M313 Semi-Volatile Compound Exclusion Pathway

GC-FID Preliminary Results

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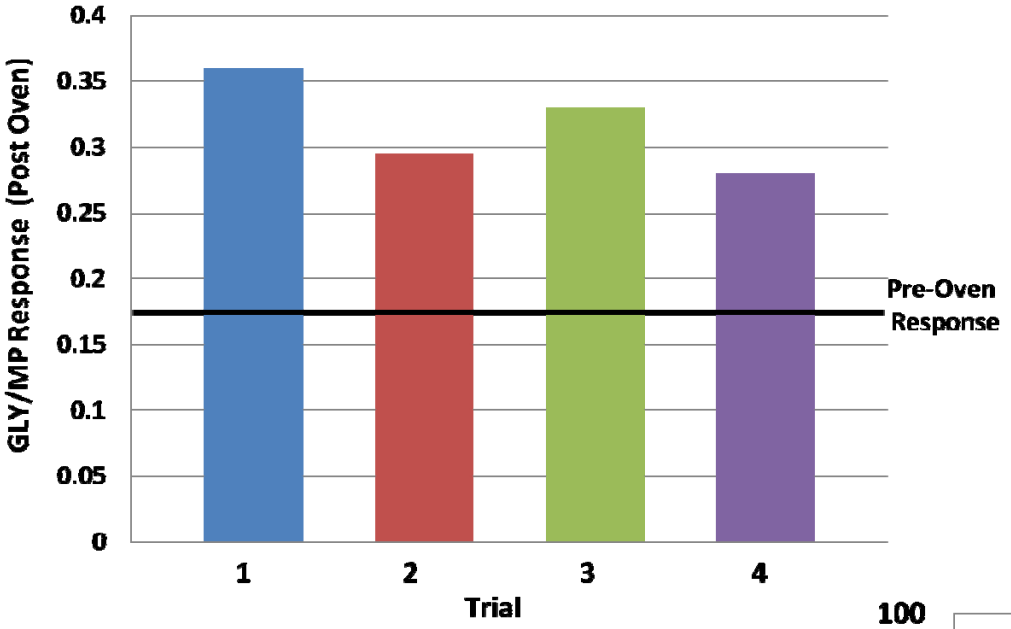
Purpose and Procedure

- Purpose
  - Establish paradigm for the evaluation of potential M313 excluded compounds
  - Compounds of interest: Glycerol (GLY), Pentaethylene Glycol (PEG)

- Procedure
  - Measure baseline GC-FID response for 50:50 mix of methyl palmitate and compound of interest
  - Perform % NV portion of M24 on 50:50 mix
  - Recover residue from pan following heating and determine relative recovery of each component (via GC-FID

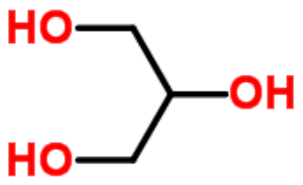
Glycerol and Methyl Palmitate



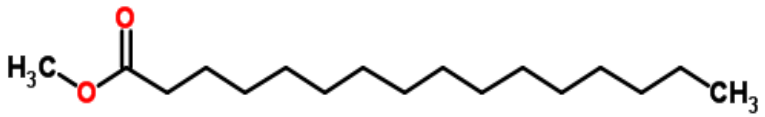
- Pre-oven response ratio sets baseline for comparison. **Baseline: 0.17**

- Greater response ratio following heating → more GLY remains following heating relative to MP

