cc: File

Plaintiff's Exhibit
S-UC-202

UNION CARBIDE
THE DISCOVERY COMPANY

Calidria ASBESTOS

UNION CARBIDE CORPORATION • MINING & METALS DIVISION • P.O. BOX 579 • NIAGARA FALLS, N. Y. 14302 • TEL: 716-278-3376

March 19, 1975

Mr. Ken Campbell
Montello, Inc.
P. O. Box 130
Sand Springs, OK 74063

Dear Ken:

Attached is some information on respirators and protective clothing that was put together to help deal with a large manufacturing company whose actual measured asbestos exposures were low but who chose to set up their own company requirements as though the TWA's were exceeded regularly. The information, particularly our plant experience, may be useful to you in formulating your approach to the rig crews.

Best regards,

Harry

H. B. Rhodes
Technology Manager

HBR:cjb
Attachments

PLAINTIFF'S EXHIBIT
tabbies
43962.00

PLAINTIFF'S EXHIBIT
tabbies
WV-008380

Respirators

OSHA Regulations: Required under certain conditions only when exposure levels exceed the allowable levels.

Company Regulations: A respirator must be worn anytime an employee is dumping asbestos or working around loose asbestos. A respirator program complying with OSHA as outlined in their safety manual is also required.

Comment: Considering that asbestos would only be used intermittently for short periods the use of respirators is a good precaution against a random accidental overexposure. It is our understanding that a number of their plants already use respirators for a variety of situations and the addition of asbestos would not be a particular burden.

At our plant we use the Welsh Model 7165 disposable respirator which costs about $1.50 each. Although the manufacturer calls this a single use respirator he carefully notes that a single user can get one or more days protection before it picks up enough dust to make breathing difficult and require replacement. We find they last about 40 hours in the bagging area.

The 3M Company also makes a disposable respirator designated as Model 8710 that sells for about $0.50. This respirator is very light and comfortable but we have found it tends to become wet with perspiration and collapse.

The use of a disposable respirator does not eliminate the need for a respirator program but could reduce the maintenance, repair, and storage problems. It may be an easier way to go for a plant that does not now use respirators.

Protective Clothing

OSHA Regulations: No special clothing, change rooms, or clothes lockers are required unless the airborne concentration of fibers exceeds the 10 fibers/cc ceiling limit.

Asbestos contaminated clothing must be transported to laundry facilities in sealed containers which have a caution label. The laundry facilities must be notified.

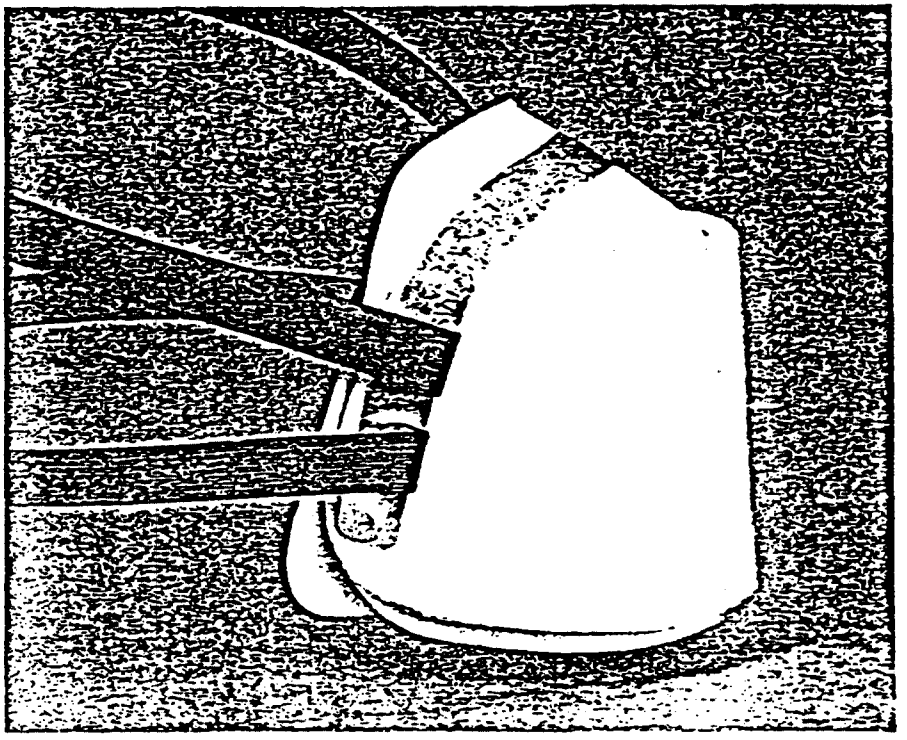
Company Regulations: Each employee who routinely handles asbestos must be provided with at least one clean uniform each work week. The labeling and laundry notification requirements must be met.

