UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Robert Daniell, Director
Commonwealth of Kentucky
Natural Resources and Environmental Protection Cabinet
Department for Environmental Protection
Frankfort Office Park
14 Reilly Road
Frankfort, KY 40601

Dear Mr. Daniell:

Thank you for your letter of September 11, 1997 regarding the hazardous waste listing of toluene released from the American Synthetic Rubber (ASR) facility. In your letter you stated that the Kentucky Natural Resources and Environmental Protection Cabinet (the Cabinet) classified material spilled from ASR's "wet toluene" storage tank as U220 hazardous waste. You further state that ASR disputes this claim explaining that because the toluene in the wet toluene tank has been through the manufacturing process, it cannot be a U-listed waste. My staff has researched the specific questions raised in your memorandum; our responses are given below.

Question 1. Would unused toluene contaminated with 5% water be an off-specification commercial chemical product (CCP)?

An off-specification CCP is an unused material that would have been a CCP if it met specifications. See 40 CFR 261.33(b). The Environmental Protection Agency has not set exact concentrations for a material to be considered an off-specification CCP, but it is feasible that unused toluene contaminated with 5% water would be an off-specification CCP if it could not be used commercially.

Question 2. What is the difference if the same combination is not unused but continually being reused in a closed system?

There is an important regulatory distinction between a chemical that is unused and one that is continually being reused. A chemical that is unused can be considered an off-specification CCP if it is contaminated without being used for its intended purpose. For example, a CCP that becomes contaminated with water during storage would be an off-specification CCP. Conversely, a material that is continually reused is not an unused off-specification CCP if it is contaminated via normal use. In such case it would be a "spent material." Spent material is defined under 261.1(c)(1) as a used material that can no longer serve the purpose for which it was produced without processing.

A spent material that is continuously reused can regain its unused CCP status (and be subject to 40 CFR 261.33) if the material is reclaimed and requires no additional processing before it can be used beneficially (40 CFR 261.3(c)(2)). Prior to the point when the chemical is suitable for reintroduction, the used chemical is considered a spent material being reclaimed and is therefore regulated as a solid waste under 40 CFR 261.2(c). This waste could become a hazardous waste if it exhibits any of the characteristics of a hazardous waste, under 40 CFR 261.20 through 261.24, or if EPA lists it as a hazardous waste under 40 CFR 261.31 or 261.32.

Question 3. Is the wet toluene a reclaimed material under 40 CFR 261.3(c)(2)? If not. would it become a reclaimed material, and thus a CCP, once the 5% water is removed and the material is ready to be fed back into the process?

As we understand ASR`s process, the toluene from the wet toluene storage tank is processed to remove all water before being reintroduced into the production process. In other words. the toluene from the wet toluene storage tank requires additional processing before it can be beneficially used. Therefore, it is not a reclaimed material under 40 CFR 261.3(c)(2) and the released toluene is not a U220 waste.

Once the 5% water is removed and the toluene does not have to be further processed for beneficial use, the toluene would become a reclaimed material not subject to regulation under the terms of 40 CFR 261.3(c)(2)(1). If this "dry" toluene was discarded as described in 40 CFR 261.2(a)(2), it would be a U220 waste.

In addition to the above questions, Ahad Chowdhury from your Division of Waste Management has brought to our attention that the toluene bought from a supplier is dried before it is used in the main manufacturing process. This "virgin" toluene is an unused CCP and subject to 40 CFR 261.33. because it has not been used for its intended purpose.

You should also be aware that the toluene spilled from the storage tank may meet the F005 spent solvent hazardous waste listing (40 CFR 261.31). We have received some information from Mr. Chowdhury explaining that ASR claims that the toluene does not meet the spent solvent listing criteria (i.e. the toluene is used as a chain transfer agent), but we do not have sufficient information on the use of toluene in ASR's process to confirm or reject these claims.

The toluene released from the wet toluene storage tank may also exhibit a hazardous characteristic (such as ignitability). You can consult 40 CFR 261.21-261.24 to see if the wet toluene is hazardous for a characteristic.

If we can be of any further assistance, please do not hesitate to contact Rick Brandes at (703) 308-8871.

Sincerely,

Elizabeth A. Cotsworth, Acting
Director
Office of Solid Waste

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601

September 11, 1997

United States Environmental Protection Agency
Office of Solid Waste
401 M Street SW
Washington D.C. 20460
Attn: Elizabeth Cotsworth, Acting Director

Re: Request for Regulatory Clarification

Dear Ms. Cotsworth:

The Kentucky Natural Resources and Environmental Protection Cabinet (the Cabinet) has encountered an issue concerning the hazardous waste listings on which we request clarification. On November 3, 1996, a facility called American Synthetic Rubber (ASR) had a release of toluene from its "wet toluene" storage tank. The material migrated from a crack in the secondary containment area into soil. In remediating the spill, ASR excavated 75-100 cubic yards (ASR's estimate) of toluene-contaminated soil. The Cabinet informed ASR that material in the wet toluene tank would, when discarded or spilled, be classified as a U-listed waste, specifically U220. Therefore, the soil containing the waste would itself be a U-listed waste. ASR disposed of the soil as a U-listed waste, but disputes the Cabinet's classification.

