

Interoffice Memorandum

TO (Name and Location)	DATE
Mr. K. A. Rose	7/5/79
FROM (Name and Location)	REFERENCE NO.
Mr. K. A. Rose J. H. Pritchard	ARH-26-79
	JHP-6-79

ASBESTOS MEASUREMENTS IN THE CELANEX UNIT



Summary:

Personnel in the Celanex unit were monitored for asbestos exposure during the April SEO production run. The analytical results show all exposure levels below the allowable 8 hour time weighted average (TWA) of 2 fibers/cc longer than 5 micrometers. The highest short-term exposure found was 4.6 fibers/cc. A temporary bag splitter was in operation during the April SEO production run. A new splitter/handling system will be in use for the next SEO production run. Employees will again be monitored for asbestos exposure. At that time, I recommend the plant industrial hygienist review the asbestos handling and new blending procedures.

Asbestos monitoring will continue in accordance with federal regulations.

Discussion:

Personnel in the Celanex unit were monitored for asbestos exposure during the April SEO production run. Analytical results (8 hour TWA) are reported in Table I. Semi-annual sampling frequency is required by the Occupational Safety and Health Act, Section 1910.1001.

Measurements were obtained by attaching the monitoring equipment to operations personnel during various SEO blends. Analyses were performed by one of two laboratories: National Loss Control Service Corporation, or Kemron Environmental Health Laboratories. Both laboratories are accredited by the American Industrial Hygiene Association.

Calculated 8 hour TWA exposures ranged from <0.01 to 0.7 fibers/cc. The 8 hour TWA standard for asbestos is 2 fibers/cc of air, longer than 5 micrometers. The ceiling level for asbestos is 10 fibers/cc longer than 5 micrometers. The highest

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asbestos (short-term) exposure detected was 4.6 fibers/cc on Jan Hance, operator helper, 4/18/79, during an asbestos blend. (The fibers counted were definitely asbestos fibers, as confirmed by National Loss Control Laboratory Manager.) Ms. Hance was monitored for 72 minutes. Her calculated 8 hour TWA exposure was 0.7 fibers/cc.

During the SEO production run, a temporary bag splitting operation was used instead of the normal bag splitting procedures. "Hot box" gloves were installed along both sides of the splitter to allow the employees to handle the bags and move them through the splitter. The gloves sometimes came out of their sockets and had to be taped back into place. This appeared to be the only place where asbestos could leave the splitter.

The analytical laboratories reported that some of the aerosol sample filters were "overloaded". National Loss Control was contacted. The laboratory manager stated that the asbestos fibers were covered with a talc-like dust, making it possible to underestimate the asbestos fiber count. The asbestos samples were taken for the entire length of the SEO blend. The asbestos is blended first so the filters would have asbestos fibers, covered by dust and particulate matter from the SEO blend (decabromo, antimony trioxide, etc.) In the future, during SEO blends, blending personnel will be monitored for asbestos during the "asbestos dump" portion of the SEO blends only. The monitoring equipment will be removed after the asbestos blend has been completed so that the filter does not become "overloaded" with dust and particulate matter from the remainder of the SEO blend.

A new bag splitter will be in operation when the next SEO production run is made. Personal samples will again be taken. At this time, I recommend the entire asbestos blending and handling procedures be reviewed and evaluated by the plant industrial hygienist.


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ASBESTOS MEASUREMENTS IN CELANEY

TABLE I

Date	Name Social Security No.	Job Description	Calculated 8 hr. TWA Exposure ^{1,2} Fibers/cc	Highest Exposure ^{2,4} Fibers/cc	Comments
X 4/12/79	Carl Holt 453-80-8205	Operator Helper	105 0.14	0.80 ⁶	Overloaded sample filter ⁵
4/12/79	Mike Mosley Not Available	Utility Person	0.13	0.73 ⁷	
/ 4/12/79	Area Sample		107 N/A	0.08 ⁶	Sample taken at the open end of the bag splitter
4/18/79	Jan Hance 467-96-0236	Operator Helper	107 0.7	4.6 ⁶	Overloaded sample filter ⁵
4/18/79	Ray M. Nunez 449-06-2986	Operator Helper	110 Sample Void	Sample ⁷ Void	Overloaded sample filter ⁵
X 4/24/79	Marcos Ramon 451-88-5490	Operator	109 0.08	0.96 ⁷	
4/24/79	John P. Jones 462-06-6824	Operator Helper	111 <0.01	<0.04 ⁶	Overloaded sample filter ⁵
4/24/79	Victor Moreno 454-86-7470	Operator Helper	112 0.10	0.83	Overloaded sample filter ⁵
X 4/24/79	Oscar Garcia 454-76-3534	Operator	113 Sample Void	Sample ⁷ Void	Overloaded sample filter ⁵
X 4/26/79	Victor Moreno 454-86-7470	Operator Helper	114 0.07	0.93 ⁷	
X 4/26/79	J. B. Green 454-90-8288	Utility Person	115 0.06	0.81 ⁶	Overloaded sample filter ⁵

Footnotes:

1. TWA - time weighted average. Calculations of 8 hour TWA, General Industry Standards and Interpretations, U. S. Dept. of Labor, Volume 1, OSHA 2077, 1910.1000 (d) (1) p. 701.
2. Permissible 8-hour TWA exposure - to airborne concentrations of asbestos fibers, ≤ 2 fibers, longer than 5 micrometers per cubic centimeter of air.

Ceiling Concentration - 10 fibers, longer than 5 micrometers, per cubic centimeter of air, at any time.
3. Monitoring Method - According to Federal Register, Section 1910.1001 (f) (2) L.
4. "Highest Exposure" samples were taken during the SEO blend.
5. Aerosol filter was overloaded with particulate and dust matter from the SEO blend, i.e. antimony trioxide, decabromo, etc. Results may be underestimated because the powders could possibly have covered some of the asbestos fibers.
6. Analyses: Phase contrast microscopy fiber counting by National Loss Control Laboratory, Long Grove, Illinois.
7. Analyses: Phase contrast microscopy fiber counting by Kemron, Environmental Health Laboratories, Farmington Hills, Michigan.

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