

## Preventing Thermo Burns

**Company Policy—Section 2.4 Hand Protection—**from the PK 2023 Environmental, Health & Safety Handbook:

*“The type of task will determine which type of hand protection is required to protect injury. To protect against thermo burns heavy leather gloves are required when handling thermoplastic pans or performing other tasks where the risk of burn or injury is present”.*

**Below are some of the examples of how workers have been burned on Thermoplastic:**

- A worker dropped a torch into the melted thermoplastic while attempting to place the torch in the cart holder. The worker was not wearing gloves and burned his hand as he quickly grabbed the torch.
- Employee was scraping the thermo trough when his hand slipped into the thermoplastic burning his hand.
- Two employees were changing out a gasket with pressure behind the gasket. When the clamp was uncapped thermoplastic blew out and sprayed the two employees causing burns to the face neck arms and hands.
- Thermoplastic spilled from a tank burning a workers right arm from the elbow to the palm.



**Controls to avoid Thermoplastic burns:**

- **Machine guarding** – design equipment and tools to reduce or eliminate exposure to thermoplastic.
- **Positional safety** - always be positioned such that if the unexpected happens you are in a position where you are unlikely to be hurt. For example, avoid leaning on the thermo cart when loading. Always work off to the side of the chute when filling.
- **PPE** - Wear the appropriate PPE in every situation to protect your skin from the molten thermoplastic. Wear leather gloves and long sleeves when working around thermoplastic.
- **Training**— Be trained. Know what you are doing before working around, or performing any maintenance on thermo equipment.



**What could the person in this picture do to reduce the risk of injury when filling the thermo hand cart?**

## First Aid For A Thermo Burn

1. Immediately stop the burning process by removing as much of the thermoplastic and hot items from skin contact as possible without causing further injury.
2. Submerge the effected burn area into water such as in a 5-gallon water jug or a large cooler. If a large cooler is not available, then pour small bottles of drinking water over the burned area.
3. Leave the thermoplastic covered area of the skin in water for at least 5 minutes or as long as the employee can tolerate it. This will help the thermoplastic cool and may naturally separate from the skin.
4. If the thermoplastic completely comes off the skin, dry the area gently, apply burn cream, and cover the area with a gauze bandage to prevent contamination.
5. Go to urgent care depending upon severity and how much of the skin is covered with thermoplastic.
6. If the burn is severe go directly to an emergency room because urgent care clinics WILL NOT treat burn like this, they will always refer you to the nearest ER.
7. Have someone, other than the employee, take a copy of the SDS for the thermoplastic type with the employee to the ER because most all doctors are not familiar with this product and will not have an immediate understanding on how to treat this type of injury.
8. If available, have someone accompany the injured employee to the ER that can discuss the removal process and the material. There are different methods of removing thermo. Some emergency rooms will use water jets, or some will use a petroleum-based lubricant or salve to remove thermoplastic material especially in cases of small splatters.

**Note:** Most health care professionals do not know what thermoplastic is nor how to treat it. In some cases, after the doctor reviews the SDS, they may transfer the employee, by ambulance, to the nearest burn unit. The longer that thermoplastic sits on the skin it will cool on the outside but can continue to burn where it contacts the skin. The goal is to get that layer as thin as possible at the beginning so there is less material and heat radiating towards the employees' skin, and then to cool it off as quickly as possible. These steps are the most important and will make the difference between a 1st degree burn and a 3<sup>rd</sup> degree burn.

