



Safety Should
be Shared

Team 3624

Team 3624 Safety Initiatives



**Safety Coalition
–Long Island
Teams**

**Battery Spill Kit
distribution at
Competition**

**Free Battery
Carriers at
competitions**

**Safety Education at
Competition –
Electrical,
Mechanical, Fire,
etc.**

**Partnership with
Underwriters
Laboratories (UL)**

**UL safety
Training Courses
10 Badges**

Our Safety Campaign: Safety Should be Shared



General Safety



Safe Team Spirit

Let's review some General Pit Safety Rules

Tie long hair back and wear closed-toe shoes

Communicate well with your teammates

Be aware of your surroundings

No eating or drinking

No horseplay

No loose fitting clothing or jewelry



Team Safety Training

Team Safety Training

Every Team Member undergoes Safety Training
and takes a test upon completion!



Team 3624 Safety Quiz

Name _____

Date _____



- 1) What is our safety program called?
 - a. Sharing safety
 - b. Safety should be shared
 - c. Safety FIRST
 - d. Team 3624 Safety Program
- 2) What is the purpose of the safety program?
 - a. We spread safety to all teams at competitions and raise awareness about unsafe conditions.
 - b. We make buttons.
 - c. We partner with FIRST to make safer robots to use in competition
 - d. We create 3D printed parts and give them to other teams
- 3) Which of the following is ONE of our safety team initiatives?
 - a. Handing out shoe covers at competitions
 - b. Promoting horseplay
 - c. Disturbing free battery carries at competitions
 - d. Administering safety tests to other teams
- 4) Which of the following is an unsafe way of carrying a battery?
 - a. With a battery strap
 - b. Holding the battery by the cables
 - c. Holding the battery by the bottom
 - d. Supporting the battery with both hands

Safe Team Spirit! Proper PPE at all times!



Safety Should be Shared



◆ An initiative that promotes safer alternatives especially battery safety.

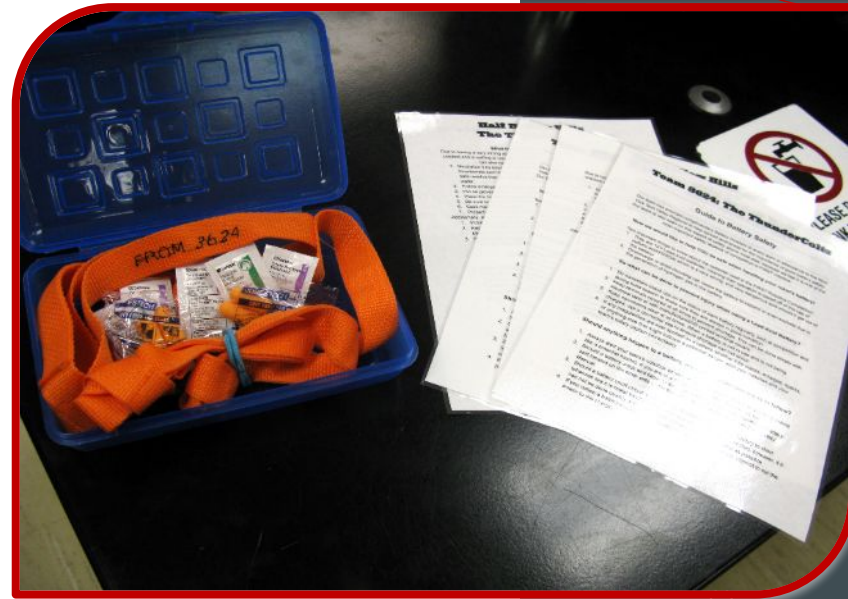
◆ We spread safety knowledge to all teams at competitions and to raise awareness about unsafe conditions.



◆ Buttons at all competitions

Battery Spill Kits

- ◆ Battery spills are the most common safety issue at competitions
- ◆ Can be very dangerous if not taken care of
- ◆ We provide every team a small kit to clean up a battery spill



Battery Spill Kits – Contents

What to do in the Event of a Battery Spill Provided by Team 3624

1. Neutralize it by pouring the sodium bicarbonate on all wetted surfaces. The sodium bicarbonate itself is not dangerous, and will be disposed of in a conventional manner such as rinsing with water.
2. Follow emergency handling instructions of the SDS and notify Mentor.
3. Put on gloves before handling the battery.
4. Place the battery in a leak-proof container for removal.
5. Be sure to neutralize any acid on the gloves before removing and storing them.
6. Seek medical attention if skin came into contact with any chemicals.
7. Properly dispose of the battery, which is now a hazardous material.

Additionally, at a FIRST event:

1. Immediately send a person in contact with acid to the First Aids Station/EMTs.
2. Report incident to the Pit Administration Supervisor so that the individual can fill out a Medical Incident Report Form. Provide team number and available information.

