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STANDARD FORM NO. 64

**Office Memorandum • UNITED STATES GOVERNMENT**

TO : W. B. Harris, Chief, Industrial Hygiene Branch  
Health and Safety Division  
DATE: January 23, 1951

FROM : P. B. Klevin *PBK*

SUBJECT: LATHE MACHINING OF URANIUM AT PICATINNEY ARSENAL  
DOVER, NEW JERSEY

SYMBOL: HSH:PBK:mc

On January 17, 1951, I visited the subject arsenal in order to inspect and evaluate any potential health and safety hazard during and after a uranium machining operation.

After Mr. John Hopkins, of the Arsenal's Technical Division, described the operation of removing a .025" ridge from a cylindrical piece of metal, the following recommendations were made:

1. A coolant should be used during machining operations to prevent sparking and fuming. The coolant should be directed on the cutting tool and metal.
2. After completion of machining, the scrap metal, fully submerged in oil, should be stored in a lidded container.
3. Special care should be exercised that no air space exists between the oil and the cover lid of the container.

The following additional recommendations should be presented:

1. Coolant flow should be 7 - 10 gal/min.
2. It has been our experience that cutting at the rate of 50-100 surface feet per minute provides the best cutting both from an operational and health standpoint.
3. Suggested coolants which have been used successfully are:
  - a. Soluble cutting oil - hydromite  
texaco - 1 pt. - water - 4 pts.  
sincool
  - b. Lard oil.
  - c. High flash mineral oil (about 400° F).
  - d. Lasupar - gulf, 3 pt. - cutting base - gulf - 1 pt.

CLASSIFICATION CANCELLED  
OR CHANGED TO 81-MDR-192  
BY AUTHORITY OF DOE/DPC  
M. I. KAY  
REVIEWED BY  
DATE 7/6/82

*Hinklet  
34/ramk  
14/1/81*

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~~CONFIDENTIAL~~  
W. B. Harris

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January 23, 1951

The lathe machining operation was then performed by Mr. Paintel, Chief of Machine Shop, without incident. The total time duration for this operation was fifteen minutes.

The following arsenal personnel were contacted during this visit:

Mr. John Hopkins, Technical Division  
Mr. Wilfred Hosking, Civilian Chief of Industrial Division  
Mr. Fred Harischka, Industrial Division  
Mr. Paintel, Chief, Machine Shop

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