



AMMONIA SAFETY CHECKLIST

Prevent the most common ammonia safety hazards by following this list

For years, Stellar's refrigeration teams have focused on mitigating ammonia safety risks while visiting food facilities worldwide. Many of the safety concerns we see stem from issues plant personnel have direct control over - and can correct.

Review the checklist below to ensure your facility is free of the most common ammonia safety hazards

- Ensure your floors are clean and free of oil and water. Don't use your machinery room for storage
- Ensure all escape routes and marked aisles are kept clear at all times
- Check for corrosion under insulation (CUI) by conducting spot checks or Non-destructive Testing (NDT), often performed during your 5-year Mechanical Integrity audit. Prevent pipe corrosion by using a corrosion inhibitor or utilizing stainless steel pipe
- Follow the International Institute of Ammonia Refrigeration (IIAR) ANSI/IIAR 6-2019 guidelines for labeling your ammonia piping. Replace any label that has faded, torn, become obscured, is incorrect or is peeling off the piping
- Ensure your equipment operates within design parameters and temperatures ranges
- Open and close your valves periodically per ANSI/IIAR 6-2019 (annually for critical valves and at least every 5 years for non-critical valves)
- Per process safety management (PSM), ensure personnel involved with the operation and maintenance of the ammonia system receive initial training and refresher training at least every 3 years and/or when equipment is upgraded
- Provide safe access to frequently used valves, equipment for maintenance
 - Items that require maintenance are accessible from the ground
 - Items up high have a catwalk or clear path accessible via a scissor lift or ladder, or equipped with chain actuators
- Perform annual testing on leak detection systems to ensure alarms work properly
- Ensure all valves open to the atmosphere have a pipe plug or cap installed
- Utilize self-closing, spring-loaded valves for oil draining. Keep them in good working order and never remove them or rig them to stay open after you let go
- Keep your gas mask systems readily accessible and close to your ammonia source (but not in the machinery room)
- Insulate your piping and components properly to avoid icing
- Conduct and document annual safety switch testing
- Keep your electrical cabinet doors closed at all times to prevent risk of shock or fire
- Inspect and ensure that there are functioning emergency shower/eyewash basins properly located inside and outside the machinery room
- Post emergency shutdown signage outside your machine room primary door and anywhere else personnel can easily see and read it