Battery Spill Kit Contents List Provided by Team 3624

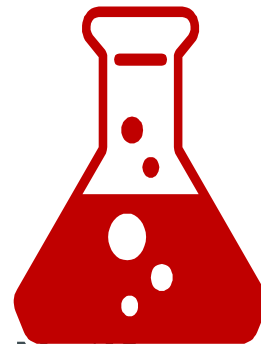
- 8oz. Box of Arm and Hammer Baking Soda (1)
- Bandages (2)
- Hair Ties (2)
- Pair of Gloves (1)
- Pair of Earplugs (2)
- Alcohol Wipes (2)
- Hand Sanitizer Wipes (2)
- Quart Size Ziplog Bag (1)

Stay safe and feel free to contact us at hhhrobotics@gmail.com

-Team 3624

Battery Safety ⚠

What to do in the Event of a Battery Spill



- ◆ Make sure everyone is safe and Notify Coach, Mentor or Safety Captain
- ◆ Put on gloves before handling the battery.
- ◆ Neutralize it by pouring the baking soda on all wet surfaces
- ◆ Place the battery in a leak-proof container for removal
- ◆ Properly dispose of the battery, which is now a hazardous material

Battery Straps

- ◆ Batteries are heavy and can be awkward to carry
- ◆ Can't be held by cables because it is unsafe
- ◆ Straps make it safe and easy to carry



Safety Education



Common Mechanical Tools Safety

Provided by Team 3624

General Rules

Make sure your safety goggles are on at all time

Tie back long hair

Make sure you're authorized to use the machine

1. Band Saw

- Make sure safety plug is in the on/off switch
- Adjust blade covering so it's high enough for the piece you're cutting to fit
- Make sure your finger doesn't fit in the opening between the covering and your piece
- Turn machine on
- Use platform to cut
- Hold piece with thumbs behind to steer piece and all other fingers away from the blade while holding piece
- Move piece slowly through the blade
- Once done with your cut, turn off machine
- Once the blade has stopped moving, rest
- Make sure everything is off before walking

2. Belt Sander

- Make sure safety plug is in the on/off switch
- Turn machine on
- Use platform to sand
- Hold piece with thumbs behind to steer sandpaper while holding piece
- Once done, remove piece
- Turn machine off
- Wait until sandpaper stops spinning before walking

3. Hand Drill



Electrical Safety

Provided by Team 3624

1. Wires:

- All exposed wires should be taped down without any bumps that could be tripped over or cause a cart to get stuck.
- Prevent tripping over wires as to prevent injury, a plug getting unplugged, tape coming undone etc.

2. Don't stick any metal items in a socket:

- This includes a fork, screwdriver, pliers, etc.

3. Keep all metal objects from open sockets and batteries:

- If any jewelry such as necklaces or dog tags is hanging, secure by either removing them or tucking them in your shirt.

4. Any kinds of liquids that may be kept in the pit should be:

- Kept closed when not in direct use
- Not left by the edge of table
- Put in proper place
- Be completely sealed with no spillage
- Kept away from open wire or



Fire Extinguisher Safety

Provided by Team 3624

- What is a Fire Extinguisher?
 - A fire extinguisher is a device used to put out small fires.
 - Fire extinguishers are not intended to be used against large, out of control fires.
 - If a fire is out-of-control, get assistance from your local fire department.
- Types of Fires:

Class	Type of Fire
A	Ordinary Combustibles
B	Flammable Liquids and Gases
C	Electrical Fires
D	Combustible Metals/Alloys
K	Cooking Appliances



- Types of Fire Extinguishers

Type of Extinguisher	Class to be Used on
Water and Foam	A
Carbon Dioxide	B,C
Dry Chemical	B,C



Battery Safety

Provided by Team 3624

Our team has provided complimentary Battery Holders to every team in attendance to the New York Tech Valley Regional to help spread awareness for the importance of good battery safety. Our team is very keen on this aspect of safety above most else, because we feel it is one of the most important safety aspects of competition in FIRST robotics.

Now we would like to help YOU be safe when handling your robot's battery!

Two important things to know about the batteries used in the FIRST Robotics Competition:

- They are 12V Lead-Acid batteries, meaning their operation is based off of the use of sulfuric acid (H₂SO₄) which is a very strong and very dangerous acid should it get out of the battery!
- Overcharge or circuiting can cause the battery to expand or even explode due to the generation of hydrogen gas in the battery.

So what can be done to prevent injury when using a Lead Acid Battery?

- Do consistent checkups on the status of each battery regularly, both at competition and during build season to make sure they are always in good condition.
- Keep terminals covered at all times to prevent shortage. This can be done simply with electrical tape or with manufactured/3D printed terminal covers.
- Keep connectors clear at all times. When a battery is not in use and is not being charged, use a connector cap to ensure a shortage cannot occur.
- If any irregularities are ever spotted on a battery, whether it be cracks, enlarges, sparks, or anything else that might indicate a potential danger, alert your coaches and your team safety captain immediately.

Should anything happen to a battery, what is the proper procedure to follow?

- Always alert your team's coaches as well as safety captains whenever anything seems like a potential hazard. If you are at a competition, contact pit admin as well.
- Should a battery crack and begin to leak, follow the instructions for handling a battery spill.

Important Safety Items in the Pit

- ◆ Fire Extinguisher
- ◆ Spill Kit
- ◆ First Aid Kit
- ◆ Extra Safety Glasses
- ◆ Gloves
- ◆ Safety Data Sheet (SDS)
 - also found on the Team website and FIRST website.
- ◆ Safety Manual





Questions?



Thank you!

**if you have any questions Please contact
Team Captain – Serena Inderjit
Safety Captain – Jordyn Meisner**