



**REPUBLIC OF MACEDONIA
MINISTRY OF ECONOMY**

**RULEBOOK ON QUALITY OF
LIQUID FUELS**

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RULEBOOK ON QUALITY OF LIQUID FUELS

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- **LEGAL BASE: LAW ON SAFETY PRODUCTS**
- **INSTITUTION : MINISTRY OF ECONOMY OF RM**

INTRODUCTION

- In order to comply with the EU Legislation in the field of European standards on quality of liquid fuels, and according to the National Program for compliance of the national legislation to the Legislation of EU, in June 2007 new **Rulebook on quality of liquid fuels** was adopted.
- With this Rulebook all the requirements (European standards and Directives) regarding the quality of liquid fuels (crude oil derivatives and bio-fuels) prescribed within the EU legislation are transposed to the national legislation.
 - **Directive EC 98/70, Directive EC 99/32 and Directive EC 2003/30**
 - **European standard for petrol fuels EN 228:2007 and**
 - **European standard for diesel fuels EH 590:2007**
- During the few past years the *Rulebook on quality of liquid fuels* was changed a little bit and amended properly:
 - **November 2006** on the market of RM were introduced the **Bio-fuels**.
 - **May 2007** on the market of RM were introduced the new diesel fuels. In following, those are:
 - **D-E IV (EURODIESEL)** with sulfur content max. to **50 ppm** and
 - **D-E V (EURODIESEL BS)** with sulfur content not exceeding **10 ppm**.

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- After adoption of the Rulebook on quality of liquid oils, all the changes mentioned above were taken into consideration. In addition some new initiatives were introduced in line with the properties of the liquid fuels with respect to their quality, which are traded on the market of RM:
- Benzene and sulfur content, olefins, aromatic compounds and oxygenates into the lead free petrol
- Sulfur content of the diesel fuels and
- Other qualitative properties of the liquid fuels.

TIME FRAME FOR TRADING OF THE CRUDE OIL DERIVATIVES

- To **30.06.2009** the sulfur content of the diesel fuel D-E IV EURODIESEL is no more than 50 ppm. After this date, the sulfur content into the diesel fuel will not exceed 10 mg/kg EURODIESEL BS.
- From **01.02.2008** only the **Extra light fuel oil for domestic use** is allowed to be traded on the market, with limit value for sulfur content not exceeding 0,1 % (m/m).
- To **30.06.2009**, the thresholds for sulfur content of the **petroleum jelly** is up to 2% (m/m), and from 01.07.2009 the same should not exceed 1 % (m/m).
- To **30.06.2009** on the local market will be traded motor-petrol supplied and produced with benzene and aromatic compounds content, with compliance to the standards MKS B.2.210 and MKS B.H2.220. After this date, on the market will be traded only the motor-petrol standardized according to the Standard MKS EN 228:2007 that is adopted with the Rulebook on quality of liquid fuels.

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- From **30.06.2008** the limit value of the sulfur content of the motor-petrol traded on the local market is not exceeding 10 mg/kg.
- To **30.06.2009** will enter on the local market a motor-petrol with lead content of 0,15 g/l, marked as MB 96 (Premium), which minimal value of the octane number according to the testing method is 96, what means, the limit values of some particular properties are in compliance with the prescribed standard **MKS Б.Н2. 220**. Within the laboratory report of the motor-petrol quality MB 96, at least the following characteristics should be determined:
 - Density on 15 °C,
 - Distillation (to 70 °C, to 100 °C to 180 °C, end of distillation),
 - Octane number (according to the testing method),
 - Lead content,
 - Sulfur content and
 - Color

МОТОРЕН БЕНЗИН

Qualitative property	Unit	Limit value At least (Low)	Limit value At most (High)
Testing octane number (TON)		95	-
Motor octane number (MON)		85	-
Vapor pressure	KPa	-	Class A
Distillation Pre-distillated quality to 100 °C Pre-distillated quality to 150 °C	% v/v % v/v	46 75	
Quality of carbon-hydrates - Olefins - Aromatic compounds - Benzene	% v/v % v/v % v/v		18 35 1,0
Quantity of oxygen	% v/v		2,7
Quantity of oxygenates	% v/v		
Compulsorily Methanol stabilizer	% v/v		3
Could be added Ethanol	% v/v		5
Stabilizer	% v/v		10
Isopropyl-alcohol	% v/v		7
Tertiary butyl alcohol	% v/v		10
Isobutyl alcohol Ethers with 5 or more carbon atoms of the molecule	% v/v		15
Other oxygenates	% v/v		10
Sulfur quantity	mg/kg		50
Quantity of Lead	g/l		0,005

DIESEL FUEL

QUALITY	Unit	Min limit value	Max.Limit Value
Cetan number		51,0	-
Consistency (density) at 15 ^o	Kg/m ³		845
Distillation: - 95% (v/v) pro-distillation to	Kpa	-	360
Quantity of polycyclic aromatic carbonhidrates	% m/m		11
Quantity of sulfur	mg/kg		50
Quantity of water	mg/kg		200
Temperature of filtration Period 15.04. до 30.09 01.10 до 15.11 01.03. до 14.04 16.11 до 28/29.02	°C		(1) (нула) 10 10 (минус 10) (1) 10 (минус 10) - 15 15 (минус)
Lubricity at 60 °C	µm		460

EXTRA LIGHT OIL FOR HOUSEHOLDS

Quality	Unit	Min.limit value	Max.Limit Value
Quantity of Sulfur	% (m/m)		0,1

MAZUT

Quality	Unit	Min.limit value	Max.Limit Value
Quantity of Sulfur	% (m/m)		1,0

Rule Book on Quality of Liquid Fuels

Supervision (inspection) of the Quality of Liquid Fuels

- The Rule Book improves the inspection over the liquid fuel quality .
- Following functions are introduced:
Inspection of the liquid fuel quality in the end of distribution
(done by the supplier on his account as to provide permanent control of the distributed fuel on the market).
- If in the Report of the inspection over the fuel quality at the end of the distribution is stipulated that the liquid fuel fulfilled the quality requirements in accordance to the Rule Book, than the liquid fuel is considered as suitable.
- Each supplier have to submit following reports to the Ministry of Economy and Ministry of Environment and Physical Planning : **Monthly/Annual Reports on quantities of different types of liquid fuel distributed on the market.**
- The monitoring of the quality of the fuel derivatives distributed on the market is provided by the supplier , and the monitoring is implemented according to:
Annual Monitoring Program of the quality of liquid fuels
(issued by the Ministry responsible for the energy sector).
- The results of the monitoring /database will be placed on the **WEB page of the Ministry of Economy**
(This activity is still pending , but in the Ministry of economy intensive actions are taken for preparation of this important issue).
- Supervision/inspection of the execution of the Rule Book is done by the State Market Inspectorate
(In case of any suspicion on non-compliance of the quality of the distributed liquid fuel on the market with the standards given in the Rule Book, the State market Inspectorate may order another quality analyses to be done by Accredited Laboratory that fulfill EN ISO/IEC 17025 standards or licensed laboratory.).

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