



MANAGEMENT OF ONSITE DISTILLATION UNITS AND STILL BOTTOMS

North Dakota Department of Environmental Quality

Division of Waste Management

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The Department recognizes the use of onsite distillation for recycling of waste solvent as an effective method of reducing hazardous waste generation. It is also effective in terms of reducing the amount of dollars spent for new solvent purchased and costs for disposal of spent solvent. The Department has noticed that there is some confusion on determining the amount of hazardous waste generated when stills are used and how to dispose of the still bottoms. This management outline has been developed to assist generators in making proper waste management decisions regarding these wastes.

Hazardous Waste Determination Based on Generator Status. A generator must determine his generator status based on the total amount of hazardous waste generated at the facility in a calendar month. A generator need not include spent materials that have been reclaimed and subsequently reused onsite in the quantity determination, provided they have already been counted once within that month. However, wastes which are continuously reclaimed in a still or solvent cleaning machine onsite without intervening storage and which are reused onsite, are not required to be counted in determining the generator's status.

The still bottoms are considered to be a newly generated waste. The accumulation time for still bottoms begins when the still bottoms are removed from the distillation unit. Still bottoms are considered hazardous unless: (1) the still bottoms do not exhibit any of the characteristics of hazardous waste (ignitability, corrosivity, reactivity and toxicity); and (2) in the case of a listed hazardous waste or wastes derived from a listed hazardous waste, the still bottoms have been excluded from regulation. You should note that when a hazardous waste is listed only because it exhibits a characteristic of hazardous waste (for example, F003 is listed because it exhibits the characteristic of ignitability) and the waste no longer exhibits the characteristic, it is not considered a hazardous waste.

The following examples may help to illustrate how to determine the amount of hazardous waste generated when using a still:

1. Facility "A" uses solvents in a degreasing process yielding 500 kilograms (1100 pounds) of spent solvent in a month. If the spent solvent is to be reclaimed onsite and is not stored or accumulated prior to reclamation (distillation), this waste will not be counted in the generator's monthly totals. The 90 kilograms (198 pounds) of still bottoms from the distillation process are hazardous waste and must be counted since they were not included in the original amount of hazardous waste generated for the month. Consequently, if facility "A" generates no other hazardous waste, then facility "A" would not be a small quantity generator of 100 to 1000 kilograms (220 to 2200 pounds) during the month in question but a conditionally exempt small quantity generator (less than 100 kg (220 pounds) per month).

If the spent solvent is stored or accumulated prior to distillation, the 500 kilograms (1100 pounds) of spent solvent will be counted in "A's" hazardous waste totals for the month in which it was generated. The still bottoms will also be regulated as a hazardous waste and will be counted against the monthly generation as a new waste. The regenerated (distilled) solvent will remain unregulated just like the virgin material.

- 2 Facility "B" generates 120 kilograms of hazardous spent solvent in one month. Facility "B" stores the spent solvent before distillation, and then reuses the regenerated solvent until spent again and then distills it once again, all within one month. The spent solvent would be counted because it was stored before reclamation, but it would only be counted once. The still bottoms would also be counted against the monthly totals as they are generated. Facility "B" would be a 100 to 1000 kilogram (220 to 2200 pound) per month small quantity generator. If the spent solvent were stored for more than 180 days before reclamation, "B" would need a storage permit.

The still bottoms generated from the distillation of F003 (xylene, acetone, etc.) solvents would be considered hazardous only if it exhibits the characteristic of ignitability and/or fails the characteristic of toxicity which is normally for metals (chromium, lead, etc.).

The still bottoms generated from the distillation of F005 (methyl ethyl ketone, etc.) solvents are listed hazardous waste whether they exhibit the characteristic of ignitability or not and must be disposed as a listed hazardous waste.

Do not mix F003 and F005 wastes prior to distillation as the resultant still bottoms would be classified as a listed hazardous waste even if the still bottoms do not exhibit any of the characteristics.

Management Prior to Disposal. Both spent solvents and still bottoms should be properly stored in marked and labeled containers prior to disposal. Many spent solvents are considered hazardous waste even if they are intended to be recycled. Therefore, to meet applicable regulations, spent solvents waiting recycling should be labeled as spent solvents or solvent waiting recycling. Still bottoms should be clearly labeled as still bottoms or as still residue.

If either the spent solvents or the still bottoms are hazardous waste awaiting disposal, these should be labeled with the words "hazardous waste" and have an accumulation start date on when the container was placed into storage. For wastes in storage longer than seven (7) calendar days, a container inspection logbook is required. The inspection is to ensure that the container or containers in storage are closed, labeled, dated and not leaking. An example container inspection logsheet is available in the back of the Hazardous Waste Compliance Guide, at the Department's Internet Website or directly from the Department.

Disposal. Disposal of the still bottoms depends on the generator classification.

Conditionally exempt small quantity generators may dispose of their hazardous wastes, such as spent solvents or still bottoms, in a permitted municipal or industrial landfill contingent upon approval by the local landfill authorities. All landfills are prohibited from accepting liquids for disposal, therefore, spent solvents are likely not to be accepted.

Small quantity generators and large quantity generators are required to containerize and transport their wastes to a permitted hazardous waste treatment, storage or disposal facility. The Department maintains lists of companies that provide both transportation and disposal services.