifying the availability of polymerization for high-TOC D001 wastes which are chemical components in the manufacture of plastics. The Agency has included this clarification in the preamble to the final rule.

At this time the Agency is not publishing a list of acceptable constituents. EPA believes that the definition of POLYM is explicit enough for generators to make a determination as to whether POLYM is applicable to their wastes. Anyone who has a question is always free to contact State or EPA officials at any time.

DCN PH4P103
COMMENTER Ciba-Geigy Corp.
RESPONDER JL
SUBJECT POLM
SUBJNUM 103
COMMENT

Ciba supports the finalization of POLYM as an alternative to CMBST or RORGS for those high-TOC D001 wastes which can polymerize to form complex high molecular weight solids. Although EPA in its discussion focuses solely on the reaction of polyester/styrene with methyl ethyl ketone peroxide, a POLYM alternative is applicable to a number of thermosetting resin wastes. As a manufacturer of epoxy resin, which cures in an addition reaction with amine and phenolic hardeners among others, we see application for this treatment method for laboratory wastes in addition to manufacturing materials.

Expanding the Applicability of POLYM to Thermosetting Resin Wastes.

Ciba questions the need to limit the exclusion to commercial processes and chemical components in the manufacture of plastics. Ciba recommends that the preamble to the final rule not appear to unduly limit the applicability of the polymerization alternative. Without any discussion, the EPA proposed rule apparently intends to limit this alternative to "commercial polymerization processes" and to manufacturing wastes. "Today's rule proposes POLYM as an alternative to CMBST or RORGS for those high-TOC D001 wastes which are chemical components in the manufacture of plastics."1 The preamble statements appear to limit the applicability of the POLYM alternative for laboratory wastes. Additionally, many commercial thermosetting resin applications result in coatings or adhesives and these application wastes maybe prevented from using this alternative because neither of these uses produce a "plastic" using the common meaning of the word.

RESPONSE:

The Agency thanks the commenter for supporting EPA’s proposal to add polymerization to the set of required methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes.

Polymerization may be used to render both the reactive monomers and the catalysts in the reaction non-hazardous. In addition, other high-TOC (D001) monomers and catalysts, besides

polyester/styrene monomer and MEK peroxide, that are hazardous because they exhibit the high-TOC/D001 characteristic, may be managed through polymerization. However, treatment of the characteristic hazardous waste by polymerization must result in the high-TOC ignitable waste being converted to an inert material that does not exhibit any characteristic of hazardous waste.

At this time, the Agency is limiting the definition of POLYM to include only those reactions initiated by a polymerizing component or catalyst. EPA has no data on other polymerization methods such as thermal or ultra-violet light initiated polymerization. The data you have submitted and any further data you or others submit will be evaluated and the Agency will revisit this issue in the future.

The Agency notes that, in the case of laboratory wastes, better treatment options are available to the generator. Combustion may be a better alternative for these wastes than polymerization. There are few limitations to the types of constituents that may be present in lab packs destined for incineration (i.e., no mercury or arsenic). Burning achieves complete destruction of the organic components of the wastes. However, EPA does not have data to support a finding that polymerization will result in the construction or adequate chemical reactions of the hazardous constituents in lab packs, particularly since the composition of these wastes can vary greatly.

The Agency notes that the addition of polymerization to the set of required methods of treatment designated as BDAT applies to characteristic (high-TOC D001) non-wastewaters only. The Agency is not designating polymerization as BDAT for any listed hazardous wastes or for any other characteristic wastes at this time. The Agency does not have sufficient data at this time to make a determination of the applicability of polymerization as BDAT for listed hazardous wastes or other characteristic wastes.

DCN PH4P103
COMMENTER Ciba-Geigy Corp.
RESPONDER JL
SUBJECT POLM
SUBJNUM 103
COMMENT

Easing Implementation Without Compromising Environmental Protection.

