THE DISCOVERY COMPANY

cc: WCT
Please note p. 3 & that this is dated October 1968.
JFM 1/28/84

16404
Union Carbides

Calidria ASBESTOS

"CALIDRIA" ASBESTOS SG-130 AND SG-210
For Tape Joint Compounds

File K-1

Lowers Costs Two Ways

CALIDRIA Asbestos acts as a bodying and secondary thickening agent permitting formulation of lower density, more economical tape joint compounds without the sacrifice of performance. CALIDRIA Asbestos is produced by a proprietary manufacturing process that yields unusually high fiber content and more complete fiber liberation from the natural bundles. As a result, CALIDRIA Asbestos goes up to twice as far, pound for pound, as commercial grades of asbestos containing large amounts of other filler materials that have no specific desirable effects on tape joint compound properties.

Reduces Cracking

The fibers of CALIDRIA Asbestos behave as an active lyophobic colloid in aqueous dispersion; by this mechanism CALIDRIA Asbestos increases tape joint compound liquid cohesive strength during drying. Increased liquid cohesive strength greatly reduces the tendency for cracks over nail holes, in thick sections at the center of the joint, and along the feathered edges.

Enhances Sandability

CALIDRIA Asbestos contains mainly chrysotile fiber and is essentially free from abrasive contaminants, such as magnetite and serpentine rock dust. This composition results in a low density product, free from contaminants that interfere with sanding.

Improves Uniformity

Narrow and well-controlled particle size distribution, low alkalinity and high brightness are characteristic of CALIDRIA Asbestos. These properties are consistent from batch to batch and improve the uniformity of tape joint compounds using CALIDRIA Asbestos.

Suggestions for Use of CALIDRIA Asbestos

CALIDRIA Asbestos can be readily used in your present tape joint compound formulation. Add approximately one-half the proportion of asbestos you now use. Increase the proportion of calcium carbonate or other inert filler to make up for the lower quantity of asbestos. You may also be able to use slightly more water in your ready-mix and maintain your present viscosity level. No other changes in your

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Suggestions for Use of CALIDRIA Asbestos (Continued)

formulation or manufacturing procedure are required.

CALIDRIA Asbestos SG-130 has the coarser particle size; it finds use for bedding compounds or perhaps spackling compound. The SG-210 has the finer particle size and is favored for topping compounds, all-purpose compositions, texture paints, and similar formulas.

A Suggested Ready-Mix Tape Joint Compound For Use With CALIDRIA Asbestos

	Parts by Weight Dry Basis
Fillers:	
Calcium Carbonate, No. 1 White (Thompson Weinman)	61.42
Mica, P80F (Western Mica)	21.00
Clay, ASP-400 (Minerals and Chemicals Philipp Corp.)	4.00
CALIDRIA Asbestos, SG-210 (Union Carbide)	4.58
Binder:	
UCAR Latex 131 (Union Carbide)	6.60*
Workability Control Agent:	
CELLOSIZE Thickener, TJC Grade (Union Carbide)	0.50
Drying Control:	
Ethylene Glycol (Union Carbide)	1.00
Defoamer:	
"Nopco" PD-1 (Nopco Chemical Company)	0.10
Dispersant:	
"Daxad" 30 (Dewey & Almy Chemical Div.)	0.60*
Bacteriastat:	
"Dowicide" A (Dow Chemical Co.)	0.20
	100.00

Total Water: about 56 parts by weight per 100 parts dry solids

*Contained solids basis

UCC 001346

Typical Product Characteristics

	CALIDRIA Asbestos	
	SG-130	SG-210
Reflectance (G.E. Photovolt)	68%	
Contained magnetite	2% max.	
Alkalinity (as % of Na_2O)	0.05 to 0.06	
pH (5% aqueous slurry)	8.5 to 9.5	
Surface area (BET)	50 to 60 $m^2/g.$	
Oil Adsorption (DOP #/100# asbestos)	90 to 100	110 to 120
Wet Bulk, settled vol. (ml.) 10g/250 ml./1 hr.	200	220
Dry Bulk (#/ft.^{3})	7 to 8	5 to 6
Water absorption (wt. % in filter cake)	55 to 60	62 to 65
Size distribution (cumulative % retained)		
Wet Screen mesh size		
100	5	Trace
200	17	3
325	28 to 32	10 to 15

Packaging and Shipping Information

Product Form – Opened (finely ground) chrysotile asbestos fiber.

Packaging –

	CALIDRIA Asbestos	
	SG-130	SG-210
One Package	40 lb.	30 lb.
Pallet Weight		
Carload	1,600 lb.	1,050 lb.
Truckload	2,000 lb.	1,500 lb.

Shipping –
Classification – asbestos shorts
Rail point of origin – Welby, California (King City, California)

TOXICOLOGICAL PROPERTIES

It has been known for many years that some persons working in asbestos production were prone to develop a disabling lung disease. In time, this condition became known as asbestosis and was related to exposure to high concentrations of asbestos dust. With further experience, it was found that men could work with asbestos without development of lung disease if dust concentrations were kept below a certain level. It is now generally accepted that a man can work a 40-hour week for a lifetime without developing asbestosis if the asbestos dust particle count is kept at or below 5 million particles per cubic foot of air. This dust concentration of 5 million particles per cubic foot of air is the Threshold Limit Value for asbestos, and no cases

UCC 001347

TOXICOLOGICAL PROPERTIES (Continued)

of asbestosis are believed to have occurred when exposures have been maintained at or below this level, despite large-scale utilization (now approaching one million tons per year in the U.S.A.). This concentration of dust is generally not visible in the average work area unless a beam of light causing a Tyndall effect is present. Usually the dust concentration must be from 8-10 million particles per cubic foot before its presence is visible in average lighting conditions.

