

**May 18, 1946**

**Abstract from Notes on Interrogations at Frankfurt**

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**Summary:**

Interrogation notes detail German development of biological and chemical weapons.

**Original Language:**

English

**Contents:**

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 SUPREME HEADQUARTERS  
 ALLIED EXPEDITIONARY FORCE  
 Office of Assistant Chief of Staff, G-2

MAIN HEADQUARTERS

18 May 1945

POISON GAS.

ABSTRACT FROM NOTES ON INTERROGATIONS AT FRANKFURT-  
21 April - 4 May 1945.

(C.I.O.S. Party 108 consisted of Colonel GORDON, I.C.I. and Ministry of Fuel and Power; Mr. I.H. JONES, c/o, U.S. Petroleum Attache, London; Mr. ATWELL, same address as JONES; Lt-Colonel O. THOMPSON, M.E.W; Major E. TILLEY, G-2 Supreme Headquarters, AEF.)

1. LOCATION OF POISON GAS PLANTS.

- |     |   |  |
|-----|---|--|
| (a) | DYHERNFURTH near BRESLAU (Code name HOCHWERK).  | } For final products and some intermediates. |
| (b) | GENDORF, East of MUNICH ( " " NIEDERWERK).  |  |
| (c) | BRIESEN near Fürstenberg ( " " SEEWERK)-<br>not completed when captured.  |  |
| (d) | Pilot Plant and Laboratory in Luftschutzforschungsamt Gasschutzforschungsamt SPANDAU, Citadel.                                |  |
| (e) | Laboratory of Prof. HÖRLEIN in I.G. FARBEN ELBERFELD, for anti-dotes possibly also laboratory of Prof. GROSS, ELBERFELD.      |  |
| (f) | Intermediate products made at LUDWIGSHAFEN, BITTERFELD, Höchst, and several other I.G. Plants.                                |  |
| (g) | LEESE near NIENBURG on the WESER. Small plant started after capture of DYHERNFURTH. Step 1 of SARIN was to be produced there. |  |

NEW POISON GASES. (Full technical details with Colonel GORDON of Ministry of Fuel and Power, and Mr. I.H. JONES c/o, U.S. Petroleum Attache, London).

- A. TABUN, older code name TRILON\*83 or T.83. (\*TRILON, A,B,C were originally the trade marks for I.G. Waschmittel !)

2. NATURE OF TABUN

Ethylester of Dimethylaminocyanphosphoric acid. In earlier output mixed with five percent Chlorbenzine, later with twenty percent Chlorbenzine, in order to make TABUN more volatile. Described by KLEINHANS as semi-liquid poison gas. The first product was called 'TABUN', the second 'TABUN 80', because it contained 80% TABUN. The boiling point is 90° centigrade at 12 mm pressure.

3. QUANTITIES PRODUCED

Approximately 10,000 tons made at DYHERNFURTH between April 42 and January 45. Large-scale production began in April 42 at DYHERNFURTH and 7,000 tons were made of TABUN, with 5% Chlorbenzine, until May or June 44 when production of the first product ceased. 'TABUN 80' was started in April 44 and 3,000 tons were made up to January 45, when DYHERNFURTH was captured by the Russians.

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**TOP SECRET**4. ORIGINAL INVENTORS AND OPERATORS

Professor HÖRLEIN and his assistant Dr. SCHRADER of PHYSIOLOGISCHES INSTITUT, I.G. FARBEN, ELBERFELD, invented this poison gas and apparently transferred all patent rights to O.N.W. KLEINHANS, chemist at I.G. MAINKUR, went to a meeting at LUDWIGSHAFEN in August 41 where various chemists were given a security talk. Dr. AMBROS presided, other present were Dr. Heinrich ULRICH, Dr. PALM, Dr. BAUMANN (only indirectly connected with poison gas) SCHMAL, BILFINGER, Dr. KRANZ of HÖCHST, WEGEL (HÖCHST), Dr. HENKE (HÖCHST), Dr. Gerhardt CRAMER (HÖCHST), Dr. KAUP, Dr. DANZ (OFFENBACH), Dr. von BOCK, Dr. TOLKMITT and Dr. Eberhard NOLD (all three of LUDWIGSHAFEN). All those sent to DYHERNFURT were young men. AMBROS told them that they were exempted from military service as they would serve their country in dangerous scientific work. KLEINHANS went alone to ELBERFELD and there, under Dr. SCHRADER, he was instructed in the production of TRILON 83 (later called TABUN). He made TABUN in all its steps 12 times, in small quantities. With minor changes the same production methods were later used at DYHERNFURT.

