



Safety

F.R.E.D. Team 2883
Safety Presentation



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Safety Captain



Safety

What is it?

The condition of being protected from or unlikely to cause danger, risk or injury.



SAFETY

Why?

- Protect
 - Yourself
 - Others
- Know what is safe and what isn't



What *FIRST*™ Requires...

Instilling a culture of safety is a value that every individual in the *FIRST* community must embrace as we pursue the mission and vision of *FIRST*. *FIRST* Robotics Competition has adopted safety as a core value and has established the framework for safety leadership in all aspects of the program.



FIRST®



Who Sponsors FIRST Safety?



Underwriters Laboratories, better known as UL, sponsors the FIRST Robotics Competition Safety Awareness and Recognition program. Each year they work with *FIRST* and write the *FIRST* Safety manual. Be familiar with this manual. It can be found at the following link:

FIRST Safety Manual 2018-

https://www.firstinspires.org/sites/default/files/uploads/resource_library/2018-first-robotics-competition-safety-manual.pdf



General Safety

- Follow safe work practices including wearing the correct equipment and using the tools safely and correctly
 - Never use a machine you do not know how to use
- Keep control of the robot at all times
- Be sure your components are designed to be used the way you are using them
- Always be cautious when working above normal height or ground level
- Always use a ladder when needed and never use a non-approved step
- Be careful when using tools that generate heat

Competition Reminders

At competition always remember...

- The aisles must always be kept clear so people can walk by
- A pit cannot exceed the dimensions 10 ft x 10 ft x 10 ft
- No matter the case, the only pit our team is allowed to use is the one we were assigned
- At the end of the day, all pits must be cleaned up before you leave
- Only 5 people are allowed to go in for early pit set up
- You are not allowed to save seats

Competition Safety

- If you are injured in the pits, report it to Pit Admin. All illnesses and injuries must be reported to Pit Admin
 - Also report injuries to your safety captain and mentors
- Tools with open flames are not allowed in the pit areas
- There is no grinding in the pit, except in the designated area
- Never Daisy chain
 - Plugging one power strip into another
- Always use the buddy system. Never go anywhere alone
- In the pit area, safety glasses are required at ALL TIMES, NO EXCEPTIONS!!! You MUST wear closed toed shoes to be in the pit area!!
 - Closed toed shoes completely cover the foot and have closed toes and heels



Competition Safety cont'd...

- You must be 12 years or older to walk in the pits alone.
- No more than 10 people can be in the pit at the same time. 0-10 people is the limit
- No clothes-pinning allowed because it scares the victims of the students who are clothes-pinning and makes them feel uncomfortable
- Know where the SDS sheets are and how to read them, so you know what to do in an emergency situation with that specific chemical and how to treat it.
 - SDS is an acronym for Safety Data Sheets
- Reminder: A battery beak (pictured below) is used for checking the battery's charge.



Robot Safety

- Lifting procedure
 - Before lifting, be sure you know where you're taking the robot and that the path is clear.
 - Two hands
 - Minimum of two people
 - Lift with your legs, keeping your back straight.
 - Do not twist your body- use your feet to turn your entire frame if you need to turn.
 - Use proper hand holds to grasp the robot and make sure you have a safe, secure lift point before starting the lift.
 - Bend your knees to a comfortable degree and get a good handhold. Maintain normal spinal curves.
 - Tighten your stomach muscles and commence lifting the robot, using your leg muscles if you are lifting the robot up from the floor.
 - Keep the robot close to your body, and coordinate lift speed with the others.



Robot Safety cont'd...

- Never touch the robot when it is enabled. Always be sure to disable the robot and turn it off before working on it.
- Always be in control of your robot
- Have a spotter out front when going from place to place with your robot
- Always wear safety glasses

Shop Safety

- Never work on a machine or other equipment without a mentor present
- Never work with a machine you do not know how to use
- Identify and report all unsafe or hazardous conditions to the Student Safety Captain and/or Mentor(s)
 - This includes situations that may cause an accident. **Encourage safe behaviors in those around you.**
- Reminder: A battery beak is for checking the charge level of the battery
- Reminder: A wrench is *NOT* a hammer.
- Know where the SDS sheets are and how to read them.

PPE

- What is PPE?
 - Personal Protective Equipment
- Examples
 - Safety Glasses
 - Earplugs
 - Gloves
 - Correct footwear
 - etc...
- All PPE must be ANSI-approved, UL-Listed, CE EN166 rated, AS/NZS certified or CSA rated



Safety Glasses Regulations

- Must be able to see your eyes through them
- They must be Regulated by FIRST
 - Rose, Amber, Blue and Yellow are the colored tints allowed for safety glasses
 - If you wear prescription glasses that do not have a marked safety rating, you must wear rated safety goggles over them to achieve adequate protection. If you wear marked safety rated glasses, you may use ANSI-approved, UL-Listed, CE EN166 rated, AS/NZS certified or CSA rated side shields. Safety rated glasses, side shields and frames can be identified by markings stating the standard that they are rated to (ex. Z87.1).
- Reflective lenses are prohibited
- All glasses not the approved rating are prohibited



Battery Spill Kit

Always be cautious not to break a battery. These batteries contain a very corrosive, colorless acid called Sulfuric Acid (H_2SO_4). This acid will burn your eyes, skin, and clothing. For information on the first aid procedures of a broken battery, check the SDS sheet.

To be kept nearby when working with the robot's batteries.

Consists of Baking Soda, Thick Gloves, A Bag/Bucket to put the bad battery in, and an instruction sheet on what to do in such a situation.

Our Battery Spill Kit can be found within the first aid kit.

Conclusion



- *Always be safe*
- *Encourage safety in others*
- *Be smart, and use common sense*
- *and...*



DON'T EAT
THE POWER
CUBES!!!

