

This chapter presents examples that illustrate the application of the solid waste definition rule to specific recycling practices. The examples follow the format described in Chapter 1 and are organized by recycling activity and types of hazardous materials. There are five sections on types of recycling activities:

1. Use constituting disposal;
2. Burning wastes or waste-derived fuels for energy recovery, or using wastes to produce a fuel;
3. Reclamation; and
4. Use or reuse of secondary materials as ingredients or feedstocks in production processes, as effective substitutes for commercial products, or in closed-loop recycling processes.

In addition, a fifth section ("Other") provides examples of the following cases:

- o Activities that do not constitute solid waste recycling;
- o Recycling of materials excluded from the definition of solid waste under 40 CFR 261.4 (b); and
- o Recycling of inherently waste-like materials.

Within these sections, the examples appear in the following order:

1. Spent materials (that are contaminated such that they serve their original purpose);
2. Sludges (residues from pollution control or treatment operations);
3. By-products (residual materials that are not in the other categories);
4. Scrap metals (bits and pieces of metal parts);
5. Mixed materials (mixtures of the above materials);
6. Materials that are not secondary materials; and
7. Secondary materials that are not hazardous.

The index contained in Chapter 3 provides additional assistance in locating examples of particular recycling practices.

We emphasize that all statements regarding the regulatory status of secondary materials or recycling practices described in this document are based strictly on the examples illustrated. Slight changes in any given example could alter its regulatory status. Therefore, users of this manual who wish to draw conclusions about the regulatory status of a particular recycling activity should be certain that the examples relied upon are completely analogous to the case in question. Further, the reader should not assume that descriptions of the wastes as listed, characteristic, or non-hazardous in the examples would apply to all similar wastes. These classifications are stated as assumptions in the examples, and each material of interest to the reader should be evaluated to determine whether it falls within the scope of a listing or whether it exhibits one of the characteristics of a hazardous waste.

USE CONSTITUTING DISPOSAL - SPENT MATERIAL 1

Description of Activity:

An acid etching solution (a spent material exhibiting the characteristic of corrosivity) is reclaimed for its zinc content. The zinc (which does not exhibit any hazardous waste characteristics) is then used in a fertilizer that also does not exhibit any hazardous waste characteristics. The recycler uses the fertilizer on his own land but does not market it to the general public.

What is the status of the etching solution?

Questions:

1. Is the material that is recycled a secondary material?  
 yes                     no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
 yes                     no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
 yes                     no  
If yes, the material is not a solid waste.  
If no, go on to question (4).
4. Is the material inherently waste-like (see the list in Exhibit 4)?  
 yes                     no  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
5. Does the activity serve a beneficial use?  
 yes                     no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?  
 yes                     no  
If yes, go on to question (6a).  
If no, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?  
 yes                     no  
If yes, go on to question (7).  
If no, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
 yes                     no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
7. Is the material placed on the ground or used in a product that is placed on the ground?  
 yes                     no  
If yes, go on to question (7a).  
If no, go on to question (8).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
 yes                     no  
If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?  
 yes                     no  
If yes, go on to question (8a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes  no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes  no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes  no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

2. The generator of the spent etching solution is subject to requirements under 40 CFR 262. Transporters of the spent etching solution are subject to requirements under 40 CFR 263. Generators recycling the spent etching solution on-site, off-site recyclers and other parties handling the spent etching solution prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent etching solution for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Residues from recycling the spent etching solution must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

#### Discussion:

Because material with value -- the zinc -- is recovered from the etching solution, the activity is classified as reclamation. However, the reclamation step is part of a recycling process that ends with the zinc being placed on the ground. Because the ultimate step is use constituting disposal, the etching solution is a solid waste and is subject to RCRA Subtitle C regulation. (Note: Because it is a hazardous spent material that is reclaimed, the etching solution would be a solid waste even if the ultimate use of the zinc was not placement on the land.)