KLEINHANS denies that HÖRLEIN used human beings as guinea pigs, "only animals were used". He heard later that the Army experimented on cattle in the open air by firing TABUN filled shells at them.

5. PRODUCTION CHAMBRE

At DYHERNFURT TABUN was made in a large glasschambre. A second glass wall surrounded this chambre. Pipes led from the inner to the outer walls. Operators worked in the space between the two glass walls. To prevent leakage of TABUN into the outer chambre, a slightly higher air pressure was applied to it.

6. FILLING.

This was supervised by Dr. KRANZ (of HÖCHST) who has vanished. Filling took place in a bunker. Pipes admitted TABUN from the inner glass chambre to the subterranean filling chambre. No witness has been discovered who ever saw this operation. The Bunker was well ventilated and had draft funnels or ventilation cupolas. KLEINHANS believes that approximately half of the TABUN was filled in shells, the other in aerial bombs. He is not certain as he has only heard this.

7. ARTILLERY SHELLS AND AERIAL BOMBS.

Only KLEINHANS has admitted seeing them. Apparently both are fitted with a small charge with time or barometric fuse. The charge is contained in a tube approximately 18 inches long. The shell or bomb bursts before reaching the ground and distributes the liquid in small drops.

The shells are of 85mm calibre, the aerial bombs are 120 - 130 cm long and weigh approximately 250 Kilos. Both bombs and shells arrived at DYHERNFURT with a dull or olive green base paint and with three thin coloured bands, one of which was white, the other two may be red, blue, green or anything else; KLEINHANS does not remember.

Shells and bombs are filled on the side, about half way down. A pale pink circular paint patch two and a half inches in diameter covers a filling plug of approximately 20 mm diameter. The plug has a rough portion of approximately one quarter inch diameter where the square portion for tightening the plug has broken off. A soft iron washer is

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placed under the plug. The pale pink patch indicates leaks by turning dark red.

8. EFFECTS OF TABUN ON HUMAN BEINGS

TABUN is fatal to all if 20 milligrams are contained in one cubic meter of air, or 10 parts per million by weight. Originally it was thought that it would penetrate all existing gas masks. I.G. Operators discovered that it did not penetrate their gas masks and was fatal only if there was a heavy concentration on the filter. However, a tiny drop anywhere on the skin has the same effect on the victim as inhalation. No one at DYHERNFURTH got seriously ill or was permanently disabled as a result of inhalation. Four pipe fitters died in the course of 3½ years of operation as a result of drops falling on the skin.

TABUN acts on the NERVOUS SYSTEM. After inhaling a small amount, without filter or gas mask, the victim first feels himself unable to concentrate, there is pressure on the eyes, he has a head-ache, his pupils contract, everything around him grows darker and darker. After the eye attack, whether as the result of inhalation or contact on the skin, his respiratory organs are affected and breathing becomes difficult. Then he gets violent cramps. KLEINHANS observed on dead victims at DYHERNFURTH that the toes were badly cramped.

9. PROTECTION

A gas mask and a rubber suit. The latter was worn only ten consecutive times at DYHERNFURTH. Immediate washing with Soda in alcohol neutralises TABUN, water or heavy moisture renders it less efficacious.

10. DETERIORATION OF TABUN.

If carefully sealed in iron or steel containers TABUN remains efficacious for a very long period. Tests made at DYHERNFURTH showed the following deterioration:

After six months - 5%

After nine months - 7-8%

After three years - up to 20%

In the open air hydrolysis disintegrates TABUN but much less rapidly the soda in alcohol.

11. PRESENT WHEREABOUTS OF TABUN SHELLS AND BOMBS.

Several DMHERNFURTH witnesses agree that about 10,000 tons of TABUN in shells and bombs, ready for action, left DYHERNFURTH. No-one except KRANZ, or possibly also BACHEM (see Personalities) knows where these shipments went. Goods trains with six closed carriages or waggons were despatched at a time to KRAPPITZ and possibly other OKH ordnance depots. Trains went first to BRESLAU and thence to their destination. Most witnesses, even those who were not at DYHERNFURTH, agree that rumour placed the main storage depot in LUSATIA (LAUSITZ), South or South East of DRESDEN. A few, like SCHNITZLER and DENCKER, thought the depot was in SAXONY or THURINGIA. Dr. KLEINHANS, whose information is the most accurate in other respects, states that on the approach of the Russians to DYHERNFURTH all finished TABUN was rushed to Central Germany. "I surmise to SAXONY, to leads in old or abandoned mines." He would not agree that by that he meant old mines on the upper reaches of the ELBE.