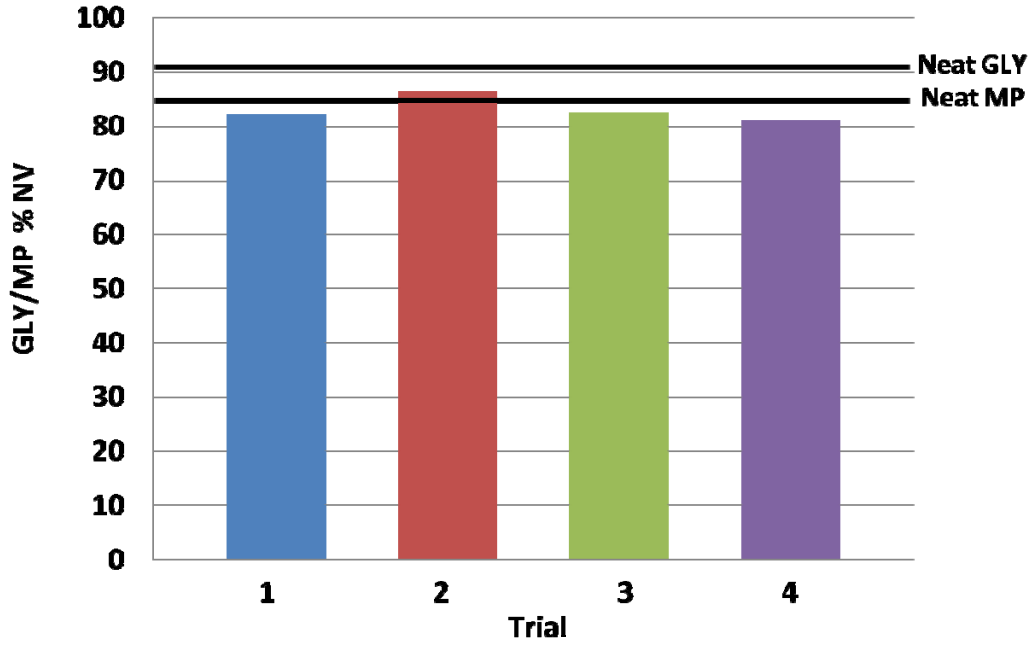
- GLY *less* volatile than MP



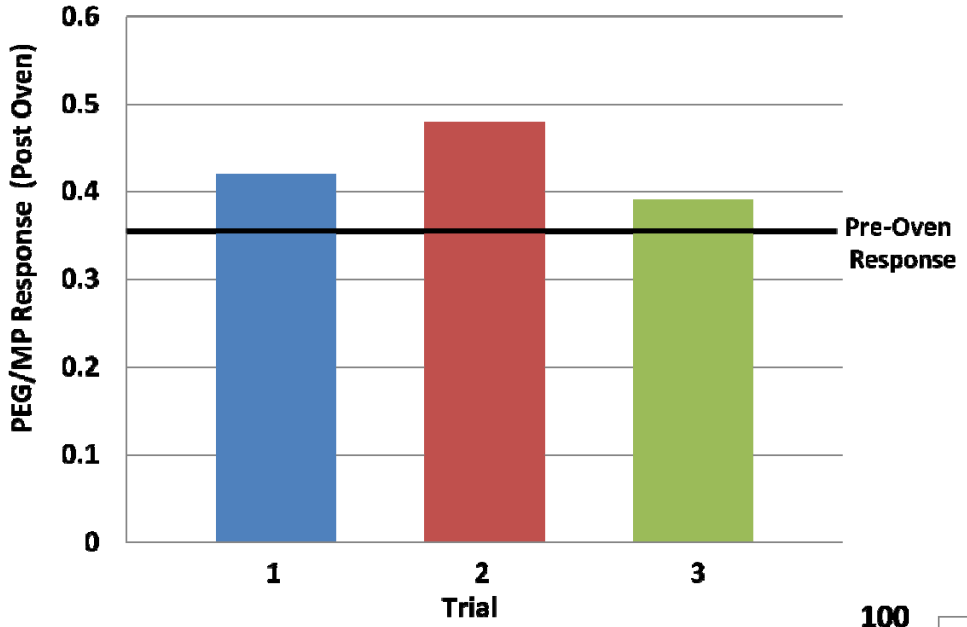
Glycerol



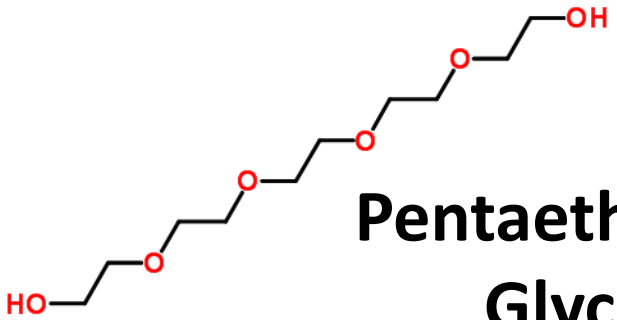
Methyl Palmitate



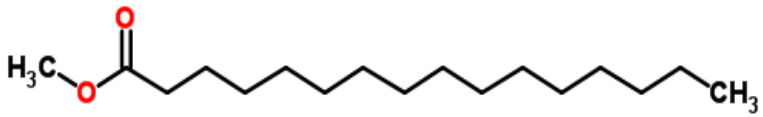
