UNITED STATES NAVAL TECHNICAL MISSION IN EUROPE

80098

FILE: JJ7/A9-2(10/Ma)

Serial: 900

c/o FLEET POST OFFICE, NEW YORK, N. Y.

Unclassified by CNO ltr. Op-23-PT. Serial 327P23 dated 22 October 1945

[redacted]

21 JUN 1945

From: Chief, U.S. Naval Technical Mission in Europe.
To : The Chief of Naval Operations, (Op-16-PT).

Subject: Letter Report Number 131-45(S) - Tables on Special Diesel Fuel Cuts - Forwarding of.

Enclosures: (A)(HW) Table I, Atmospheric Distillation, Experiments of Blending Special Diesel Fuel Cuts.
(B)(HW) Table II, Vacuum Distillation, Experiments of Blending Special Diesel Fuel Cuts.

1. Enclosed herewith are two sets of tables on special diesel fuel cuts made by the Kuhlmann Company at their plant in Harnes, France.

2. The Table I reports (a) the inspections on the total gas oil used, (b) the inspections on the five cuts made from the gas oil, and (c) the inspections on the blends made from the five cuts. The data in every case includes pour, cloud, aniline and flash points, together with the calculated cetane number. These cuts were made on an atmospheric still.

3. [illegible] data [illegible] interesting, the Kuhlmann Company made similar cuts of approximately the same boiling range on a vacuum still. The results of these tests are given in Table II. These cuts were later shipped to the French testing laboratory at Bellevue where they were [illegible] American diesel test [illegible]. It was hoped [illegible] material [illegible] left over from this work to send on [illegible] for verification. However, the quantities [illegible] only [illegible] is now available.

4. [illegible] to the Kuhlmann Company [illegible] on [illegible]

LETTER REPORT

/6

UNITED STATES NAVAL TECHNICAL MISSION IN EUROPE

80089

FILE: JJ7/A9-2(10/Ha)

Serial: 500

c/o FLEET POST OFFICE,
NEW YORK, N. Y.

[redacted]

Subject: Letter Report Number 131-45(S) - Tables on Special Diesel Fuel Cuts - Forwarding of (Cont'd).

- -

5. The data are interesting in that they show that a relatively high cetane fuel can be produced at the same time the pour point is held to approximate Navy specifications. It should be noted that the rating is "cetane" number, rather than "d-index", hence the cetane values for fuels 2, 3 and 4 are probably just slightly below 60. However, this is [illegible] with the corresponding pour points of -25°, 7°, and 37° F.

HARRY D. HOFFMAN,
Captain, USN,
Acting.

cc: w/encl.
[illegible], Co. 330.

Additional dissemination by Op-16-PT:
NRL
ANPB
G-2 (3)
OR&I (2)
Op-16-PT (Panel)

LETTER REPORT

26

[redacted]

80100

Experiments of Blending Special Diesel Fuel Cuts

Fischer Tropsch Plant - Kuhlmann Co.
Harnes, France

TABLE I - (Atmospheric Distillation)

	Distillation	Cloud Point	Pour Point	Aniline Point	Calculated Cetene No.	Flash Point
Fischer Gas Oil Used (Sp. Gr. 0.771)	0% - 374°F 10% - 428°F 50% - 505°F 90% - 595°F 99% - 644°F	36°F	28°F	195°F	104.	166°F
Fraction 1	374°F/444 F	-16°F	-33°F	185°F	84.	149°F
2	444° F/484°F	12°F	-0 °F	187°F	96.5	--
3	484°F/511°F	28°F	16°F	187°F	96.5	--
4	511°F/573°F	50°F	43°F	195°F	106.	--
5	573°F/644°F	72°F	70°F	214°F	125.	276°F
1 + 2	374°F/484°F	- 2°F	-16°F	186°F	94.5	--
1 + 2 + 3	374°F/511°F	10°F	1°F	187°F	96.5	--
1 + 2 + 3 + 4	374°F/573°F	18°F	9°F	132°F	99.	--
2 + 3 + 4 + 5	444°F/644°F	39°F	34°F	196°F	107.	--
3 + 4 + 5	484°F/644°F	48°F	45°F	203°F	112.	--
4 + 5	511°F/644°F	61°F	57°F	204°F	116.	--

80101

Experiments of Blending Special Diesel Fuel Cuts

Fischer Tropsch Plant - Kuhlmann Co.
Harnes, France

TABLE II - (Vacuum Distillation)

	Distillation		Cloud Point	Pour Point	Aniline Point	Calc. Cetene No.	Actual Cetene No.
Fraction I	0%	365°F					
	10%	375°F					
	50%	405°F	Not found	-72°F	175°F	80	82
	90%	470°F					
	98%	518°F					
Fraction II	0%	405°F					
	10%	411°F					
	50%	433°F	-26°F	-26°F	130°F	82.5	84
	90%	473°F					
	99%	528°F					
Fraction III	0%	455°F					
	10%	470°F					
	50%	482°F	-18°F	7°F	186°F	93	84
	90%	503°F					
	99%	573°F					
Fraction IV	0%	514°F					
	10%	526°F					
	50%	540°F	46°F	37°F	195°F	105	84
	90%	581°F					
	98%	610°F					
Fraction V	0%	562°F					
	10%	575°F					
	50%	608°F	81°F	75°F	220°F	130	87
	90%	665°F					
	97%	680°F					

(1)