

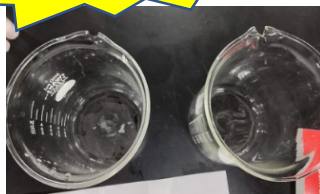
Five minutes before working or experimenting, sense (Imagine and anticipate) as many dangers and accidents as you can think of.

From preparation and inspection to cleanup

Hand cut while cleaning chipped beaker.



You don't notice the chipped glass.



Failure to notice a beaker with a chipped spout while cleaning, resulting in a cut finger.

Too much force



Hand cut while breaking a TLC plate.

Crack, scratches, chips

Too much force



Cracking the flask, glass funnel while cleaning.



©2021ko.anzen

When putting the glass capillary into the hole of the silicone stopper, the capillary breaks and the finger is cut.



Glass

when it breaks..

Blade

Undue force

You need to use a lot of force.



When inserting a thin glass capillary into a rubber stopper connected to a pump, the capillary breaks and the finger is cut.



With bare hands

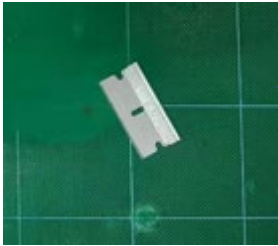
When filling the trap tube with cotton wool using a long and thin glass rod, the rod breaks.



Make a cut groove in the glass tube and then break it.

Five minutes before working or experimenting, sense (Imagine and anticipate) as many dangers and accidents as you can think of.

From preparation and inspection to cleanup



How to apply force
Direction of force

Accidentally cut my hand while cutting a sample with a razor blade.

Keep my hands safe

Unintentional

Gloves?



When trying to clean acrylic debris from an electric drill, finger touches the edge of the drill and cuts itself.

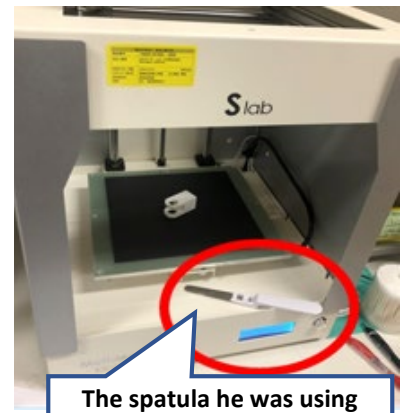


Cut your hand while carving a spoon out of wood using a small knife.



©2021ko.anzen

How to use tools
Applying force



The spatula he was using

Hitting your hand when you use a spatula to peel off a part made with a 3D printer.



Scraper deflects and cuts hand when peeling 3D printer fabrication off table.

Five minutes before working or experimenting, sense (Imagine and anticipate) as many dangers and accidents as you can think of.

From preparation and inspection to cleanup



When I remove the syringe, the liquid inside flies into my face.



Holding a bottle of reagent with bare.

Keep my hands safe

Reagent adhesion



Pressure in the flash column increases, the three-way stopcock jumps up, and the solvent inside splashes out and gets in your eyes.

Protective glasses?

When I remove the syringe, the liquid inside flies into my face.

How to apply force
Applying force



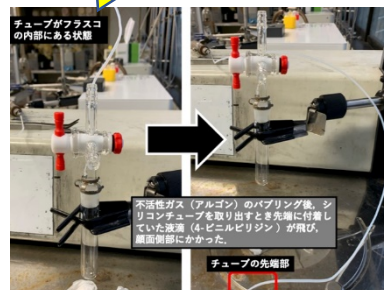
©2021ko.anzen



©2021ko.anzen

Protecting my eyes

Without glasses



When trying to remove a Teflon tube, a droplet on the tip of the tube popped off in my face.



While dispensing chloroform from the eighteen litre drum, I pushed the pump so hard that it overflowed the bottle and splashed my face.



While dispensing chloroform from the eighteen litre drum, I pushed the pump so hard that it overflowed the bottle and splashed my face.



Unintentional



While cleaning a tube, the remaining solution in the tube popped out and entered my eye.

Five minutes before working or experimenting, sense (Imagine and anticipate) as many dangers and accidents as you can think of.