In ASR's rubber-making process, commercial grade toluene is fed into the production process and combined with other raw ingredients. Several steps later, steam and hot water are added to vaporize the remaining toluene and other volatile materials. Vapors from this operation are condensed, and the organic phase -- consisting of toluene, some remaining production water, and certain process ingredients -- is then transferred to a "wet toluene" storage tank. The wet toluene, which at this point is about 95% pure, is dried to remove all water and then stored for subsequent reintroduction into the process as a raw material.

ASR claims that because the toluene in the wet toluene tank has been through the manufacturing process at least once, it has been "used for its intended purposes," and thus cannot be a U-listed waste. The company cites a statement from the Federal Register that "the not apply to chemicals that have been used for their intended purpose." 54 CR 31335, 31336 (July 28, 1989). ASR bolsters its argument with language from several EPA directives, such as this one: "This listing [the P listing, like the U listing] only applies to the unused commercial product when discarded as the pure grade, technical grade, or where it is the sole active ingredient in a formulation. Since the product has been used, it would not be considered the listed hazardous waste." EPA Directive no. 9444.1986(29) (emphasis in original).

The Cabinet's Division of Waste Management (the Division) feels uncomfortable with ASR's position for several reasons. First, a material that is 95% toluene is very pure. Toluene is the sole active ingredient. The contamination is mostly water which is evaporated ("dried") before the toluene is fed directly back into the process as a raw material. A mixture of 95 % toluene and 5 % water could be considered a technical grade solvent, at least for some purposes. The Cabinet notes, in this context, that EPA recognizes that a product could contain de minimis amounts of contamination, and still be considered to be technical grade. However, the Agency has not specified a concentration for pure grade. OSW Directive 9444.1994(05). There is also language from another OSW Directive that "[d]ilution of a commercial chemical product with water is not considered use of a commercial chemical product in this case" (excess quality assurance standards). EPA Directive no. 9444.1989(03).

Next, the U listings apply not only to commercial chemical products (CCPs) but to "manufacturing chemical intermediates or off-specification CCPs." 40 CFR 261.33(f)(401 KAR 31:040 Section 4(6)). Cabinet attorneys could find no explanation or definition of the term "manufacturing chemical intermediate," nor could the RCRA hotline. The term "off-specification" CCP is not defined either, although various EPA directives label different materials as off-specification CCPs, apparently under the principle that they know one when they see it. For instance, another directive considers the situation when one CCP is contaminated with another one: "This waste is an off-specification commercial chemical product and as such is a listed hazardous waste." 9441.1989(49).

Furthermore, EPA's purpose in exempting used CCPs from classification as hazardous waste was the purely practical one of limiting the universe of hazardous wastes. An early directive states that "commercial chemical products. . . are generally products containing high concentrations of toxic chemicals. . . . Thus, there is no question that such materials are likely to meet the criteria for listing as hazardous wastes. Manufacturing process wastes, on the other hand, generally contain only low levels of these materials. . . " Policy memorandum 9444.1981(01). Of course, that is not the case here, as the material was 95% pure.

EPA policy memoranda offer conflicting interpretations of 40 CFR 261.33(f). In an example cited OSW Directive 9441.1990(13c), mercury from a broken thermometer had leaked onto the ground. The directive states: "The P- and U- lists of discarded commercial chemical products and spill residues apply only to unused materials; since in this case the mercury in the thermometer had been used, the U151 listing of Section 261.33 does not apply." The mercury would instead be a spent material, and would be classified as a hazardous waste only if it a hazardous characteristic.

However, OSW Directive 9444.1992(07) addressed the scenario in which creosote from used railroad ties was reclaimed and used as a wood preservative. When the creosote leaked into the soil, the Directive states, the contaminated soil would be U051: "The recovered creosote has been reclaimed from the railroad ties and requires no additional processing before it can be beneficially used (40 CFR 261.3(c)(2))." This regulation provides that materials that are reclaimed from solid wastes and used beneficially are not solid wastes. This would imply, in a case such as ASR's, that they return to being CCPs.

The Cabinet believes that -the questions can be boiled down to:

1. Would unused toluene contaminated with 5% water be an off-specification CCP?

2. What is the difference if the same combination is not unused but continually being reused in a closed system?

3. Is the wet toluene a reclaimed material under 40 CFR 261.3(c)(2)? If not, would it become a reclaimed material, and thus a CCP, once the 5% water is removed and the material is ready to be fed back into the process?

The Cabinet would appreciate any light your office could shed on this aspect of the hazardous waste listings. Please feel free to call Michael Welch, Manager, Hazardous Waste Branch, (502) 564-6716, or Lauren Anderson, Attorney, (502) 564-5576, if you need to discuss this matter further.

Sincerely,

Robert Daniell
Director

cc: Narindar Kumar, EPA Region XV
J.L. McGraw, American Synthetic Rubber
Carolyn Brown, Greenebaum Doll & McDonald