



ANALYSIS OF FUELS AND LUBRICANTS

Many of the work associated with petrochemicals (refiners, producers, mixers, distributors, as well as research institutes, QC laboratories) give a crucial importance to the quality control of fuels and products upstream. They must be able to provide assurance that the end consumer will use products that meet all the industry standards. In addition, these fuels must be adapted to the performance of increasingly technical engines and to reduced consumption.

Through its extensive offer, CARLO ERBA Reagents is not only able to provide the suitable chemicals for these particular analysis but also the appropriate equipment.

CARLO ERBA Reagents, thanks to its know-how as a manufacturer, has developed, among other things, a specific range of solvents for the analysis of fuels.

Fuels are flammable products that need to be handled with suitable equipment. CARLO ERBA Reagents offers a selection of sampling, packaging and storage equipment, guaranteeing product integrity and user safety.

MON AND RON ANALYSIS



Gasoline is a complex mixture of hundreds of volatile and combustible petroleum-based compounds, with short carbon chains and boiling points below 220° C. The **Octane rating** measures the fuel's ability to resist "knocking" during combustion. It is therefore one of the main parameters measured in the quality of gasoline. It is mainly affected by the presence of aromatic hydrocarbons, isoparaffins, olefins and additives in the form of ethanol and esters.

By simulating the specific requirements of an engine, different methods are used to determine the octane rating. Among the most used methods are :

- Motor Octane Number (MON)
- Research Octane Number (RON)

CARLO ERBA Reagents offers you PRF (Primary Reference Fuels) to determine the MON value, according to ASTM D2700, and RON, according to ASTM D2699, of your gasolines in a CFR type engine.

Product	Quality	Pkg	Code
n-Heptane	RE - ASTM	5 l	524263
		25 l	524265
		200 l	524267
Isooctane	RE - ASTM	2,5 l	528963
		5 l	528960
		25 l	528961
		200 l	528962
Octane 80	RE - ASTM	5 l	525992
		25 l	525993
		200 l	525994
Toluene	RE - ASTM	5 l	386102
		25 l	386104
		200 l	386106



DASITGROUP

CARLO ERBA

REAGENTS

ANALYSIS BY GC-MS & HEADSPACE



Automotive lubricants allow engines to increase their performance. Controlling their quality and their change over time is therefore essential for proper operation and a longer engine life.

GC-MS allows to isolate and qualitatively identify the key components of lubricants, and thus to define their "signature". It is then possible to analyze the new oils and assess the quality of the ones that have already traveled several kilometers.

Headspace allows you to analyze the head space of engine oils. New lubricants are rich in volatile antioxidants. Waste oils contain several components of oxidative degradation such as acetaldehyde, acetone, butanal, 2-propanol, acetic acid, 2-hexanol, benzoic acid, benzaldehyde and 1-pentanol.

The analysis of the oil makes it possible to know its quality and its condition. Predicting the shelf life makes it possible to carry out maintenance or oil change of an engine at the right time based on the information collected.

By diluting your oils the results of the analyzes are often more accurate.

CARLO ERBA Reagents also offers analytical quality solvents meeting ISO and ACS standards, and cleaning solvents. Find our products on our website www.carloerbareagents.com

CARLO ERBA Reagents offers its specific GC-MS and Headspace ranges to guarantee reliable results.

These solvents guarantee excellent performance, even for the analysis of the most complex mixtures and are characterized by :

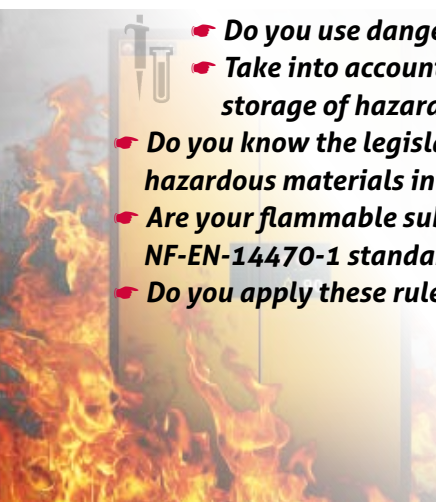
- very high purity
- an extremely low non volatile residue content
- functionalities tested in GC-MS and Headspace respectively.



Product	Quality	Pkg	Code
Acetone	GC-MS	1 l	400952
Chloroform stabilized with ethanol	GC-MS	1 l	438732
Dichloromethan stabilized with amylene	GC-MS	1 l	463342
Dichloromethan stabilized with ethanol	GC-MS	1 l	463332
n,n-Dimethylacetamide	Headspace	1 l	444311
n,n-Dimethylformamide	Headspace	1 l	444991
Dimethylsulphoxide	Headspace	1 l	445121
Ethyle acétate	GC-MS	1 l	448342
n-Hexane 99 %	GC-MS	1 l	447212
Methanol	GC-MS	1 l	414952
n-Methylpyrrolidone-2	Headspace	1 l	462881
n-Pentane 99%	GC-MS	1 l	468172
n-Pentane	GC-MS	1 l	468182
Water	Headspace	1 l	412011

STORAGE OF HAZARDOUS SUBSTANCES



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- **Do you use dangerous chemicals?**
 - **Take into account the chemical incompatibilities for the storage of hazardous products?**
 - **Do you know the legislation relating to handling and storage of hazardous materials in force at the workplace?**
 - **Are your flammable substances stored in cupboards certified to NF-EN-14470-1 standard?**
 - **Do you apply these rules?**

You don't have 5/5 to this questionnaire

CARLO ERBA Reagents in partnership with asecos® has the solutions to support you in securing your workstation. Your sales manager is at your disposal to provide you with his expertise.