#### See Also:

Other - Non-Secondary Material 7  
Other - Non-Hazardous Secondary Material 3  
Other - Non-Hazardous Secondary Material 4  
Reclamation - Spent Material 13

USE CONSTITUTING DISPOSAL - SPENT MATERIAL 2

Description of Activity:

Sulfuric acid from metal finishing operations (a spent material exhibiting the characteristic of corrosivity) is used as an ingredient in fertilizers that are marketed to the general public. The fertilizers themselves do not exhibit any hazardous waste characteristics.

What is the status of the sulfuric acid?

Questions:

1. Is the material that is recycled a secondary material?  
 yes             no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
 yes             no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
 yes             no  
If yes, the material is not a solid waste.  
If no, go on to question (4).
4. Is the material inherently waste-like (see the list in Exhibit 4)?  
 yes             no  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
5. Does the activity serve a beneficial use?  
 yes             no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?  
 yes             no  
If yes, go on to question (6a).  
If no, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?  
 yes             no  
If yes, go on to question (7).  
If no, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
 yes             no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
7. Is the material placed on the ground or used in a product that is placed on the ground?  
 yes             no  
If yes, go on to question (7a).  
If no, go on to question (8).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
 yes             no  
If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?  
 yes             no  
If yes, go on to question (8a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes                       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes                       no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes                       no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

2. The generator of the sulfuric acid is subject to requirements under 40 CFR 262. Transporters of the sulfuric acid are subject to requirements under 40 CFR 263. Generators recycling acid on-site, off-site recyclers and other parties handling the acid prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the sulfuric acid for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Residues from recycling must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

#### Discussion:

Because the sulfuric acid is incorporated into a product that is applied to the ground, this activity is classified as use constituting disposal. Hence the acids are solid wastes, and are subject to RCRA Subtitle C regulation.

See Also:                      Use Constituting Disposal - Non-Hazardous Secondary Material 1

USE CONSTITUTING DISPOSAL - SLUDGE 1

Description of Activity:

Toxic metal-containing sludges from the chemical industry (sludges exhibiting the characteristic of EP-toxicity) go through a reclamation process that results in a soil-like solid that can be used for landfill cover material, levees, berms, or fertilizer. This product does not exhibit hazardous waste characteristics.

What is the status of the sludges?

Questions:

1. Is the material that is recycled a secondary material?  
 yes                     no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
 yes                     no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
 yes                     no  
If yes, the material is not a solid waste.  
If no, go on to question (4).
4. Is the material inherently waste-like (see the list in Exhibit 4)?  
 yes                     no  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
5. Does the activity serve a beneficial use?  
 yes                     no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?  
 yes                     no  
If yes, go on to question (6a).  
If no, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?  
 yes                     no  
If yes, go on to question (7).  
If no, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
 yes                     no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
7. Is the material placed on the ground or used in a product that is placed on the ground?  
 yes                     no  
If yes, go on to question (7a).  
If no, go on to question (8).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
 yes                     no  
If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?  
 yes                     no  
If yes, go on to question (8a).  
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes                       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes                       no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes                       no

If yes, the material is not regulated.

If no, the material is regulated. See item (2), below.

2. The generator of the sludges is subject to requirements under 40 CFR 262. Transporters of the sludges are subject to requirements under 40 CFR 263. Generators recycling the sludges on-site, off-site recyclers and other parties handling the sludges prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the sludges for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Residues from recycling the sludges must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

#### Discussion:

Although the material is reclaimed, the ultimate destination of the sludges is to be placed on the ground for beneficial use. Hence the activity is use constituting disposal, even though the product of reclamation does not exhibit hazardous waste characteristics. Materials that are used in a manner constituting disposal are solid wastes, and are subject to RCRA Subtitle C regulation.

See Also:                      Other - Non-Hazardous Secondary Material 2

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USE CONSTITUTING DISPOSAL - SLUDGE 2

Description of Activity:

Flue dusts from metal refining operations (a sludge exhibiting the characteristic of EP-toxicity) are reclaimed for their metals content. The metals, which also exhibit EP-toxicity, are used as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is marketed to the general public.

What is the status of the flue dusts?