In the proposed rule, EPA states ignitable materials can be stored for up to 90 days in RCRA generator tanks. A more useful implementation discussion for generators of these wastes would have been to propose an accommodation to resin manufacturers and users so that waste hardening operations could be integrated into their day-to-day operations. Ciba believes this regulation would be greatly improved by allowing generators to polymerize their own wastes. Since polymerization is a standard operation for these manufacturers this treatment should not require that process vessels meet RCRA tank regulations provided the state environmental agency agrees with the generator that the equipment used for polymerization is suitable.

In summary, the POLYM alternative is too narrowly drafted. It does not appear to be applicable to many thermosetting resin waste streams where POLYM is an appropriate land disposal restriction technology. Ciba recommends that preamble language in the final rule show that the POLYM treatment technology alternative has broader applicability, including the treatment of laboratory wastes amenable to polymerization.

In order to reduce the cost and difficulty of utilizing this land disposal restriction alternative, the EPA should specify that POLYM need not be performed in RCRA tanks (including the requirements of Subpart AA, Subpart BB, and Subpart CC) as long as the storage and treatment operations are protective of human health and the environment and deemed suitable by the state RCRA authority.

As a side note, Ciba recommends that the parenthetical included in the D001 high-TOC IGNITABLE Subcategory in the 268.40 Table Treatment Standards for Hazardous Waste be clarified." (Note: this subcategory consists of nonwastewaters only)." This parenthetical is confusing in that the land disposal restriction definition for waste waters is typically limited to aqueous waste which contains less than 1% TOC and less than 1% TSS. By definition, all high-TOC ignitable wastes do not meet this definition of wastewater. If a different definition of wastewater is intended, it has not been elucidated by EPA and should be re-proposed so that stakeholders

can understand the scope of this limitation.

RESPONSE:

The Agency disagrees with the commenter's assertion that generators should be allowed to treat high-TOC / D001 wastes on-site in unregulated storage units. The Agency believes that the required generator accumulation and storage provisions are necessary to ensure adequate protection of human health and the environment. Generators who manage high-TOC D001 wastes on-site may manage the wastes while accumulating the wastes in tanks or containers, without obtaining a permit or interim status, provided the wastes are not stored for longer than 90 days and provided the generator is in compliance with all applicable RCRA management requirements, including the accumulation and storage provisions of 40 CFR 262.34. 40 CFR 262.34(a) provides that a generator may accumulate hazardous waste on-site for 90 days or less without a permit, or without having interim status, if the waste is placed either in containers that are in compliance with subparts I, AA, BB and CC of 40 CFR part 265 and/or in tanks in compliance with subparts J, AA, BB and CC of 40 CFR part 265 (except for §§265.197 and 265.200).

Polymerization may be used to render both the reactive monomers and the catalysts in the reaction non-hazardous. In addition, other high-TOC (D001) monomers and catalysts, besides polyester/styrene monomer and MEK peroxide, that are hazardous because they exhibit the high-TOC/D001 characteristic, may be managed through polymerization. However, treatment of the characteristic hazardous waste by polymerization must result in the high-TOC ignitable waste being converted to an inert material that does not exhibit any characteristic of hazardous waste.

At this time, the Agency is limiting the definition of POLYM to include only those reactions initiated by a polymerizing component or catalyst. EPA has no data on other polymerization methods such as thermal or ultra-violet light initiated polymerization. The data you have submitted and any further data you or others submit will be evaluated and the Agency will revisit this issue in the future.

The Agency notes that, in the case of laboratory wastes, better treatment options are available to the generator. Combustion may be a better alternative for these wastes than polymerization. There are few limitations to the types of constituents that may be present in lab packs destined for incineration (i.e., no mercury or arsenic). Burning achieves complete destruction of the organic components of the wastes. However, EPA does not have data to support a finding that polymerization will result in the construction or adequate chemical reactions of the hazardous constituents in lab packs, particularly since the composition of these wastes can vary greatly.

The Agency also notes that the addition of polymerization to the methods of treatment designated as BDAT applies to characteristic (high-TOC D001) non-wastewaters only. The Agency is not designating polymerization as BDAT for any listed hazardous wastes or for any other characteristic wastes at this time. The Agency does not have sufficient data at this time to make a

determination of the applicability of polymerization as BDAT for listed hazardous wastes or other characteristic wastes.

