

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



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Protecting my eyes

Without glasses



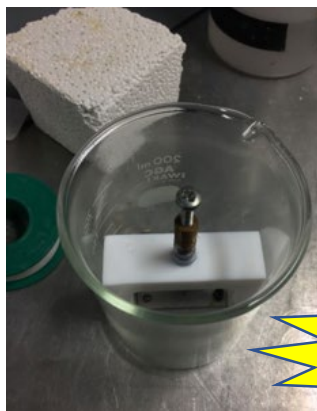
再現写真

液体化合物が入ったフラスコ

When chloroform was added to the eggplant flask with a Pasteur pipette, the rubber ball was pushed too hard and the chloroform bounced off the top of the flask and into the eye.



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



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Unintentional



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

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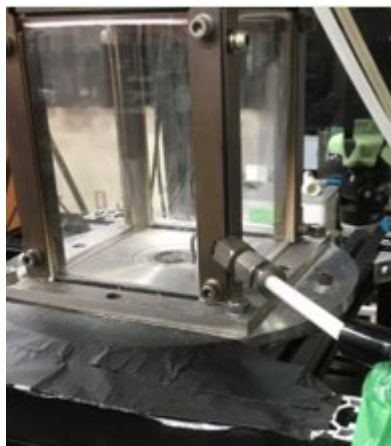
Grabbing a hot crucible with heat-resistant gloves right after casting, I got burned.

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.



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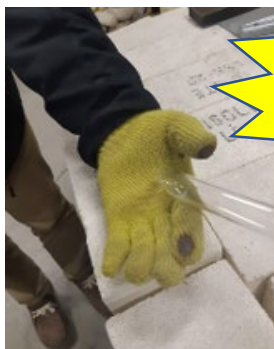


Hurrying, hurrying

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.



During an experiment using a high-voltage power supply (± 600 V), the subject touched the experimental system while the power was on and received an electric shock, resulting in electrical burns

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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.



Unintentional
Easy

While washing quartz material with a methanol solution of bromine, a phosphorous compound adhering to the quartz material ignited when the concentration was increased by adding bromine solution.

Gas
cylinder

Handling
during
replacement



When replacing a liquefied CO₂ cylinder, the cylinder cap was removed while the cylinder was lying on the floor, the foot caught on the cylinder valve, the valve opened, and all gas was released.



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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.



What is proper way,
procedure

Disposal

Unreacted zinc adhering to filter paper discarded in an industrial waste garbage can reacted with air, generating heat and igniting a fire.

Unintentional
Easy



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