Questions:

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1. Is the material that is recycled a secondary material?  
 yes             no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
  2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
 yes             no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
  3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
 yes             no  
If yes, the material is not a solid waste.  
If no, go on to question (4).
  4. Is the material inherently waste-like (see the list in Exhibit 4)?  
 yes             no  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
  5. Does the activity serve a beneficial use?  
 yes             no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?  
 yes             no  
If yes, go on to question (6a).  
If no, go on to question (6b).
  - 6a. Is at least 75 percent of the material recycled within one calendar year?  
 yes             no  
If yes, go on to question (7).  
If no, go on to question (6b).
  - 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
 yes             no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
7. Is the material placed on the ground or used in a product that is placed on the ground?  
 yes             no  
If yes, go on to question (7a).  
If no, go on to question (8).
  - 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
 yes             no  
If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?  
 yes             no  
If yes, go on to question (8a).  
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes  no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes  no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes  no

If yes, the material is not regulated.

If no, the material is regulated. See item (2), below.

2. The generator of the flue dusts is subject to requirements under 40 CFR 262. Transporters of the flue dusts are subject to requirements under 40 CFR 263. Generators recycling the flue dusts on-site, off-site recyclers and other parties handling the flue dusts prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the flue dusts for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The process used to reclaim the metals from the flue dusts is not regulated. Residues from recycling the flue dusts must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

#### Discussion:

When reclaimed, a characteristic sludge ordinarily is not defined as a solid waste. However, the reclamation step is part of a recycling process that ends with the material being placed on the ground. Because the ultimate step is use constituting disposal, the material is a solid waste and is subject to RCRA Subtitle C regulation.

#### See Also:

Use Constituting Disposal - Sludge 3  
Use Constituting Disposal - Sludge 4  
Use Constituting Disposal - Sludge 5

USE CONSTITUTING DISPOSAL - SLUDGE 3

Description of Activity:

Flue dusts from metal refining operations (a sludge exhibiting the characteristic of EP-toxicity) are reclaimed for their metals content. The metals, which also exhibit EP-toxicity, are used as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is marketed to the general public.

What is the status of the recovered metals?

Questions:

1. Is the material that is recycled a secondary material?  
 yes                     no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
 yes                     no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
 yes                     no  
If yes, the material is not a solid waste.  
If no, go on to question (4).
4. Is the material inherently waste-like (see the list in Exhibit 4)?  
 yes                     no  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
5. Does the activity serve a beneficial use?  
 yes                     no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?  
 yes                     no  
If yes, go on to question (6a).  
If no, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?  
 yes                     no  
If yes, go on to question (7).  
If no, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
 yes                     no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
7. Is the material placed on the ground or used in a product that is placed on the ground?  
 yes                     no  
If yes, go on to question (7a).  
If no, go on to question (8).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
 yes                     no  
If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?  
 yes                     no  
If yes, go on to question (8a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes                       no

If yes, the material is not a solid waste. If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste. If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes                       no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes                       no

If yes, the material is not regulated.

If no, the material is regulated. See item (2), below.

2. The generator of the metals (the person who reclaims the flue dust to recover the metals) is subject to requirements under 40 CFR 262. Transporters of the metals are subject to requirements under 40 CFR 263. Persons who manufacture fertilizer on-site, off-site fertilizer manufacturers and other parties handling the metals prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the metals for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The process of incorporating the metals into the fertilizer is not itself regulated. Any residues from recycling must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

#### Discussion:

The metals are a product of the reclamation of a characteristic sludge. Such products are not solid wastes themselves unless they exhibit a hazardous waste characteristic and (a) are placed on the ground in a manner constituting disposal or (b) are burned as a fuel. In this case, the recycling process ends with the material being placed on the ground. Because the ultimate step is use constituting disposal, and the metals exhibit a hazardous waste characteristic, the metals are a solid waste and are subject to RCRA Subtitle C regulation.

See Also:                      Use Constituting Disposal - Sludge 2  
   Use Constituting Disposal - Sludge 4  
   Use Constituting Disposal - Sludge 5

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USE CONSTITUTING DISPOSAL - SLUDGE 4

Description of Activity:

Flue dusts from metal refining operations (a sludge exhibiting the characteristic of EP-toxicity) are reclaimed for their metals content. The metals, which also exhibit EP-toxicity, are used as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is marketed to the general public.