SAMPLING



With modern techniques, it is possible to perform highly precise analyzes. However, these are irrelevant if an error during the sampling process, causing an incorrect final result. Samples must be taken and handled with the same precision as the analysis. Bürkle offers vial and immersion bomb samplers for the petrochemical industry. The immersion samplers for explosion protection are made of nickel-plated brass, to avoid any oxidation. They can be used for targeted samples and all layers.

Manual cable reels, cables and drop chains are available as an option. When sampling easily flammable liquids, the Ex protection guidelines must be observed. Only conductive down cables made of non-sparking materials and manual conductive cable reels (with ground connection) must be used.



The samplers presented are certified for use in protection zone Ex 0.

Note: the corresponding down cables must be ordered separately.

Glass immersion sampler

- Easy-Click system: secure closing and convenient for the quick replacement of bottles
- Heavy weight (3.3 kg) for faster immersion
- Transparent glass bottle
- Height with bracket 330 mm

Immersion bomb

- The unscrewable upper part allows for easy cleaning
- Heavy weight (4.1 kg) for faster immersion
- Robust carrying handle
- Height with bracket 438 mm
- Use in targeted sampling or deep sampling

Ex immersion sampler

- Unscrewable bottle neck - cleaning easy
- Robust carrying handle
- Heavy weight (3.2 kg) for faster immersion
- Height with bracket 443 mm

Capacity (ml)	Ø (mm)	Ref.
1000	148	LLG09303938

Capacity (ml)	Ø (mm)	Ref.
1000	75	LLG09303939

Capacity (ml)	Ø (mm)	Ref.
1000	89	LLG09303937

Immersion container

- Sampling all layers samples from tanks, [...]
- With EasyFlow, the flow valves optimized according to the flow
- Heavy weight (2.1 kg) for faster immersion
- Capacity 1 000 ml
- Height with bracket 427 mm
- In brass or stainless steel V2A (1.4301)

Material	Ø (mm)	Ref.
Laiton	82	LLG09303935
Inox V2A	82	LLG09303936

Mini immersion bomb

- Sampling of liquids in narrow places, difficult to access
- Can be used in probe pipes curved or in narrow slotted barrels
- Reduced diameter : 32 mm
- Weight 350 g
- V2A weight (1.4301)
- The unscrewable upper part allows for easy cleaning

Volume (ml)	Ø (mm)	height (mm)	Ref.
50	32	180	LLG09303933

Accessories

Manual cable reel in PA, conductive
Ref. LLG09303941

Manual cable reel Ex with earth cable
Réf. LLG06234815

Ex twisted copper cable

Length (mm)	Ø (mm)	Ref.
10	4,5	LLG06235904
25	4,5	LLG06253137
50	4,5	LLG06286530



TRANSFER & PACKAGING



Pumps for flammable liquids

The transfer of flammable liquids requires special precautions. Distributors of flammable liquids must be made from conductive materials. It must be ensured that the electrostatic discharges are completely dissipated thanks to an antistatic system. Bürkle offers a range of pumps specially adapted for the transfer of flammable liquids.



Other types of pumps are available, consult us

Aluminum bottle



The pure aluminum bottle (Al 99.5) is specially suitable for the storage, transport or shipping of substances and samples which must be kept completely intact.



- Drain to the last drop
- Odorless, opaque and stainless
- Original PP threaded plug with aluminum inner seal
- UN 1B1 / X / 250 approval (except 38 ml)

Capacity (ml)	Ø (mm)	Height with cap (mm)	Ref.
38	35	70	LLG09072168
60	40	88	LLG09072169
120	57	97	LLG09072170
300	57	160	LLG09072171
600	74	192	LLG09072172
1200	88	248	LLG09072173
3000	161	215	LLG06290528
5600	161	340	LLG06290529

Stainless steel barrel pumps

The Bürkle stainless steel barrel pump (1.4301) is suitable for transferring flammable liquids. The PTFE seals guarantee long-term, maintenance-free use. Flow dependent on pump length : approx. from 9 to 22 l / min.



Immersion depth	Pressure flow ml	Ref. Angled outlet	Ref. Flexible outlet + tap
36	220	LLG06083463	LLG06802513
57	350	LLG09001340	LLG09001362
91	560	LLG09001341	LLG09001363

Accessories : Connection and antistatic kit, contact us

1500 mL stainless steel bottle with DIN GL 45 thread

The DURAN® Group AISI 316L (1.4404) unbreakable stainless steel bottle is particularly suitable for safely packaging (and transporting, for the UN certified version *) materials at risk such as solvents and reagents.



Description	Code
GL 45 stainless steel bottle (without cap)	LLG09072175
DG stainless steel plug (316L) with platinum catalyzed silicone gasket and PTFE coating, GL 45	LLG09072177
Stainless steel bottle (transport) with DIN GL 45 thread, UN certified *, complete with cap	LLG09072176

** Certified in accordance with UN standards for the transport of liquids belonging to the category of dangerous materials and classified in packing groups II (moderate danger) and III (low danger).*

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"Partner in choice"

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