DCN PH4P108
COMMENTER Tiara
RESPONDER JL
SUBJECT POLM
SUBJNUM 108
COMMENT

> SO Yachts, Inc. supports the proposal to add polymerization as an approved treatment technology for polyester resin. Polymerization creates a non-hazardous waste, thereby protecting human health and the environment.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the availability of this treatment method for high-TOC ignitable wastes will reduce the risks associated with these wastes and adequately protect human health and the environment.

DCN PH4P113
COMMENTER Chemical Manufacturers Assn
RESPONDER JL
SUBJECT POLM
SUBJNUM 113
COMMENT

VII. Additional Comments

A. CMA supports the Agency proposal to establish POLYM as an LDR treatment method but believes the preamble discussion unnecessarily constrains the option.

CMA believes that POLYM provides the regulated community with a cost effective, environmentally sound method of management for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. However, CMA seeks Agency clarification on language contained within the discussion that appears to unnecessarily constrain the use of POLYM

The Agency discussion (60 Fed. Reg. 43,679, August 22, 1995) states:

"POLYM requires the addition of a polymerizing component or catalyst to the discarded high-TOC D001 monomer stream intended for land disposal."

CMA requests that the Agency also acknowledge that it is possible to generate monomer D001 wastes which continue to undergo polymerization without the need for additional catalyst (in instances where catalyst is present in lower concentration than needed for commercial production, such as a bad reaction batch). Thus, the addition of a polymerizing component or catalyst to the discarded material should not be a required condition where the material is deemed capable of polymerizing fully without additional catalysts.

1. CMA suggests that the Agency define the point of generation for wastes which polymerize on a rapid time frame.

"CMA requests that the Agency determine that materials that are undergoing rapid polymerization (i.e., within a few moments of removal from the process), without catalyst addition should be evaluated as to their physical state (i.e., liquid or solid using the paint filter test) once the material has reached standard temperature and pressure. Thus, a waste which is solid within minutes of being removed from a process should be viewed as a generated solid for purposes of waste classification.

2. CMA suggests that the Agency allow POLYM for off-specification U-listed catalyst monomers which are characteristically hazardous.
In a parallel request and employing the same logic as the Agency has advanced, CMA requests that the Agency consider that off-specification monomer which would otherwise be a U-listed waste and which is listed due to a characteristic other than toxicity be eligible to employ
this treatment method as well. CMA also sees no reason why off-specification characteristic initiator cannot have monomer added and accomplish the same goal. CMA asks that the Agency apply POLYM to these wastes as well.

3. CMA suggests that the Agency not subject the storage of polymerizing wastes in 90-day areas to waste analysis plan provisions.
CMA requests that when D001 materials are left to polymerize (with or without the addition of catalysts), and such polymerization takes place in a 90 day tank or container, that this
activity be exempt from the requirement to prepare and submit a waste analysis plan to EPA Regional Administrator. (Since verification of completion of polymerization would likely involve a combination of visual, physical and procedural steps, and the number of prohibited streams treated is very limited at most facilities, i.e., a lack of variability in waste streams
eliminates much of the need for detailed waste analysis plans, the current generator requirements to characterize the treated residues under RCRA would provide adequate protection as well as the fact that in some cases the catalyst or additional polymerizing materials would be added directly to the manufacturing unit, i.e., the batch is determined to be off-spec and catalyst
and/or polymerizing materials are added directly to the process.
4. CMA suggests that the Agency allow wastes which are treated using POLYM be eligible for use as sealing agents under the debris standards.
CMA requests that the Agency consider allowing the use of the polymerized wastes in satisfying the Sealing technology option specified under the debris land disposal restrictions. If a facility is going to allow a batch of waste to polymerize, that polymer should be allowed to additionally serve the function specified in the debris rule of a polymeric agent, which will save raw material and energy otherwise required to create first-quality polymers to serve that purpose.