What is the status of the fertilizer?

Questions:

1. Is the material that is recycled a secondary material?  
 yes                     no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
 yes                     no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
 yes                     no  
If yes, the material is not a solid waste.  
If no, go on to question (4).
4. Is the material inherently waste-like (see the list in Exhibit 4)?  
 yes                     no  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
5. Does the activity serve a beneficial use?  
 yes                     no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?  
 yes                     no  
If yes, go on to question (6a).  
If no, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?  
 yes                     no  
If yes, go on to question (7).  
If no, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
 yes                     no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
7. Is the material placed on the ground or used in a product that is placed on the ground?  
 yes                     no  
If yes, go on to question (7a).  
If no, go on to question (8).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
 yes                     no  
If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?  
 yes                     no  
If yes, go on to question (8a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes                       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes                       no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes                       no

If yes, the material is not regulated.

If no, the material is regulated. See item (2), below.

Discussion:

The fertilizer is a waste-derived product that exhibits hazardous waste characteristics. Because it is hazardous and is placed on the land, use of the fertilizer is use constituting disposal. Therefore, the fertilizer is a solid waste. However, because the fertilizer is sold for use by the general public, it is currently exempt from RCRA Subtitle C regulation (see 40 CFR Part 266.20(b)).

See Also:

Use Constituting Disposal - Sludge 2  
Use Constituting Disposal - Sludge 3  
Use Constituting Disposal - Sludge 5

USE CONSTITUTING DISPOSAL - SLUDGE 5

Description of Activity:

Flue dusts from metal refining operations (a sludge exhibiting the characteristic of EP-toxicity) are reclaimed for their metals content. The metals, which also exhibit EP-toxicity, are used by the refiner as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is not marketed to the general public, but is used by the refiner as a fertilizer on land the refiner owns.

What is the status of the fertilizer?

Questions:

1. Is the material that is recycled a secondary material?  
 yes             no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
 yes             no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
 yes             no  
If yes, the material is not a solid waste.  
If no, go on to question (4).
4. Is the material inherently waste-like (see the list in Exhibit 4)?  
 yes             no  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
5. Does the activity serve a beneficial use?  
 yes             no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?  
 yes             no  
If yes, go on to question (6a).  
If no, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?  
 yes             no  
If yes, go on to question (7).  
If no, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
 yes             no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
7. Is the material placed on the ground or used in a product that is placed on the ground?  
 yes             no  
If yes; go on to question (7a).  
If no, go on to question (8).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
 yes             no  
If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?  
 yes             no  
If yes, go on to question (8a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes  no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes  no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes  no

If yes, the material is not regulated.

If no, the material is regulated. See item (2), below.

2. The generator of the fertilizer (i.e., the refiner) is subject to requirements under 40 CFR 262. Transporters of the fertilizer are subject to requirements under 40 CFR 263. The fertilizer manufacturer who uses the fertilizer on-site or off-site, and other parties handling the fertilizer prior to application to the land may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. The generator who stores the fertilizer for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Persons who apply the fertilizer are subject to all applicable regulations governing use constituting disposal under 40 CFR 264 and 265 Subparts A through N. Regulations applicable to recyclable materials used in a manner constituting disposal are summarized under 40 CFR 266 Subpart C.

#### Discussion:

The fertilizer is a waste-derived product that exhibits a hazardous waste characteristic. Because it is hazardous and placed on the land, use of the fertilizer is use constituting disposal. Therefore, the fertilizer is a solid waste. Because it is not sold for use by the general public, it is subject to RCRA Subtitle C regulation.

#### See Also:

Use Constituting Disposal - Sludge 2  
Use Constituting Disposal - Sludge 3  
Use Constituting Disposal - Sludge 4



USE CONSTITUTING DISPOSAL - SLUDGE 6

Description of Activity:

A sludge containing heavy metals such as zinc, cadmium, copper, nickel, and lead from a municipal wastewater treatment plant (a sludge exhibiting the characteristic of EP-toxicity) is sold to the public to be applied to cropland as a fertilizer.

