

Reel 104

P.A.W.

Item 12

reel 104

M.7

DE-LEADING OF B4. EXPERIMENTS MADE FOR  
THE RLM.

Index No. M.7

Origin: I.G.

Date: March-October 1943.

Contents: Correspondence,  
various data &  
manuscript notes  
regarding the above.

The general purpose of the de-leading seems to be to render the spirit suitable for use as a heating medium or for cleaning etc., when no other than leaded fuel is available, e.g. during military operations. Various chemical methods and also the use of activated charcoal, are discussed

Also included in the sheaf of documents are some referring to valve-corrosion occurring in the use of leaded B4, e.g. one refers to admixture of ethylene bromide in an attempt to render the aviation spirit B4 suitable for use in tank engines.

reel 104

Nl.

REGULATION TESTS FOR SOLID FUELS USED  
IN AUTOMOBILE GAS GENERATORS.

<u>Report No:</u>		<u>Index No.</u> Nl.
<u>Author:</u>	*	<u>Origin:</u> I.G. Oppau.
<u>Date:</u>	September 1944.	<u>Contents:</u> 58 photostat sheets.

The folder contains a set of regulation tests applied to solid fuels used for gas-generation.

The list of contents is as follows:

Preface.

1. Sampling & preparation of sample.
2. Measurements of particle size.
3. Packing Weight (Schüttgewicht), i.e. the wt. of fuel per cubic metre of bunker-space when loosely filled.
4. Resistance to drumming (Trommelfestigkeit) i.e., a test indicating the amount of disintegration into smaller particles when the fuel is in use.
5. Water and ash content. Volatile content.
6. Carbon & hydrogen content.
7. Calorific value.
8. Sulphur content.
9. Tar content.
10. Ignition point and "reactability".

The ignition point is the temperature at which the fuel ignites in a stream of oxygen.

The "reactability" (Reaktionsfähigkeit) is a measure of the degree to which the equation  $CO_2 + C = 2CO - 29 \text{ K.cal.}$  applies to the fuel.

\* Various authors. Prepared by the "Gas-Generator" Section of the VDI. Preface signed by Prof. Wilke.

reel 104

N. 13.

COAL & OIL LABORATORY - SPECIAL TESTS.

Report No:

Index No: N.13.

Author:

Origin: Union Kraftstoff, Wesseling.

Date: 1939 - 1944.

Contents: Correspondence, references & various manuscript notes.

The file contains documents referring to tests carried out in the Union Kraftstoff Laboratories. It also contains correspondence from various sources on related subjects.

The main topics dealt with are:-

(1) Hydrogenation Processes.

Reports & correspondence (I.G. Ludwigshafen, Gelsenkirchen, Scholven etc.)

List of references to work done at Scholven, Leuna, Brabag, Gelsenberg, Ruhrol, Pölit, Ludwigshafen, Oppau.

(2) Experiments done at Wesseling on the production of smoke-screens (artificial fog).

(3) Analysis of (a) various tars, road-oils, also of residues from B4. (b) coal pastes.

real 104

Q.2

VAPOUR PRESSURES OF AMINES OF ALIPHATIC HYDROCARBONS.

<u>Report No.:</u>		<u>Index No.</u>	Q-2.
<u>Author:</u> *		<u>Origin:</u>	Oppau.
<u>Date:</u>	27/9/44.	<u>Contents:</u>	1 large sheet of curves.

\* Compiled from various sources, drawing signed "Kling".

Curves are given for the vapour-pressure, temperature (abs.) relationship on logarithmic graph paper.

The aliphatic amines oncluded are: methylamine, ethylamine, propylamine, i-butylamine, dimethylamine, diethylamine, trimethylamine, triethylamine.

(temp. range: -100 to 300°C, pressure range: 0.001 to 100 atm.)

reel 104

Q.4.

ANGLO-AMERICAN CAPTURED FUELS.  
EVALUATION OF EXPERIMENTAL DATA.  
(1940 to June 1943).

<u>Report No:</u>		<u>Index No:</u>	Q.4.
<u>Author:</u>	Seeber.	<u>Origin:</u>	I.G. Oppau. (from DVL)
<u>Date:</u>	17/6/43 (sent to I.G. 20/3/44)	<u>Contents:</u>	3 photostat sheets.

A report is given of analytical and test results on various captured fuels. The conclusions reached are as follows:-

High performance fuels predominate in the Anglo-American Air Forces. All the analytical data corresponds to the German Specifications (BVM Regulations).

The captured fuels of Octane No.87 class correspond in rich-mixture behaviour to the German B4 class; many high performance fuels examined show a predominant C1 character. Only three fuels came near the German C3 fuel (on the basis of the Oppau Octane No. method), without having, however, the aromatic-content of the latter.

In addition, it can be said that as the War increases in duration an increase is taking place on the one hand in lead tetra-ethyl content and on the other of the aromatic content and consequently in specific gravity.

reel 104

Q.20

SPECIFICATIONS FOR DIESEL FUELS FOR SUPPLY TO THE  
GERMAN NAVY.

Ref. No. Q.20

Reference: TA Af/Ba-

Date: 10.6.43

Contents: 1 Text Page

◆ Exactly the same as M.12.

J.A.E.M.

rule 104

Q.37A.

TECHNICAL DELIVERY REQUIREMENTS  
FOR THE INLAND AVIATION SPIRIT V.T.200.  
(earlier description - Leuna II. Benzine)

<u>Report No:</u>	TL.147-151 1	<u>Index No:</u>	Q.37A.
<u>Author:</u>		<u>Origin:</u>	Air Ministry.
<u>Date:</u>	15/9/37.	<u>Contents:</u>	5 sheets text.

This reports gives specification tests for the above aviation fuel, which is a high pressure hydrogenation product made by the I.G. process from lignite. Absence of straight-run spirit, cracked or polymerised benzines is specified and it must also be free from anti-knock and anti-corrosion compounds or inhibitors.

reel 104

R-5.

PHYSICAL DATA FOR IRON AND NICKEL  
CARBONYLS.

Report No: File bears No. "A.10".

Index No. R-5.

Author: File bears name of  
Prof. Wilke.

Origin:

Date:

Contents: 10 pages of  
data and 4 photo-  
stat curves.

The file contains collected physical data on nickel and iron carbonyl from all sources, both published literature (to which references are given) and original experiments.



Reel 104

R.6

THE EGERSDÖRFER HEAVY OIL EQUIPMENT.

Report No: \_\_\_\_\_ Index No: R.6.

Author: Wilke. Origin: \_\_\_\_\_

Date: \_\_\_\_\_ Contents: 5 pages text.

The report concerns the injection pump and nozzle of the Egerdörfer type, which is intended to solve the problem of heavy oil combustion in a "mixture" engine (Gemischmotor) while being at the same time suitable for diesel engine use.

The report consists of various explanatory remarks and an opinion on the use of the Egerdörfer device. Drawings mentioned are missing.

The equipment had not actually been tried out in practice so that only a criticism of its construction and mode of working could be given.

The action of the device is given as twofold:

1. Atomisation of the heavy oil immediately before the inlet valve, or
2. Injection into the cylinder during the compression stroke.

The advantage is claimed to be in the high degree of atomisation.