Several years ago, it was reported that there was an increase in the incidence of cancerous tumors, especially of the lung, associated with asbestosis. Recently there have been reports of some cancers occurring in individuals exposed to asbestos dust, but who have not developed clinical asbestosis. It is believed by most authorities that these cases have been associated with exposures significantly exceeding the Threshold Limit Value. A major manufacturer of asbestos products who also mines asbestos has not been able to show an increase in cancerous growths in men working where dust concentrations were maintained at the Threshold Limit Value.

Control of asbestos dust exposure is therefore necessary. The control methods are the standard ones applicable to a variety of dusty operations. They include closed flow systems, wet processes where possible, and adequate exhaust ventilation where openings in the system are necessary. Pelletizing is sometimes used to improve the handling characteristics of otherwise dusty materials. Where satisfactory containment to stay within the Threshold Limit Value is impractical or impossible, efficient and reliable respirators are available for the protection of the employee. A program of environmental monitoring in manufacturing operations is highly desirable to determine that Threshold Limit Values are not being exceeded. Employees should wear respirators where dusting occurs in finishing products such as sanding taped joints.

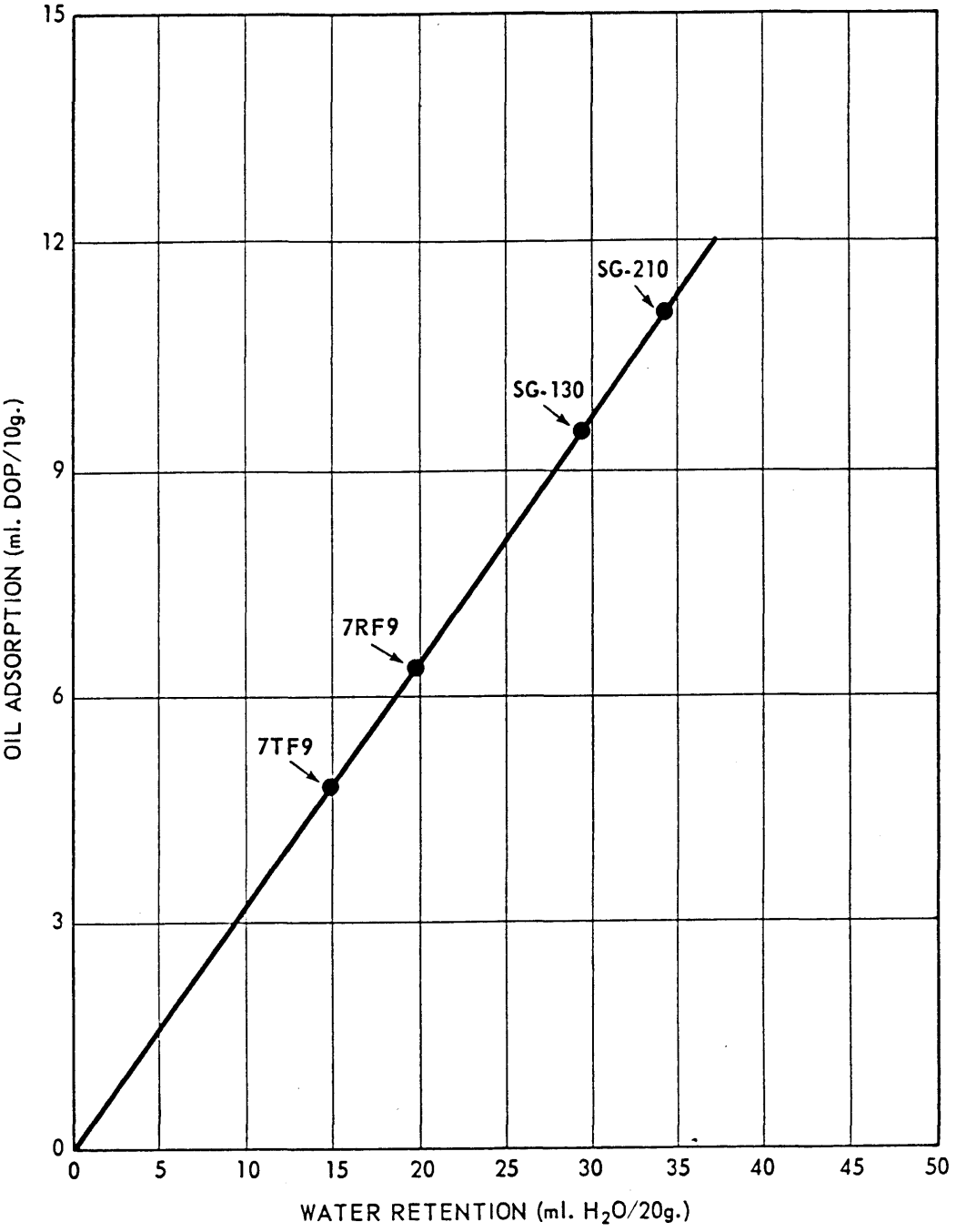
Pre-employment and periodic physical examinations of workers are desirable. These should include chest X-rays to insure that the worker has no chest condition prior to work with asbestos and to determine that no lung changes are resulting from work with asbestos.

In conclusion, while asbestos dust in excess of the Threshold Limit Value is potentially harmful, as are many other dusts encountered in industry, it is as readily controlled as other such dusts and it can be used safely with appropriate precautions.

UCC 001348

"CALIDRIA" ASBESTOS SG-130 AND SG-210

For Tape Joint Compounds



RELATIONSHIP BETWEEN WATER & OIL ADSORPTION CAPACITY OF SOME ASBESTOS PRODUCTS FOR TAPE JOINT ADHESIVE FORMULATIONS

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THE DISCOVERY COMPANY

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