What is the status of the sludge?

Questions:

1. Is the material that is recycled a secondary material?  
 yes             no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
 yes             no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
 yes             no  
If yes, the material is not a solid waste.  
If no, go on to question (4).
4. Is the material inherently waste-like (see the list in Exhibit 4)?  
 yes             no  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
5. Does the activity serve a beneficial use?  
 yes             no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?  
 yes             no  
If yes, go on to question (6a).  
If no, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?  
 yes             no  
If yes, go on to question (7).  
If no, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
 yes             no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
7. Is the material placed on the ground or used in a product that is placed on the ground?  
 yes             no  
If yes, go on to question (7a).  
If no, go on to question (8).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
 yes             no  
If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?  
 yes             no  
If yes, go on to question (8a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes                       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes                       no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes                       no

If yes, the material is not regulated.

If no, the material is regulated. See item (2), below.

#### Discussion:

Because the sludge is applied to the ground, this activity is classified as use constituting disposal. Therefore, the sludge is defined as a solid and hazardous waste. However, the sludge is not subject to RCRA Subtitle C regulation, since EPA has exempted from regulation materials sold as commercial fertilizers to the general public (see 40 CFR Part 266.20(b)).

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USE CONSTITUTING DISPOSAL - BY-PRODUCT 1

Description of Activity:

Brass dross skimmings (a by-product exhibiting the characteristic of EP-toxicity) go through a processor which separates the metals from the oxides. The oxides (which exhibit EP-toxicity) are then sold to a fertilizer company that uses them as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is sold to the general public. The metals are sold to a secondary smelter for recovery of copper and zinc.

What is the status of the dross skimmings?

Questions:

1. Is the material that is recycled a secondary material?  
 yes                       no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
 yes                       no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
 yes                       no  
If yes, the material is not a solid waste.  
If no, go on to question (4).
4. Is the material inherently waste-like (see the list in Exhibit 4)?  
 yes                       no  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
5. Does the activity serve a beneficial use?  
 yes                       no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?  
 yes                       no  
If yes, go on to question (6a).  
If no, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?  
 yes                       no  
If yes, go on to question (7).  
If no, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
 yes                       no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
7. Is the material placed on the ground or used in a product that is placed on the ground?  
 yes                       no  
If yes, go on to question (7a).  
If no, go on to question (8).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
 yes                       no  
If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?  
 yes                       no  
If yes, go on to question (8a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes  no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.

If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes  no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes  no

If yes, the material is not regulated.

If no, the material is regulated. See item (2), below.

2. The generator of the dross skimmings is subject to requirements under 40 CFR 262. Transporters of the dross skimmings are subject to requirements under 40 CFR 263. Generators recycling the dross skimmings on-site, off-site recyclers and other parties handling the dross skimmings prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the dross skimmings for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Residues from recycling the dross skimmings must be managed as hazardous wastes if they themselves exhibit any hazardous characteristics.

#### Discussion:

Separation of the brass dross skimmings into oxides and metals is a reclamation process. When reclaimed, a characteristic by-product ordinarily is not defined as a solid waste. However, the reclamation step is part of a recycling process that ends with the oxides being placed on the ground. Because the ultimate use of the oxides will involve use constituting disposal, the brass dross skimmings are solid wastes and are subject to RCRA Subtitle C regulation.

See Also: Reclamation - By-Product 1  
Use Constituting Disposal - By-Product 2  
Use Constituting Disposal - By-Product 3

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USE CONSTITUTING DISPOSAL - BY-PRODUCT 2

Description of Activity:

Brass dross skimmings (a by-product exhibiting the characteristic of EP-toxicity) go through a processor which separates the metals from the oxides. The oxides (which exhibit EP-toxicity) are then sold to a fertilizer company that uses them as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is sold to the general public. The metals are sold to a secondary smelter for recovery of copper and zinc.

What is the status of the fertilizer?

