

Investigating Secure Disk Erasure with Household Chemicals

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10 February 2009

Dead Disk

- How to destroy data on disk?
- Overwriting or secure erase.
- What if disk is dead?
- Drill it to make asymmetric.
- Sand it down.
- Seems a little crude and mechanical.

Disks

- Spinning Rust.
- Disk might be glass or aluminium.
- Various ferromagnetic materials (iron/cobalt alloys/oxides).
- Some kind of polymer on top to stop corrosion.
- Would like way to destroy.
- Should be self evident that data is gone.



Vinegar (Acetic Acid)

Aldi special.













































Coke (Carbonic/Phosphoric Acid)

Urban legends true?





























Status check





Bleach (Sodium hypochlorite)

Don't expect much.































































Salt and boiling water

Give it a good clean.



























Battery Acid (Sulphric Acid)

Nasty stuff.































Status Check







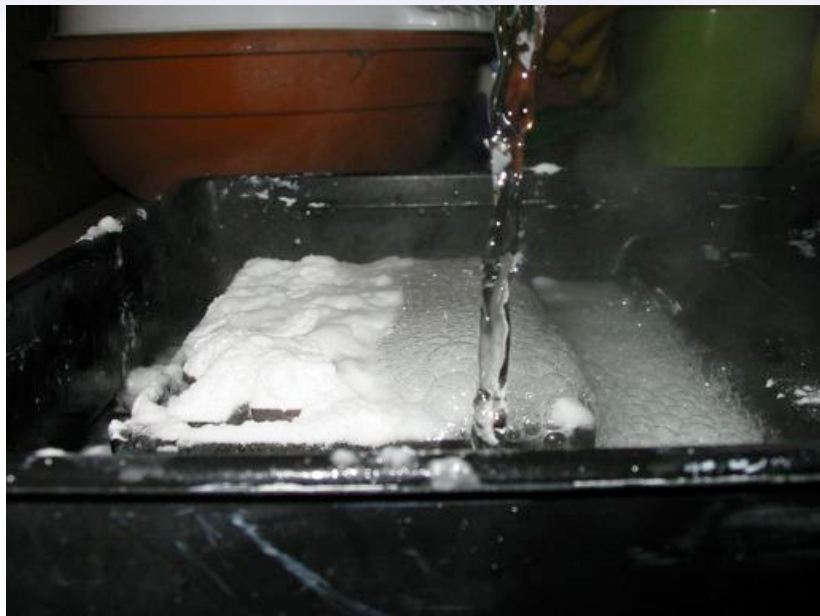
Baking Soda and boiling water (Sodium bicarbonate)

Cleaning our the acid.



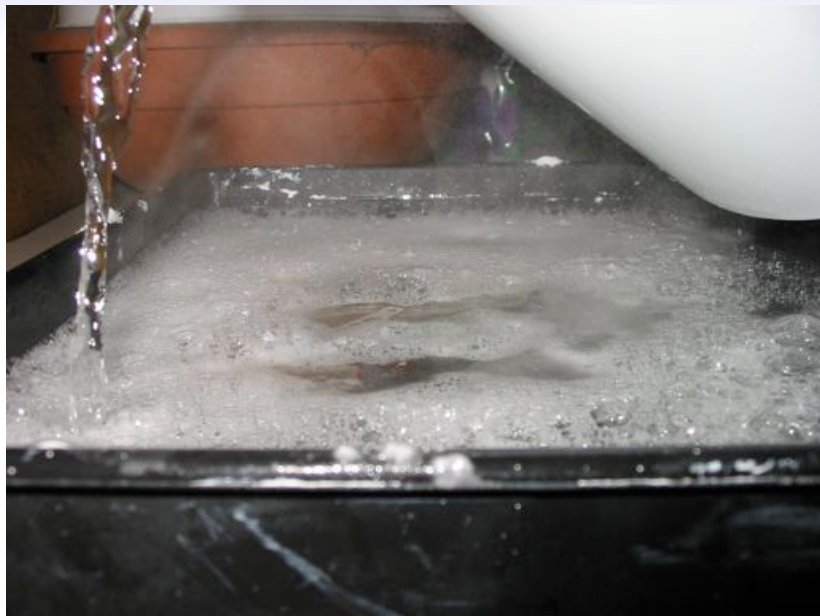




















Caustic Soda (Sodium Hydroxide)

For cleaning drains. Strong base, but disk not organic.



(Run)



















Status Check













Weathering (plus sand paper, steel file and nail)



















































Remaining Options

Curie temperature — where things stop being ferromagnetic.

Material	Temperature (C)	Colour
Cobalt	1115	Yellow/White hot
Iron	770	Cherry Red
Various Oxides	400–600	Dark Red
Nickel	354	Not even glowing

Unlikely to be self evident. Might be fun.

Conclusion

- Looks like polymer does a good job.
- Without polymer, caustic soda might work.
- However, might as well file it down.