

## Alcohol-hydroxide cleaner

**INRF Application note**  
**Process name: ALCOHOL\_NAOH**

### Overview

The alcohol-hydroxide cleanser is used to clean glass. It is an effective cleaner, but it is not recommended for use in the INRF due to the difficulty in categorizing the waste (a mixture of base and solvent).

### Time needed

Set up time for this process is about 5 minutes. This process takes about 35 minutes to complete.

### Materials needed

60 g sodium hydroxide (NaOH)  
500 ml ethanol  
Polypropylene or glass container (600 ml or greater)

### Preparation

Wear protective gear: eye protection and nitrile gloves. Prepare mixture in a polypropylene container by the following recipe:

60 g sodium hydroxide (NaOH)  
60 ml DI water  
500 ml ethanol

Prepare the sodium hydroxide solution by mixing the crystals into the water. Then add the ethanol. Be sure to label the container with the title "Ethanol/NaOH 5:1 cleaning solution", then, add your name and the date.

### Procedure

Put the glass substrates into the bath to soak for 30 minutes. For extra clean surfaces soak for several hours. Rinse in DI water then blow dry. If cleaning solution is clean and you intend to use it again, store it in an appropriately labeled container. If not pour the alkaline solution into the appropriately labeled waste container.

### Clean up

Dispose cleanser in INRF labeled waste container. Rinse all lab ware three times in clean water.

### Safety and emergency

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All INRF safety and procedural regulations must be followed. Use of acid and base requires at least one other person in the clean room (buddy system). Acid and base should be handled in a laminar flow bench, using nitrile gloves and eye protection. Any small spills should be wiped up immediately with wipes. Dispose of wipes in the corrosive waste container. DO NOT LEAVE the etchant on the hot plate unattended.

In case of exposure to skin or eyes flush immediately with water for 15 minutes. Remove all clothing that are exposed and flush with water. Report to INRF staff or EH&S. Seek medical attention immediately.

In case of large spill follow the INRF Standard Operating Procedure for Chemical spills.

### References

G. Shugar and J. Ballinger, *Chemical Technicians' Ready Reference Handbook*, McGraw-Hill: New York, 1996.

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#### Checklist

The following checklist is designed to aid the researcher when performing this process.

Prepare cleaner 60g sodium hydroxide, 60 g DI water, 500 ml ethanol

Soak glass in solution for 30 minutes

Clean up, dispose wastes