Questions:

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1. Is the material that is recycled a secondary material?  
 yes             no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
  2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
 yes             no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
  3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
 yes             no  
If yes, the material is not a solid waste.  
If no, go on to question (4).
  4. Is the material inherently waste-like (see the list in Exhibit 4)?  
 yes             no  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
  5. Does the activity serve a beneficial use?  
 yes             no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?  
 yes             no  
If yes, go on to question (6a).  
If no, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?  
 yes             no  
If yes, go on to question (7).  
If no, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
 yes             no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
7. Is the material placed on the ground or used in a product that is placed on the ground?  
 yes             no  
If yes, go on to question (7a).  
If no, go on to question (8).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
 yes             no  
If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?  
 yes             no  
If yes, go on to question (8a).  
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes                       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes                       no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes                       no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

#### Discussion:

The fertilizer is a waste-derived product that exhibits a hazardous waste characteristic. Because it is hazardous and is placed on the land, use of the fertilizer is defined as use constituting disposal. Therefore, the fertilizer is a solid waste. However, because the fertilizer is sold for use by the general public, it is exempt from RCRA Subtitle C regulation (see 40 CFR Part 266.20(b)).

#### See Also:

Reclamation - By-Product 1  
Use Constituting Disposal - By-Product 1  
Use Constituting Disposal - By-Product 3

USE CONSTITUTING DISPOSAL - BY-PRODUCT 3

Description of Activity:

Brass dross skimmings (a by-product exhibiting the characteristic of EP-toxicity) go through a processor which separates the metals from the oxides. The oxides (which exhibit EP-toxicity) are then sold to a fertilizer company that uses them as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is sold to the general public. The metals are sold to a secondary smelter for recovery of copper and zinc.

What is the status of the oxides?

Questions:

1. Is the material that is recycled a secondary material?

yes                     no

If yes, go on to question (2).  
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

yes                     no

If yes, go on to question (3).  
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

yes                     no

If yes, the material is not a solid waste.  
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

yes                     no

If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).

5. Does the activity serve a beneficial use?

yes                     no

If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

yes                     no

If yes, go on to question (6a).  
If no, go on to question (6b).

- 6a. Is at least 75 percent of the material recycled within one calendar year?

yes                     no

If yes, go on to question (7).  
If no, go on to question (6b).

- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

yes                     no

If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

yes                     no

If yes, go on to question (7a).  
If no, go on to question (8).

- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

yes                     no

If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

yes                     no

If yes, go on to question (8a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes                       no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

- as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),
- as an effective substitute for commercial products in a particular function or application, or
- as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes                       no

If yes, the activity is reclamation. Go on to question (10a).  
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

- a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),
- a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or
- a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.  
If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes                       no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

2. The generator of the oxides (the person who separates the oxides from the metals) is subject to requirements under 40 CFR 262. Transporters of the oxides are subject to requirements under 40 CFR 263. Generators recycling the oxides on-site, off-site recyclers and other parties handling the oxides prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the oxides for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The process of incorporating the oxides into the fertilizer is not itself regulated. Residues from recycling the oxides must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

#### Discussion:

Separation of the brass dross skimmings into oxides and metals is a reclamation process. When reclaimed, a characteristic by-product ordinarily is not defined as a solid waste. However, the reclamation step is part of a recycling process that ends with the oxides being placed on the ground. Because the ultimate use of the oxides will involve use constituting disposal, and the oxides exhibit a hazardous waste characteristic, the oxides are solid wastes and are subject to RCRA Subtitle C regulation.

#### See Also:

Reclamation - By-Product 1  
Use Constituting Disposal - By-Product 1  
Use Constituting Disposal - By-Product 2

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USE CONSTITUTING DISPOSAL - BY-PRODUCT 4

Description of Activity:

Amorphous polypropylene residues (by-products exhibiting the characteristic of ignitability) go through a processor that extracts residual solvents for any reuse as degreasers. The polymeric residues, which do not exhibit hazardous waste characteristics, are blended with asphaltic materials to make (a more crack-resistant) asphalt for sale. The asphalt also does not exhibit any hazardous waste characteristics.

What is the status of the original polypropylene residues?