Comment: This has been a difficult problem at a couple of locations because it sets a precedent to provide clothing which is not now done and also gets them involved with the outside laundry contractor.

Our laundry at King City took the notification in stride without problems but this may not be the case elsewhere. A simple and economical way around the precedent setting and laundry problem may be found with disposable coveralls. We use them for temporary labor and visitors at our plant. The particular type, used costs only $1.50 each and, if not abused, last for about 40 hours. They can be burned or disposed of with the bags so no contact with the laundry is required.

Welsh Model 7165
Single use disposable respirator

U.S. Bureau of Mines Approval 21B-129
for pneumoconiosis-producing and toxic dusts



Note
One or more days pro
tection may be obtaine
with this respirator by
single user, dependin
on the concentration o
dust. This respirato
should be discarded onl
when breathing be
comes difficult or if i
becomes damaged.

Once you've used our new disposable respirator, you'll breathe a lot easier.

Into every man's lungs a little dirt must fall.

A completely normal occurrence considering the state of the environment.

Needless to say the last thing a poor polluted lung needs now is more of the same.

Introducing the Welsh 7165 disposable respirator for protection against pneumoconiosis-producing and toxic dusts. Field tested and found superior by major U. S. companies and workers.

Bureau of Mines approved under the strict Schedule 21B. We made it disposable to be convenient and sanitary — one person, one time. But we also made it different to be more effective and comfortable.

With a big, wrap-around filter that resist clogging. A special inhalation/exhalation valve system that prevents moisture build-up and permits effortless, cool breathing. Fully adjustable double headbands. And a soft, pliable frame that conforms with the contours of the face.

And because of its compact size and weight (less than 2 ounces), the Welsh disposable respirator can be comfortably worn with safety glasses and goggles. No vision restrictions.

The Welsh disposable respirator . . . convenient, sanitary, economical. Throw it away after one wearing or a day's use. Eliminate the expense of respirator cleaning and maintenance programs. For further details, call 401-351-3400. Or write Welsh, 9 Magnolia Street, Providence, R. I. 02909.

WELSH
A textron COMPANY

The Welsh single-use respirator: economical, sanitary, comfortable.

The Welsh 7165 is a compact, easy-breathing, disposable respirator for dusts. It is unusually compact, and yet has a large filter area for outstanding efficiency and ease of breathing. Worker acceptance is excellent: the 7165 is easy to wear, even with glasses, and the valve system keeps face and filter cool and dry. All this and economy too — low initial cost and low end of service cost.

Individual use: Sanitizing, filter replacement, and the costly operation of a company cleaning and maintenance program are all things of the past once you adopt single-use disposable respirators. With the Welsh 7165, each man gets a new respirator of his own as often as needed.

Economical protection: The wrap-around filter is large and thick. A fluffy outer layer prefilters the large particles while the denser inner filter finishes the job. The 7165 is inexpensive enough to throw away daily.

Bureau of Mines approved: Meets the stringent schedule 21B for dusts which have a Threshold Limit Value (TLV) not less than 0.1 mg./cu. m. or 2.4 million particles/cu. ft. Approval No. 21B-129.

Company and worker acceptance: Extensive field testing has brought approval from major U.S. companies. Surveys of worker attitudes have shown almost unanimous preference for the Welsh 7165.


PERMISSIBLE
Respirator for
Dusts

APPROVAL No. 21B-129

ISSUED TO
WELSH MANUFACTURING CO.
Providence, Rhode Island, U.S.A.

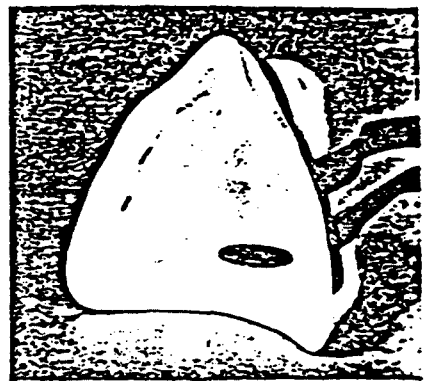
LIMITATIONS

CAUTION

Easy fit: Molded of Welsh's revolutionary new material ETP (elastomeric thermoplastic), the 7165 is soft, non-irritating, and conforms readily to the face. A soft aluminum band may be formed to nose and cheek contours for a positive seal. In addition, fully adjustable head bands provide good respirator-to-face contact without undue pressure.

Compatible with safety glasses: The compactness, light weight (less than 2 oz.), and the contoured fit allow safety glasses and goggles to be worn more comfortably than with other masks. Vision is not restricted with the 7165 because of its design.

