Focus:
Hazardous Materials

In our continuing effort to comply with the Environmental Protection Administration laws, National Research Company has undertaken a review of the current regulations and has attempted to summarize some of the key elements of the regulations which may be of interest to you and affect the future of your company.

We strongly recommend that you review the EPA regulations which vary from State to State and consult with an Environmental Consulting Company or Lawyer familiar with the laws of your State to ensure that you are in compliance.
Diamond & CBN Products

The diamond/CBN sections of wheels, saws, drill bits and tools contain cobalt, nickel, iron, copper, zinc, cadmium, tungsten, silicon, aluminum, phenolic, epoxy, polyimide resins. These materials are generally classified as hazardous materials and can not be disposed of with normal waste materials.

To dispose of these materials manufacturers have the following options:-

1. Treat as a recyclable product.
2. Treat as hazardous waste.

1. Recovering the Diamond/CBN and recycling eliminates the problem of disposing as a hazardous material.

2. Treating as a hazardous waste. These materials should be disposed of by licensed hazardous waste hauler. Very expensive.

Examine the cost. Recycling is cheaper, safer and cost effective.

Contact your National Research Co Representative and let us arrange at no charge to evaluate your diamond/CBN waste.

We request a 5 lb sample which we process.

The recovered diamond/CBN is sized and classified into three grades.

An evaluation report together with photomicrographs is compiled and a recovery cost determined.

Caution

If your hazardous materials are disposed of by an unlicensed hauler you can be held responsible and your company could be held liable for waste site clean-up costs.
St. Gobain/Norton Abrasives has a program called “Full Circle Abrasive Recycling” and can be located on their website at www.nortonabrasives.com.

To quote from the St. Gobain/Norton web site.

The less landfill the better
From an ecological point of view, protecting our environment is a sound policy. Most corporations are realizing it makes for sound economic policy as well. The national plan for cleaning up hazardous waste sites - Superfund - has already cost corporations and the Environmental Protection Agency (EPA) $9 billion. The EPA estimates the total tab to clean up 1,222 sites on its National Priority List will reach $40 billion. Many of these sites were contaminated before the dangers of pollution were fully understood and before it was declared improper to dump certain materials. This no longer serves as an excuse. Today, federal laws maintain that a company may be held responsible for cleaning up a hazardous waste site if it owns or manages the property, or is responsible for the generation, transport or storage of such material, currently or in times past.

You could end up paying for another company’s pollution
Also, under the Superfund law, liability is "joint and several." So if one party is unable to pay its share of clean-up costs, the EPA can recover the remaining funds from those capable of paying... even though they may have contributed very little to the problem. The "deep pockets" syndrome can be painful, with clean-up costs for a typical hazardous waste site averaging $30 million. And that doesn't even take into account the impact of negative publicity on stock prices, brand names, employee morale, and community standing. These are compelling reasons to be careful of how you dispose of materials - even those considered harmless now. In the future, they may be reclassified and deemed hazardous. As for landfills, they're being phased out of the picture as an alternative. According to the EPA, 80 percent of the landfills in the U.S.A. will close in the next 18 years. Meanwhile, disposal costs will continue to escalate at available sites. How can a concerned company dispose of materials left over from the manufacturing process in a responsible manner?

Contact National Research Company and let us help you develop a recycling program.
If you manufacture:

**Diamond Saw Blades.**
**Diamond concrete and masonry Drill Bits**

Waste is generated from:

- Reject saw/bit segments
- Excess powder mixes
- Sweepings from work surfaces
- Obsolete Inventory
- Product returns.

From our review of the EPA regulations, it appears there are two courses of action for these materials. (Check your local EPA Regulations.)

The material should be stored in a safe area and labeled:

- Recyclable Material  Or  Hazardous material

**Reject Saw/Bit Segments.**

If you store as “Hazardous Material” the segments may only be stored for 90 days then they must be disposed of by a licensed hazardous waste hauler.  Cost  Very High

If you store as “Recyclable Material”  The segments may be stored and should be recycled in a “timely manner”

The cost to recover the diamond, grade and size ranges from $0.25 to $0.50 per carat.