Pentaethylene Glycol and Methyl Palmitate



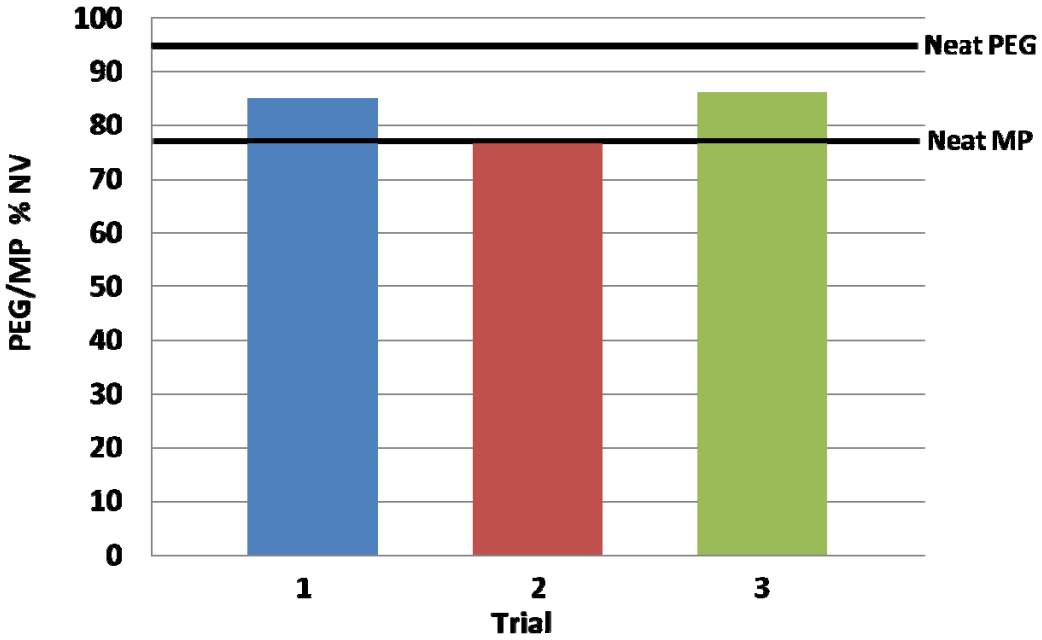
- Baseline: 0.36
- Greater response ratio following heating → more PEG remains following heating relative to MP
- PEG *less* volatile than MP