Questions:

1. Is the material that is recycled a secondary material?  
 yes                       no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
 yes                       no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
 yes                       no  
If yes, the material is not a solid waste.  
If no, go on to question (4).
4. Is the material inherently waste-like (see the list in Exhibit 4)?  
 yes                       no  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
5. Does the activity serve a beneficial use?  
 yes                       no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?  
 yes                       no  
If yes, go on to question (6a).  
If no, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?  
 yes                       no  
If yes, go on to question (7).  
If no, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
 yes                       no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
7. Is the material placed on the ground or used in a product that is placed on the ground?  
 yes                       no  
If yes, go on to question (7a).  
If no, go on to question (8).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
 yes                       no  
If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?  
 yes                       no  
If yes, go on to question (8a).  
If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes  no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes  no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes  no

If yes, the material is not regulated.

If no, the material is regulated. See item (2), below.

2. The generator of the sludges is subject to requirements under 40 CFR 262. Transporters of the sludges are subject to requirements under 40 CFR 263. Generators recycling the sludges on-site, off-site recyclers and other parties handling the sludges prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the sludges for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the sludges must be managed as hazardous wastes.

#### Discussion:

Because material with value -- mercury -- is recovered from the waste, the process is classified as reclamation. Listed by-products that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.

USE CONSTITUTING DISTICAL - NON-HAZARDOUS SECONDARY MATERIAL 1

Description of Activity:

Sulfuric acid from metal finishing operations (a spent material exhibiting the characteristic of corrosivity) is used as an ingredient in fertilizers that are marketed to the general public. The fertilizers themselves do not exhibit hazardous waste characteristics.

What is the status of the fertilizer?

Questions:

1. Is the material that is recycled a secondary material?  
 yes             no  
If yes, go on to question (2).  
If no, the material is not a solid waste.
2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)  
 yes             no  
If yes, go on to question (3).  
If no, the material is not a solid waste.
3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?  
 yes             no  
If yes, the material is not a solid waste.  
If no, go on to question (4).
4. Is the material inherently waste-like (see the list in Exhibit 4)?  
 yes             no  
If yes, the material is a solid waste. See applicable regulations, below.  
If no, go on to question (5).
5. Does the activity serve a beneficial use?  
 yes             no  
If yes, go on to question (6).  
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?  
 yes             no  
If yes, go on to question (6a).  
If no, go on to question (6b).
- 6a. Is at least 75 percent of the material recycled within one calendar year?  
 yes             no  
If yes, go on to question (7).  
If no, go on to question (6b).
- 6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?  
 yes             no  
If yes, go on to question (7).  
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.
7. Is the material placed on the ground or used in a product that is placed on the ground?  
 yes             no  
If yes, go on to question (7a).  
If no, go on to question (8).
- 7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?  
 yes             no  
If yes, the material is not a solid waste.  
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.
8. Is the material used as a fuel or used to produce a fuel?  
 yes             no  
If yes, go on to question (8a).  
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

yes  no

If yes, the material is not a solid waste.  
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

as an effective substitute for commercial products in a particular function or application, or

as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.  
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

yes  no

If yes, the activity is reclamation. Go on to question (10a).

If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

a hazardous waste listed under 40 CFR 261.31 or 261.32 (excluding commercial chemicals),

a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.

If none of the above apply, go on to question (10b).

10b. Is the material

either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.

If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

#### Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

yes  no

If yes, the material is not regulated.  
If no, the material is regulated. See item (2), below.

2. The generator of the distillation residue (i.e. the ethyl alcohol manufacturer) is subject to requirements under 40 CFR 262. Transporters of the distillation residue are subject to requirements under 40 CFR 263. Generators recycling the distillation residue on-site, off-site recyclers and other parties handling the distillation residue prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the distillation residue for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Hazardous residues from recycling must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics. Burners of hazardous waste fuel are only subject to storage and transportation requirements under 40 CFR 266; the actual burning of these wastes is currently exempt from regulation.

#### Discussion:

Hazardous residues from recycling practices are considered secondary materials and potential solid wastes. Hazardous secondary materials that are burned as a fuel are considered solid wastes and are subject to RCRA Subtitle C regulation.

See also: Reclamation - Spent Material 6

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