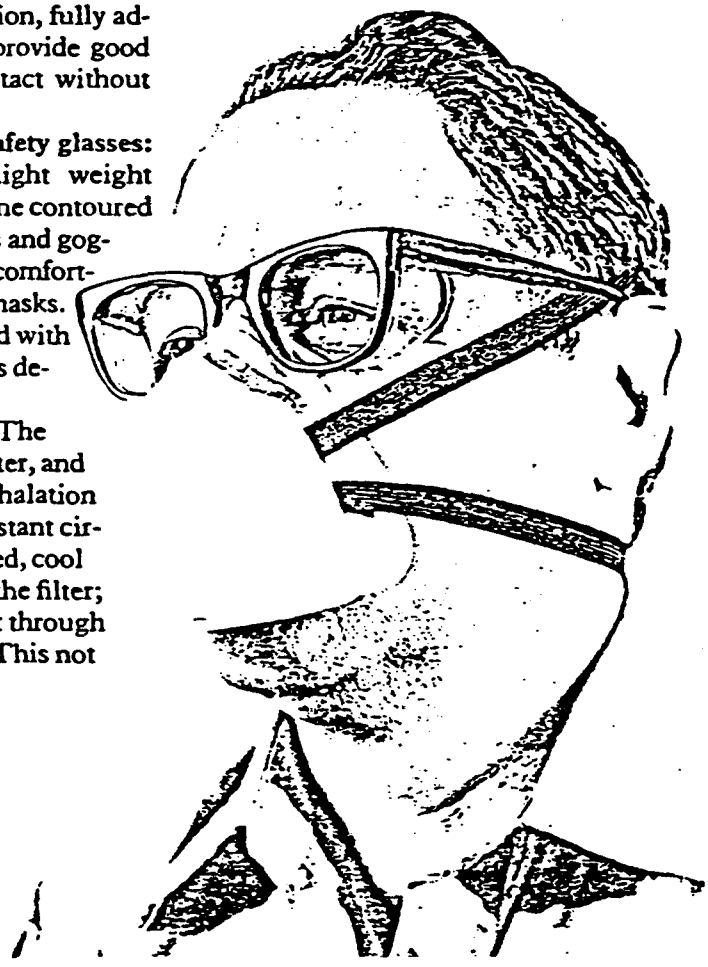
Day-long comfort: The large, wrap-around filter, and low inhalation and exhalation resistance gives a constant circulation of air. Cleaned, cool air comes in through the filter; hot, moist air goes out through the exhalation valve. This not



only keeps the filter dry and functioning longer but keeps the wearer's face cooler and more comfortable.

For all dust-producing operations: Mining, coke ovens, insulating, grain milling, woodworking, foundry, textile mills, detergent manufacturing and construction.

Welsh Manufacturing Company,
9 Magnolia Street,
Providence, Rhode Island 02909.



WELSH
A textron COMPANY

Printed in U.S.A.

3M Brand Respirator 8710

The nose needs help.

It's not efficient enough to filter out everything harmful to a worker's lungs. Things like pneumoconiosis and fibrosis producing dusts.

The 3M Brand Respirator 8710 *is* efficient enough.

It's the newest respirator idea in years. Read for yourself:

It's inexpensive and disposable.

The 8710 is completely disposable. No filters to clean. No sanitation problems. No storage space needed.

It costs 55¢ each in lots of a hundred or more. That's one-third the cost of the 8710's nearest competitor.

