CRIGEN
Research and Innovation Center in Gas and New Energies

November 2016

ENGIE Lab

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CEN PC408: Natural gas and biomethane for use in transport and biomethane for injection in the natural gas network

Chapter 1

Scope of the standard

Chapter 2

The parameters to be measured

Chapter 3

The CEN/PC408 expectations

Scope of the standard

Standardization of specifications for natural gas and biomethane as vehicle fuel and of biomethane for injection in the natural gas grid, including any necessary related methods of analysis and testing. Production process, source and the origin of the source are excluded.

Representation:

Chairman: Erik Buthker, Pitpoint/NEN

Secretary: Christophe Erhel, BNG/AFNOR

Answer mandate M/475

Activities

- EN 16723-1: Natural gas and biomethane for use in transport and biomethane for injection in the natural gas network - Part 1: Specifications for biomethane for injection in the natural gas network

→ Voted in August 2016

- prEN 16723-2: Natural gas and biomethane for use in transport and biomethane for injection in the natural gas network - Part 2: Automotive fuel specifications

→ To be voted by the end of the year

- 1 Technical Report under development

Proposed the methodology to determine limit values for contaminants in biomethane based on health assessment criteria

Target parameters

Table 1 – Applicable common requirements and test methods for biomethane at the point of entry into H gas and L gas networks

Parameter	Unit	Limit values[a]		Test method
		Min	Max	
Total volatile silicon (as Si)	mgSi/m3		0,3 to 1[b]	ISO 16017-1 TDS-GC-MS
Compressor oil		[c]		ISO 8573-2
Dust impurities		[c]		ISO 8573-4
Chlorinated compounds		–	[d] [e]	EN 1911
Fluorinated compounds			[d]	NF X43-304 ISO 15713
CO	% mol	–	0,1[f]	ISO 6974 series
NH3	mg/m3		10[g]	NEN2826 of VDI 3496 NF X43-303
Amine	mg/m3		10[g]	VDI 2467 Blatt 2:1991-08

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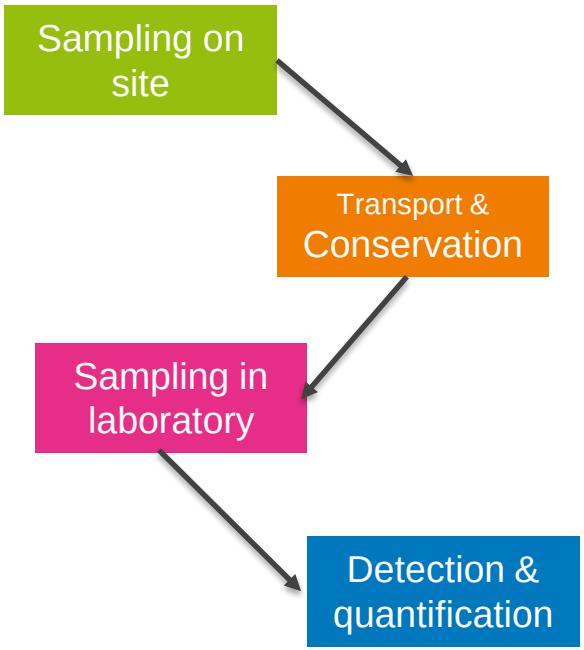
Some test methods have not been validated for biomethane or mixtures with natural gas, however further work is undertaken towards validation.

Keep in mind…

- Not a lot of parameters. However some might be considered challenging to be measured.
- Sampling issues
  - —Total volatile silicon
  - — NH3
  - — Amines
- Limit of quantification
  - — Total volatile silicon



The CEN PC408 expectations

The CEN PC408 must have some analytical methods and requirements for sampling issues

- We need a reference method for each parameter
- We need analytical methods which can be easily implemented by laboratories at one point
- We need gas standards as reference to help the development

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