

JEC Test Programme on Ethanol Fuels

Ethanol blends for Gasoline engines

Motivation and Objectives

Fuels containing Ethanol are substantially different from those fuels based on Hydro-carbons only, e.g. Octane, volatility, oxygen content, lower calorific value, heat of vaporisation, density, polarity, etc

The quantitative impact of ethanol on fuel consumption and emissions is an important assumption for e.g. WTW evaluations of ethanol-containing fuels. A literature review of recent engine and vehicle tests on E5-E20 fuels has not provide a definitive assessment of the ethanol impact.

Hence, EUCAR, CONCAWE and JRC have started to perform a joint evaluation of various ethanol blended gasoline fuels with the objective:

- Measure the impact of ethanol fuels on fuel consumption and exhaust emissions from modern vehicles

Project Plan, Milestones and Deliverables

Project Plan:

- CONCAWE to blend the fuel matrix and deliver the fuels to JRC
- EUCAR to support the project with modern vehicles
- JRC to perform all vehicle testing

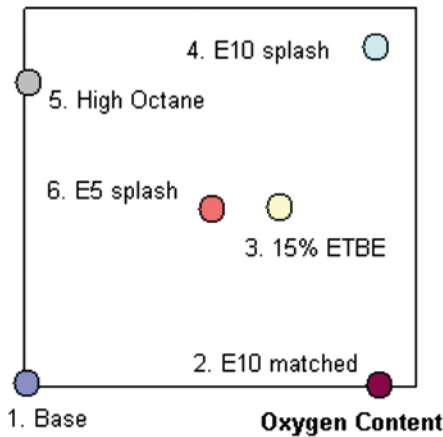
Deliverables:

- Analysis and interpretation of emissions- and fuel consumption data

Technical Approach

- Formulate fuel matrix using DoE principles
- Blend fuels
- Develop testing methodology with regard to fuel consumption and emissions: NEDC, steady state, US cycle
- Test vehicles according to methodology

Octane



Achievements

- Fuel matrix has been blended, vehicle testing is finished
- Analysis of data is proceeding

Organisational Information

Budget	self-funded by partners		
Duration	30 months	Start	2007
DG		Priority Area	Renewable energies
Coordinator	Heinz Hass, FORD	Contact	hhass@ford.com
Partners	all EUCAR members, CONCAWE members & JRC		
Website	www.eucar.be / www.concawe.be		