FEB 1952 51-4AA

CENTRAL INTELLIGENCE AGENCY

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SECURITY INFORMATION

INFORMATION REPORT

REPORT NO. [redacted] 25X1

CD NO.

25X1

COUNTRY East Germany

DATE DISTR. 21 October 1952

SUBJECT Production of Iron Powder and Fire-Extinguisher Foam at Bitterfeld

25X1 [redacted]

NO. OF PAGES 2

NO. OF ENCLS. (LISTED BELOW)

SUPPLEMENT REPORT NO. [redacted] 25X1

[redacted]

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[redacted]

25X1

1. Iron Powder. The iron powder process at Elektrochemisches Kombinat Bitterfeld, SAG, is not running quite smoothly. The powder now being produced is said to contain one per cent cobalt.[1] This happened accidentally. The first batches produced were found to have highly desirable electrical properties, but subsequent batches showed a falling off. An analysis of the earlier production showed a contamination of about one per cent colbalt, which had apparently occurred accidentally owing to the reduction furnace being contaminated from previous runs with cobalt compounds. Subsequent batches had lacked this contamination as it was gradually used up. At present, therefore, a deliberate addition of cobalt is made.

2. Until very recently, the iron powder was produced by the dry reduction of ferrous oxalate with hydrogen. It is now produced by the reduction of ferrous formate, (although this is stated to be a less satisfactory process) since Russian demands for oxalic acid have reached such a scale that they preclude its use for this purpose or, indeed, any internal plant use.[2]

3. Fire-extinguisher Foam. Foam material was developed at Bitterfeld in response to a specific Russian demand for a material which would be used for fire-extinguishing purposes and would conform to the following specifications: it should be capable of storage for five years, form a satisfactory foam with sea and fresh water at temperatures down to -25°C, be non-corrosive and, also, should be as effective against burning alcohol as against gasoline.

4. After considerable effort and many experiments, a foam material has finally been developed which has at least been accepted, although it is not known whether it fulfils all of these specifications. Two recipes have been developed and are given below, the second is said to be better than the first. Both apparently depend for their effectiveness on the alginate content. This material is not obtainable in East Germany and is at present being obtained irregularly [redacted] 25X1

25X1 [redacted]

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Recipe 1:	"Nekal BX"	36.4 per cent[3]
	Powdered glue (Perlleim gemahlen)	20.4 "
	"Ethoxose" (Aethoxose)	15.9 "
	"Zellin"	15.9 "
	Sodium alginate	11.4 "
Recipe 2:	"Neckal BX"	24.0 per cent[3]
	Powdered glue	16.0 "
	Sodium benzoate	16.0 "
	Equimolar mix. of $NaHCO_3$ and $Al_2(SO_4)_3$	6.0 "
	"Ethoxose"	26.0 "
	"Zellin"	6.0 "
	Sodium alginate	6.0 "

25X1 1. [redacted] Comment: [redacted] the production of this 25X1 iron powder substitute for carbonyl iron powder is being consumed entirely in East Germany. Apparently no carbonyl iron powder is being produced. In January, 1952, the monthly requirement of the substitute powder was reportedly 10 tons. The iron powder is used for magnet cores.

25X1 2. [redacted] Comment: There are indications that the iron powder produced at Bitterfeld is not a complete substitute for carbonyl iron powder or is not in adequate supply. Minutes of the 25 May 1952 meeting of the management of VVB der Radio-und Fernmeldetechnik, Leipzig, deal with the "problem" of carbonyl iron powder and suggest that the Zentral Laboratorium fuer Fernmeldewesen is best equipped to "handle the matter".

25X1 3. [redacted] Comment: "Nekal BX" is a synthetic detergent emulsifier produced at Bunawerk Schkopau where it is known as "Emulgator E 1000". "Ethoxose" and "Zellin" do not appear in the list of products manufacured at Bitterfeld and their composition is not known.