**Excess Powder Mixes and Sweepings from Work surfaces:**

Stored as “Recyclable Material”

The diamond can be separated from the metal powders, cleaned and graded for a cost of approximately $0.35 per carat.

The powder can be reused as backing material or sold to a metal powder processor. Normally powder metal processors will purchase a minimum quantity of 500 lbs.
Obsolete Inventory and Product Returns

Stored as “Recyclable Material”

Remove segments for steel center. The steel center can either be reused or sold to a licensed scrap metal dealer

The cost to recover the diamond, grade and size varies from $0.35 TO $0.50 per carat.

Sawing and Drilling Contractors

If any part of the diamond segment if remaining on the steel core it is considered hazardous waste and should be handled by a licensed hazardous waste hauler.

We suggest using a plasma torch to cut off the diamond segments. Store the segments in a container labeled as “recyclable material”

The segments can then be sent to a diamond recover company for processing.

The steel core can now be sold to a scrap metal dealer

Metal Bond Grinding Wheels

Very Important. Keep Diamond and CBN Products separate.

If any part of the diamond section is remaining on the steel body it is considered hazardous waste and should be handled by a licensed hazardous waste hauler.

We suggest machining off excess metal and store as “Recyclable Material”

The diamond can be recovered graded and sized for reuse.
Wheel Hubs

Wheel hubs are normally made of a mix of phenolic resin and aluminum powder and contain 12% to 20% phenolic resin. These hubs are considered hazardous waste and should be disposed of in accordance with local EPA regulations.

We suggest contacting a aluminum processor to determine scrap value.

Vitrified Wheels

Very Important. Keep Diamond and CBN Products separate.

Waste is generated from:-
Scrap wheels
Powder Mixes

Remove diamond/CBN section from hub. Store as “Recyclable Material”
The diamond/CBN can be recovered graded and sized for reuse.

Powder mixes. The diamond/CBN can be mechanically separated. Cost varies.

Plated Products

Very Important. Keep Diamond and CBN Products separate.

Material can be recycled from:
Plating tanks
Rinse Tanks
Scrap products
Stripping Tanks

Material stored in plating tanks slowly gets coated with an oily film from a breakdown of the organic stress relievers in the plating solution. This oily film inhibits plating. We recommend a quarterly program of cleaning and re-grading all material from plating, rinsing and stripping tanks. Cost for this service is ranges from $0.15 to $0.30 per carat.

The diamond/CBN in the plating tanks represents large raw material cost. Put that money to work by re-cycling.
**Exploration Oil, Gas and Mining Drilling Bits**

These products generally contain high quality diamond which makes recovery and recycling of the diamond very cost effective.

Talk to a National Research Representative to assist with an evaluation of your scrap or used bits.

**Rotary Dressers**

These products generally contain high quality diamond which makes recovery and recycling of the diamond very cost effective.

Talk to a National Research Representative to assist with an evaluation of your scrap or used dressers.

**Diamond Lapping Sludge**

The cost of disposal of lapping oil is often higher than the value of the recovered diamond. National Research Company recommends where possible eliminating mineral oil based lapping media in favor of water soluble oils. We would be pleased to evaluate your sludge. We require a 1 to 5 lb sample.

**Caution** Before disposing of any lapping sludge check your local EPA regulations.
Contact any of the following National Research Company representatives and let them help you develop a sensible cost effective recycling program.

Contact:

Wilson Born 586-749-0100
Dave Diedrich 586-749-0100
Mike Toke 586-749-0100
Miles Portman 561-477-1788
Keith Reckling 914-674-8629
Morey Patterson 630-690-0900
Your Diamond Inventory

Most companies have jars of diamond grit in their inventory that are old and considered obsolete.

Your diamond inventory is money sitting on a shelf.

Diamond grit is likely to continue at current low price levels.

Why continue to loose money on your inventory?

Diamond does not go bad but coatings oxidize.

Put that money to work.

Let National Research Company clean and re-grade these materials so that they can be recycled.

Cost to clean and re-grade your diamond grit inventory is $0.06 per carat.

Important

The coatings will be lost in cleaning.