

Lessons Learn



What happened?

Oct.2020

Date: August. 2nd .2005

Topics: Burns

Location:

On August 2, 2005, Wang and Zhao in the chemical laboratory of a military school were installing fasteners and valves for the autoclave. The chlorosilane liquid in the pipeline was released during the disassembly in the previous few days, and the chlorosilane liquid tube was plugged with a simple plug to prevent dust. At that time, there was no pressure or fluid accumulation. When installing the chlorosilane liquid phase tube, when they unplugged the simple plug, a burst of chlorosilane volatile gas suddenly rushed out. At this time, Wang leaned over to tighten the screw and was too late to dodge. Burn it on the arm.

The cause of the accident: The autoclave reaction device was placed in the shed. It was at the time of high temperature. The temperature in the shed exceeded 40°C. The residual chlorosilane in the tube turned into gas and generated a certain pressure. When the plug was removed, chlorine Silane gas rushed out.



What have we learned from this?	What steps should we take?
<p>Lessons learned:</p> <p>The high temperature has insufficient awareness of the possible dangers of chemical reagents, and scientific researchers have neglected the use of protective equipment and enlarged the injured area.</p>	<p>(1) Any container must be labeled, indicating its contents and expiry date.</p> <p>(2) When using low boiling point organic solvents, be sure to stay away from fire and heat sources. The reagent bottle should be sealed tightly and stored in a cool place.</p> <p>(3) Concentrated acid and alkali are highly corrosive. If it splashes on the skin or eyes, immediately rinse with running water for at least 15 minutes, and then rinse with 5% NaHCO_3 or 5% H_3BO_3. When concentrated sulfuric acid sticks to the skin, it should not be washed directly with water, because there will be a lot of heat generated, which will burn the skin. It should be treated with boric acid and then with NaHCO_3 solution. In severe cases, seek medical attention as soon as possible after treatment.</p> <p>(4) Before using any chemical, you must be familiar with the dangers of the chemical.</p> <p>(5) When using toxic organic solvents or corrosive reagents, operate in a fume hood, and use a splash mask to prevent accidents.</p>
<p><i>Nothing we do is worth getting hurt for !</i></p>	