From preparation and inspection to cleanup



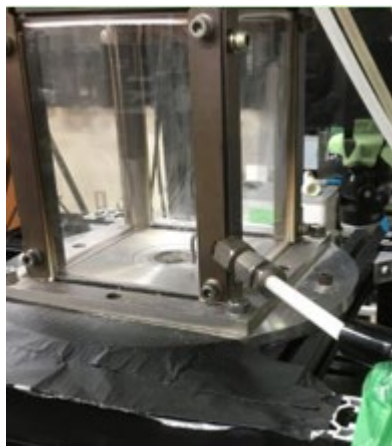
Grabbing a hot crucible with heat-resistant gloves right after casting, I got burned.

Putting out your hand, grabbing with hands without thinking



Carelessly

Using a gas burner before hands are completely dry, igniting the surface of the fingers and causing burns.



I get an electric shock when turning on the switch with the spark rod in my hand during ignition by spark discharge.



©2021ko.anzen

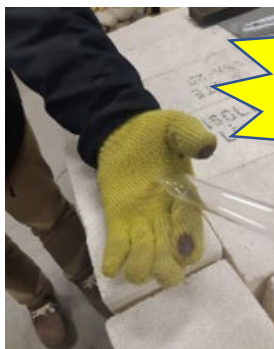


Hurrying, hurrying

Containers or samples taken out of an electric furnace are touched and burned before they have cooled down sufficiently.

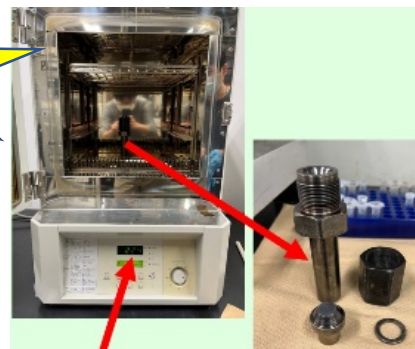


Burns myself when switching the soldering iron from my right hand to my left hand.



Carelessly

Grasping the quartz tube after it has been heated by the burner, my glove gets burnt and I burn my fingers.

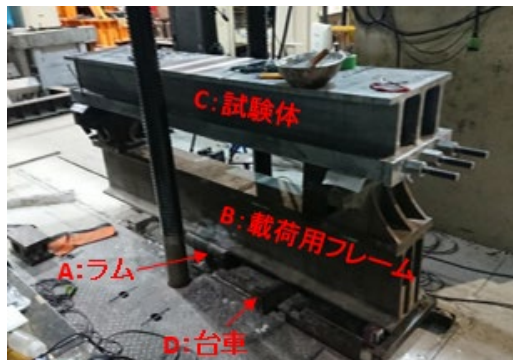


Burning fingers when trying to remove a container from an electric furnace while the container is still hot.

~be pinched, fall down, be bruised~

Five minutes before working or experimenting, sense (Imagine and anticipate) as many dangers and accidents as you can think of.

From preparation and inspection to cleanup



One-man operation

During the descent of the ram, the hand was caught between the descending loading frame and the cart.



When removing the steel fixture from the steel test piece on the loading frame, the test piece moves and pinches my hand.

How to hang



When removing the steel test piece, one of the suspended slings came off and fell.



©2021ko.anzen

Protecting my head

Without helmet



When attaching the jig to the steel specimen, the specimen rotated and hits my head.

Finger Sticking out



Your hand got caught in a crank while turning a disk on a vibration table for seismic evaluation.

One-man operation

Carelessly



Falling on your hand and bruising your palm when you tried to remove a compression jig from a materials testing machine.

Five minutes before working or experimenting, sense (Imagine and anticipate) as many dangers and accidents as you can think of.

From preparation and inspection to cleanup



What is proper way, procedure



When deactivating sodium hydride that was no longer in use, I took it out of the plastic bag inside a metal bottle and it spontaneously ignited.

After disposing of the hydrogen oxide solution in a plastic container, it reacted with the sodium periodate it contained, and the container ruptured 5 hours later.

When a metal trash can was opened, a Kim towel (with carbon particles and ethanol attached) inside generated heat and ignited.

Unscheduled reactions

Others

When trying to deactivate sodium hydride purchased more than 10 years ago, I took it out of a plastic bag inside a metal can and it ignited.

Moving hot objects



When removing an alumina plate from a muffle furnace, a part of the plate exploded and ignited a piece of paper on the side of the furnace.

Just exposed to air



©2021 ko.anzen

Unintentional Easy

Disposal

When a complex containing ruthenium and indium was wrapped in paper and thrown in the trash, it reacted with oxygen and ignited, setting the trash inside on fire.



When hydroiodic acid (0.1ml) was inhaled by a kim-towel in a trash can and disposed of, it started to smoke.