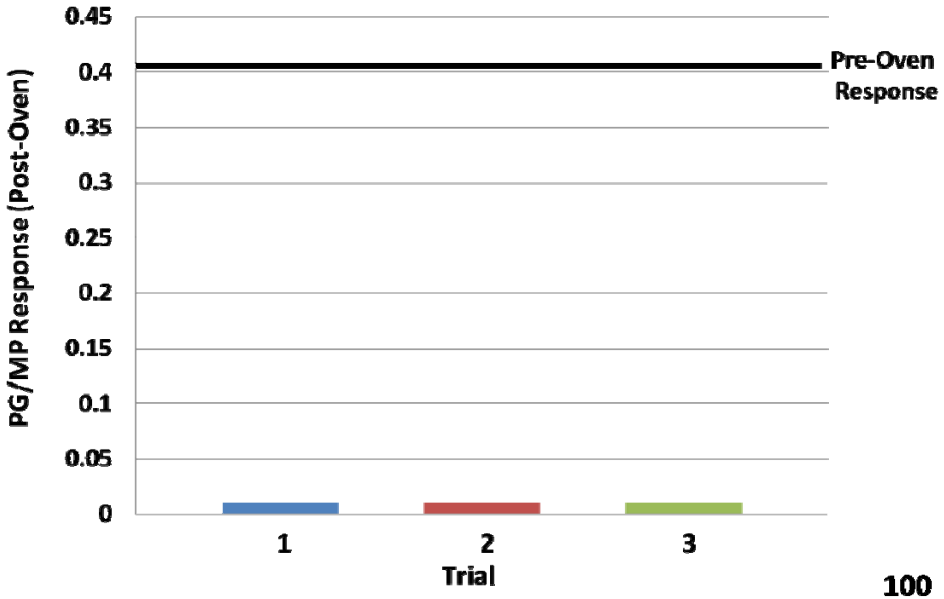
Pentaethylene Glycol



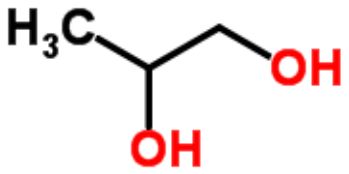
Methyl Palmitate



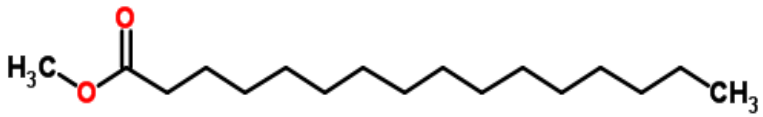
Propylene Glycol and Methyl Palmitate



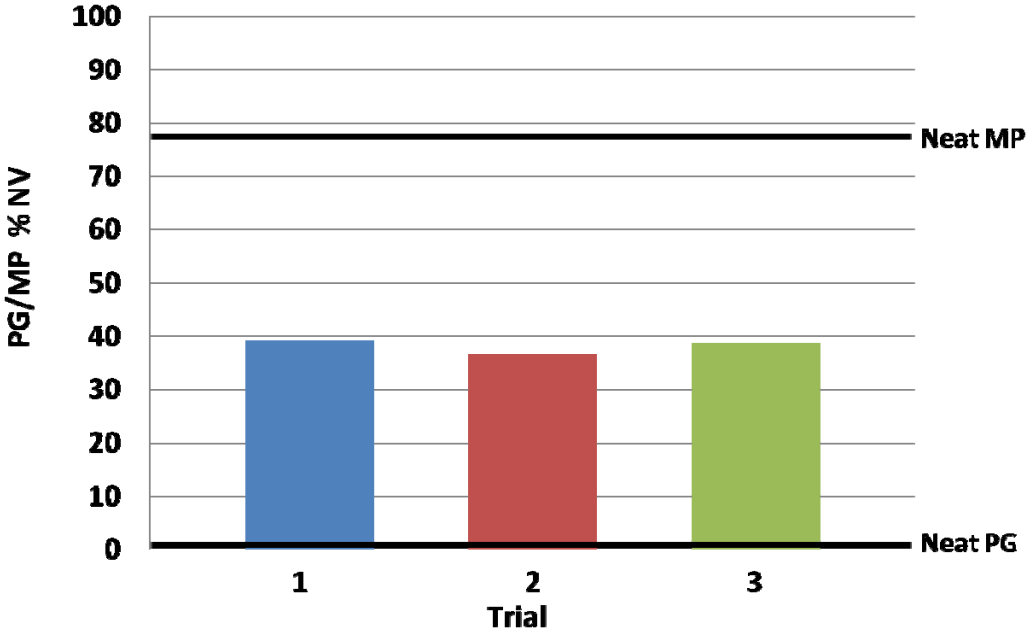
- Baseline: 0.41
- No detectable quantity of PG following heating
- PG clearly *much more* volatile than MP



Propylene Glycol



Methyl Palmitate



Conclusions

- Mixing MP with another compound of interest (GLY/PG/PEG) leads to significant variability in %NV results by M24.
- Preliminary **qualitative** results show

More volatile than MP qualifies as VOC	Less volatile than MP potential excluded compound
Propylene Glycol	**Glycerol**
	Pentaethylene Glycol