

# 2016 Propane Autogas Technology Forum

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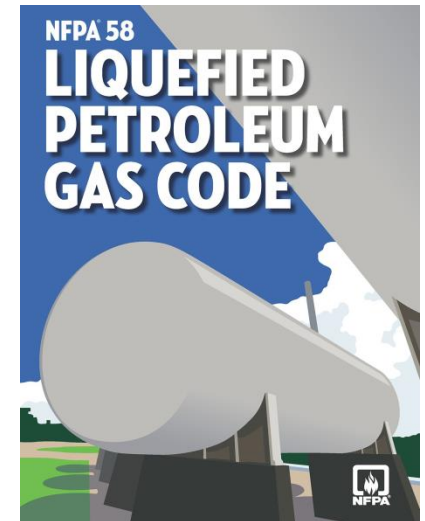
The logo for SLEEGERS, featuring the word "SLEEGERS" in a bold, sans-serif font inside a rounded rectangular border with a slight 3D effect.

# Program

- Changes to NFPA 58
  - Past
  - Future
- Transportation Steering Committee
- Movement in ISO
- DME

# NFPA 58 2017 Edition

- Motor fuel conversion requirements moved into a new Chapter 12
  - Moved chapter from carburation to direct injection
- New definitions added to reflect new technology
  - Distribution block, direct injection, fuel rail, power supply bushing



# NFPA 58 2017 Edition

- Acceptance of R67 @ -40F components when UL or other NA Standards are not in place
  - Requirement for component approval, fuel pumps, fuel injector, rails, power supply busing
- Purging requirements for tanks with electrical components in them
  - Limitations to using propane to purge a tank with electrical components in the tank

# NFPA 58 2017 Edition

- Requirements for fuel pumps, injectors, fuel rails, electrical connectors and wiring, training
- ISO fill valves after 2020
- Commissioning of Vehicles
- Evaporative Emission Controls
- Installation requirements
- Still not finished

# Next Steps

- Continued evolution of new Chapter 12
  - Lots of topics were not addressed due to time constraints
  - Little done with OEM like up-fitting
- Need for Clarity at Federal Level
  - No Federal MVSS standard for propane
  - Federal references to older versions of NFPA 58
- Various state requirements
  - Education of state officials
  - Is the Fire Marshal the best AHJ for vehicles

# Next Steps

- NFPA 58 is approaching B149.5
- Bi-National Standard
  - Simplify life for larger up-fitters
  - Consolidation of Resources
- US-CAN Regulatory Cooperation Council
  - Dispenser standard
  - Installation code
  - Federal rules of OEM's
  - UL 132 PRV
  - CRN



# CSA Group Transportation Strategic Steering Committee

- Steering Committee is Bi-national
  - Similar issues
- Bring all transportation fuels applications under one strategic committee
  - CNG, LNG, Electrical, Hydrogen, propane
  - Cars, Trucks, Rail and Marine
- Bi-National standards for
  - Dispensers, containers, on-vehicle components, installation standards



# CSA Group Transportation Strategic Steering Committee

- CNG is now a Bi-national standard
- B149.5 is moving into this committee
- CSA is assuming management of the ISO mirror committees for US and Can

# Movement in ISO

- Moving to establish standards for all components
  - General requirements, definitions, performance and general test methods
  - Fill nozzle to injector, 19 standards
- Using EU/ISO materials and test methods
  - Burst tests 2,25 test vs 5 times

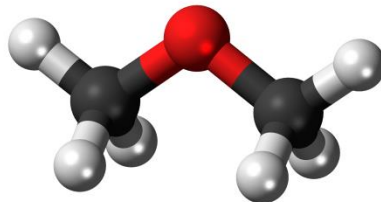


# Movement in ISO

- Dominant market is not NA
- Need component standard
- Accept ISO or develop own
- If accept ISO can we build here in NA to these material standards

# Dimethyl Ether (DME)

- Should we address it?
- In many ways similar to propane
- Can be a renewable fuel
- Distinct advantages in the low carbon future
- ISO again moving on this WG8
- No NA membership on the ISO committee



# Discussion