RESPONSE:

Polymerization may be used to render both the reactive monomers and the catalysts in the reaction non-hazardous. In addition, other high-TOC (D001) monomers and catalysts, besides polyester/styrene monomer and MEK peroxide, that are hazardous because they exhibit the high-TOC/D001 characteristic, may be managed through polymerization. If a waste monomer has sufficient amounts of catalyst mixed with it for polymerization to occur, then that process may meet the definition of POLYM. However, treatment of the characteristic hazardous waste by polymerization must result in the high-TOC ignitable waste being converted to an inert material that does not exhibit any characteristic of hazardous waste. Semi-solid materials would not achieve treatment as intended by polymerization.

The Agency notes that the addition of polymerization to the set of required methods of treatment designated as BDAT applies to characteristic (high-TOC D001) non-wastewaters only. The Agency is not designating polymerization as BDAT for any listed hazardous wastes or for any other characteristic wastes at this time. The Agency does not have sufficient data at this time to make a determination of the applicability of polymerization as BDAT for listed hazardous wastes or other characteristic wastes.

If a waste is generated under the definition of POLYM (as defined in today's rule), then the point of generation is defined as being when an inert mass that does not exhibit any characteristic of hazardous waste is produced. If a waste monomer is discarded with sufficient catalyst mixed in at the time of discard, and the mixture produces an inert mass that does not exhibit any characteristic of hazardous waste, then POLYM has taken place regardless of the amount of time it takes for that mass to be produced, within storage and accumulation regulations.

Generators who manage high-TOC D001 wastes on-site may manage the wastes while accumulating the wastes in tanks or containers, without obtaining a permit or interim status, provided the wastes are not store for longer than 90 days and provided the generator is in compliance with all applicable RCRA management requirements, including the accumulation and storage provisions of 40 CFR 262.34. 40 CFR 262.34(a) provides that a generator may accumulate hazardous waste on-site for 90 days or less without a permit, or without having interim status, if the waste is placed either in containers that are in compliance with subparts I, AA, BB and CC of 40 CFR part 265 and/or in tanks in compliance with subparts J, AA, BB and CC of 40 CFR part 265 (except for §§265.197 and 265.200).

In addition, 40 CFR 262.34(a)(4) does require generators who treat hazardous wastes on-site in tanks, containers, and/or containment buildings to comply with the waste analysis plan provisions of 40 CFR 268.7(a)(4). The Agency does not believe that this provision is overly burdensome. Generators must develop a waste analysis plan, keep a copy of the plan on-site, and must make one-time submission of the plan to EPA or an authorized state. The Agency does not believe that the development of a waste analysis plan for a generator treating high-TOC ignitable D001 wastes on-site in tanks or containers is a complicated or overly burdensome process. In addition, the

Agency believes that such a requirement does provide a necessary level of accountability on the part of hazardous waste generators. Therefore, the Agency is retaining this requirement with today's final rule.

The commenter's request that the Agency allow wastes that are treated using polymerization to be render to be in compliance with the sealing technology option specified under the debris land disposal restrictions requirements is beyond the scope of this rulemaking. At present, the Agency had no data to support the commenter's request. The Agency appreciates the commenter's request, and may revisit the issue at a future time when comments can be requested and fully considered on this topic.

DCN PH4P117
COMMENTER Boston Whaler
RESPONDER JL
SUBJECT POLYM
SUBJNUM 117
COMMENT

> The polymerization of resin can be an environmentally sound, safe, and efficient solution for the many boat builders across the country. First, the polymerization of resin can be controlled and accomplished in a safe manner. Moreover, the polymerization of resin will lessen the potential dangers and liabilities associated with waste transportation and disposal.

RESPONSE:

The Agency thanks the commenter for supporting EPA's proposal to add polymerization to the methods of treatment designated as Best Demonstrated Available Technology (BDAT) for high-TOC ignitable (D001) wastes resulting from commercial polymerization processes. The Agency agrees with the commenter that the availability of this treatment method for high-TOC ignitable wastes will reduce the risks associated with these wastes and adequately protect human health and the environment.