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Sulfuric Acid in Corrosives Cabinet

Posted by Anonymous on Tue, 2014-06-24 12:28

Sulfuric Acid in Corrosives Cabinet: A lid was left off 6M sulphuric acid in the corrosive cabinet for some time last year. It reacted with the air and the cabinet started to rust. I am wanting to know what is the best way to clean the cabinet?

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Laboratory Technicians:

Laboratory Technicians

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Answer by labsupport on question Answer by jodomills12 on question Sulfuric Acid in Corrosives Cabinet

Submitted by sat on 03 August 2014

Answer reviewed 22 February 2023

Unfortunately there is no quick procedure to clean your cabinet. You will need to assess how badly the cabinet has rusted and if it is worth repairing. If you want to prolong the life of the cabinet you will have to remove the rust and then seal the cabinet. Before undertaking this project check the hinges for rust. If they are badly affected they will require immediate replacement to remove the likelihood of the doors being permanently rusted shut.

Purchase from your local hardware store a rust killer/remover and a rust inhibiting paint. Consult a tradesman at the store for the best products. The procedure and these products have some inherent risks attached, usually rust killer contains phosphoric acid and rust dust or aerosols are used or created. Therefore, obtain Safety Data Sheets (SDSs) for the products (you may need to download them from the manufacturer's website). Prepare a site specific Risk Assessment with reference to the SDSs, the manufacturer's directions and include the use of relevant personal protective equipment (e.g. safety glasses, gloves, dust mask, hearing protection).

Empty the cabinet and store corrosive chemicals appropriately whilst undertaking the repair work. Move the cabinet to a suitable, well-ventilated area to perform the following work:

- Remove the majority of the rust and bring the surface back to bare metal. This can be achieved using
 a wire brush, steel wool or an angle grinder with a wire brush attachment (only use an angle grinder if
 you know how to use it).
- Following the manufacturers guidelines use the rust killer/rust remover to treat the cleaned surface.
- Finally seal the surface with rust inhibiting paint ensuring that all surfaces including corners, are well covered. Allow to fully dry before use.

When returning the corrosive chemicals ensure that they all have screw capped lids and that these are all in good condition and closed firmly. Some schools then seal the storage bottles containing corrosives with a laboratory film such as Parafilm or DuraSeal, but it is not known how effective this is in reducing corrosive vapours for the long term. It is not a substitute for establishing good ventilation in a chemical store.

Further information

Victoria Department of Education (2018), Chemical Management: *Guidance Sheet 1: Chemical Storage*, Retrieved from the Victoria Department of Education website https://www.education.vic.gov.au/hrweb/safetyhw/Pages/chemicalmgt.aspx#l...

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