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SABIN.

**TOP SECRET**16. EFFECTS OF SARIN ON HUMAN BEINGS AND ANIMALS.

In general the same as TABUN but about 4 times as efficacious,  $\frac{1}{2}$  milligram of SARIN on mucous membranes of nose or in eye is fatal. Five milligrams of SARIN in a cubic metre of air kill man or beast. Experiments on animals proved that  $\frac{1}{2}$  milligram of SARIN is a fatal dose.

17. INVENTORS.

No-one seems to claim sole patent rights. Professor WIRTH, Dr. von der LINDE and others apparently developed or improved SARIN in SPANDAU Citadel, others also contributed improvements in DYHERNFURTH. HARTMANN, the DYHERNFURTH analyst for SARIN, is a nervous wreck and too incoherent to give a chronological account of what happened. It took four hours interrogation and a night in prison to make him write down logically the details of the 4 steps of SARIN. It is almost certain that he had a share in its development. He was sent to LUDWIGSHAFEN and later to HOCHST, in September and October 44, to search for an accurate analysis for Fluorine and especially for S15. While he was at LUDWIGSHAFEN, Dr. ULRICH rushed there to help in the search. HARTMANN was not to divulge to anyone at LUDWIGSHAFEN or HOCHST, not even to Dr. LAUTENSCHLAGER, that "Fluor" was used in SARIN.

18. SIMILAR RUSSIAN PRODUCT ?

HARTMANN claimed that it was common talk in DYHERNFURTH that the Russians had developed a 'poison gas' similar to SARIN. One Russian scientist was said to have received the STALIN Order for his work on a similar product.

(Note: Interrogation of German P.W. in Middle East early in 42 and later elicited the information that the Germans were making a new poison gas as the Russians were expected to apply C.W. to the Germans. The statement was always made that the Germans would use theirs only in retaliation.)

19. C. THIRD NEW POISON GAS.

Records were found indicating the production of; or the plans for producing at least one other new poison gas. One of the ingredients may be AZIN (Diphenylarsin or its Chlorides, called 'Adamsit', made at I.G. URDINGEN.) Secret files of production and shipments by I.G. to the WEHRMACHT of all intermediates for poison gas and explosives in this war had been hidden in private houses, one 30 miles from FRANKFURT. Two search parties had great difficulty in locating a card index and some files which STRUSS, head of TEA in TER MEER's absence, had entrusted to KONIG at Bad ORB. FLOTHO's Black Book, containing numerous code names, was produced voluntarily. From the explanation which he and others gave it was possible to trace large shipments to DYHERNFURTH and GENDORF, accounting for all intermediates shipped there. A few, however, were not used there, nor were they used for explosives. The determined and prolonged interrogations on the subject revealed neither the nature of the third new poison gas nor the location of the plant where it could be made. The records were all shipped by 'T' Force to LONDON, via Supreme Headquarters, AEF MAIN.

20. MUSTARD GAS (LOST or CELBKREUZ).

STRUSS gave interesting details. Dr. NOACK of I.G. LEVERKUSEN developed a direct process, which saves Chlorine, a product which is scarce in Germany. For the old LOST process four times as much Chlorine was needed as for the new.

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IN THE INTEREST OF NATIONAL SECURITY

**SECTION 1. PURPOSE AND SCOPE**

This document is intended to provide information regarding the activities of the [redacted] and the [redacted] in the [redacted] area. The information contained herein is classified as TOP SECRET and is to be controlled in accordance with the provisions of Executive Order 11652.

**SECTION 2. SUMMARY OF INFORMATION**

The following information was obtained from [redacted] sources and is being provided for your information. It is believed that this information is of significant value to the [redacted] and should be controlled accordingly.

**SECTION 3. ANALYSIS OF INFORMATION**

The information provided in the preceding section indicates that the [redacted] is engaged in activities which are of a [redacted] nature. It is believed that these activities are being conducted in order to [redacted].

- (a) [redacted] of [redacted] to [redacted]
- (b) [redacted] of [redacted] to [redacted]
- (c) [redacted] of [redacted] to [redacted]

The information provided in the preceding section is being provided for your information. It is believed that this information is of significant value to the [redacted] and should be controlled accordingly.

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to have been intended as additional camouflage. It was feared that "ANORGANA" was too well-known and I.G. did not wish to have its name associated with C.W. productions. WURSTER, SCHWITZLER and several other high I.G. officials had stated that I.G. would never have dreamed of producing C.W. as this might have ruined their international efforts.