



Hot Work Safety

TOOLBOX TALK: Hot Work Safety

RATTLIR Safety Series – "Strike Before It Bites"

Purpose

Hot work presents significant ignition risks in power generation environments. OSHA 29 CFR 1910.252 and NFPA 51B define hot work as any operation capable of producing sparks, heat, or flame. This toolbox talk explains hot work requirements, RATTLIR policy for tool classification, and safe practices for preventing fires during maintenance activities.

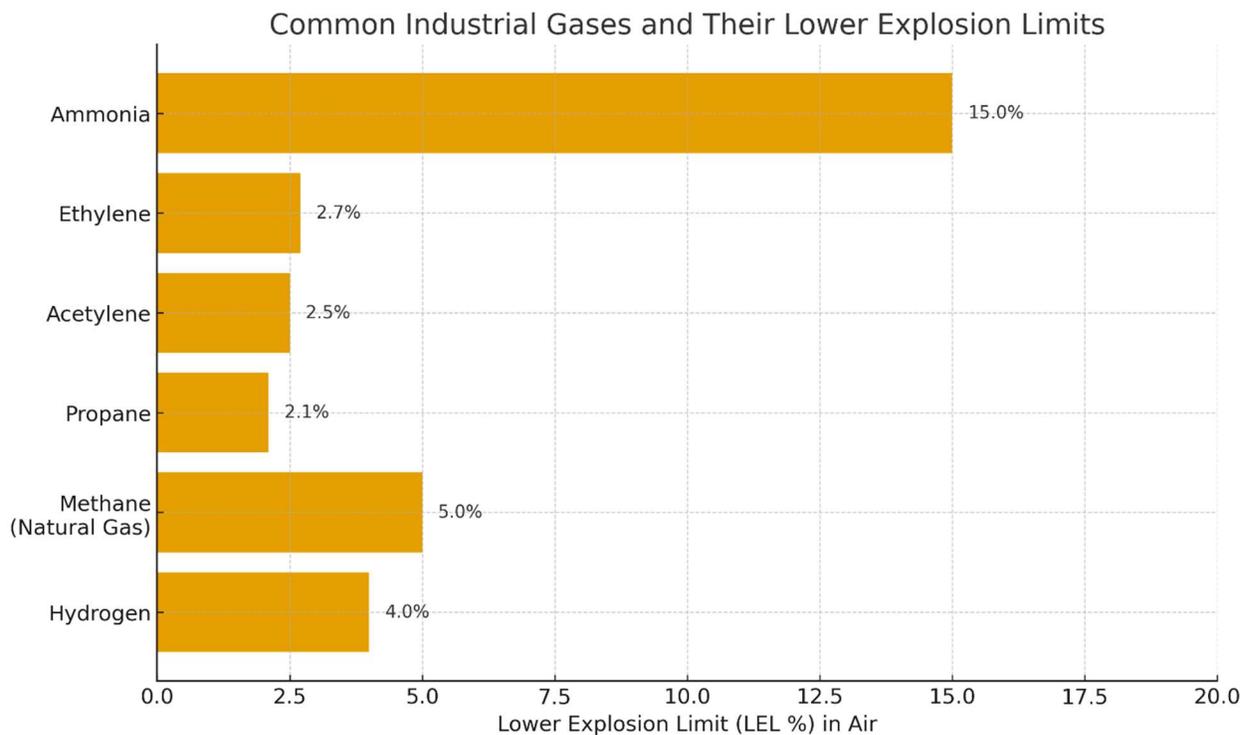


Figure 1 – Common Industrial Gases With LEL%



Hot Work Safety

OSHA and NFPA Definitions

- OSHA 1910.252 defines hot work as welding, cutting, brazing, or any spark-producing operation.
- NFPA 51B expands this definition to include any task capable of generating heat, flame, or sparks.
- Hot work permits must be issued whenever these operations occur in potentially hazardous environments.

RATTLIR Policy: All Drills Are Classified as Hot Work

- Electric, pneumatic, and battery-powered drills can all produce sparks capable of igniting vapors.
- This conservative policy eliminates ambiguity in power plant environments with various combustible liquids and flammable gases.
- Every drill operation requires a hot work permit regardless of location or material.

Hot Work Permit Requirements

- Inspect the work area and remove or shield combustibles within a minimum 35-foot radius.
- Verify atmosphere is free of flammable vapors using gas detection when required.
- Assign a trained fire watch equipped with extinguishers and communication devices.
- Fire watch must remain for at least 30 minutes after hot work is completed (longer if required by policy).
- Review permit scope, duration, and restrictions before beginning work.

Safe Hot Work Practices

- Hot work must not begin until the atmosphere is verified clear of flammable gases. **Figure 1** highlights how low the LEL values are for gases used or produced in power plants, emphasizing the importance of gas testing and ventilation.
- Use spark containment shields when working near sensitive equipment.
- Cover cable trays, oil piping, and insulation materials to prevent ignition.
- Avoid hot work near hydrogen-cooled generators or fuel skids unless fully isolated.
- Ensure all PPE is flame-resistant (FR-rated).
- Maintain clean work areas – dust and oil residue can ignite easily.



Hot Work Safety

Discussion Questions

- Do you understand why RATTLIR classifies all drills as hot work?
- Are you aware of fire watch and hot work permit requirements for today's job?
- Do you have the correct permit and FR PPE before beginning work?

RATTLIR Takeaway

Hot work safety is more than a permit; it's a shared commitment to controlling ignition sources and anticipating what could go wrong. Planning, housekeeping, and communication matter just as much as PPE and fire watches. RATTLIR strikes before it bites by building a culture where hot work is approached with intention, vigilance, and respect for its risks.