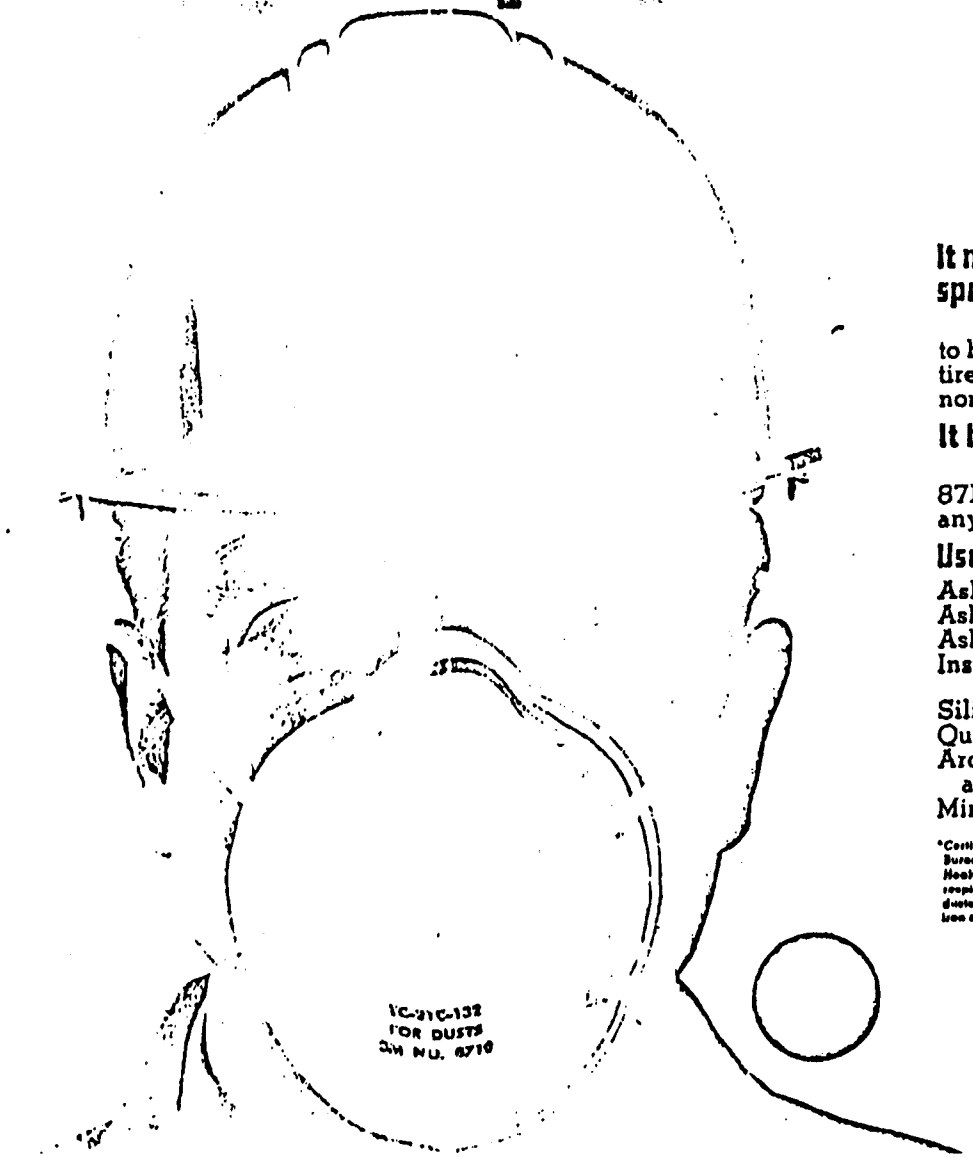
It's Bureau of Mines approved.*

The 8710 is approved by the Bureau of Mines. It's 99% efficient against dusts with a mean particle diameter of .4 to .6 microns.

It weighs hardly anything.

Workers will wear this mask. It weighs ¼ oz. or about the same as an average cigar.

That's 1/7th the weight of its nearest competitor.



It makes breathing and speaking easy.

The 8710 is light-weight. It's easy to breathe through. Workers won't get tired quickly. And they can speak in normal tones.

It has the least vision restriction.

There are no protrusions on the 8710. So it restricts vision less than any respirator in its class.

Uses.

Asbestos	Textiles
Asbestos mining	Processing
Asbestos processing	Fabrication
Insulation contractors	Handling
Silica	Coal
Quarrying	Mining
Around sandblasting areas	Processing
Mining	

*Certificate of Approval TC-21C-132 has been granted by the U.S. Bureau of Mines and National Institute for Occupational Safety and Health to the 3M No. 8710 single use air purifying respirator for respiratory protection against pneumoconiosis and fibrosis producing dusts, including but not limited to aluminum, asbestos, coal, flour, iron ore or iron oxide.

Performance Facts

Quick Technical Facts

Efficiency — Meets the requirements of Title 30, Code of Federal Regulations, Part 11. Thus, it meets a minimum requirement of 99% efficiency against Silica Dust with a mean particle size of 0.4-0.6 Microns. The following chart compares the new 21C requirements with the former 21B requirements.

	21B	21C
Silica dust mean particle size	0.4-0.6 Microns	0.4-0.6 Microns
Test duration, minutes	90	90
Dust concentration, mg/m³	50-60	50-60
Air Flow rate, liters per minute	32 (inhalation only)	40 (inhalation and exhalation — 0 to 105 lpm)
Breathing Machine Cycle	N/A	24 cycles/Min.
Exhalation Air Temperature°	N/A	95 ± 3
Exhalation Air RH. %	N/A	94 ± 3
Aerosol Penetration, mg	4.5/3 respirators Max 2.0/respirator	1.0/respirator
Maximum Breathing Resistance		
Initial Resistance, mmH₂0	30	15
Final Resistance, mmH₂0	50	15
Exhalation	20	15

FIT: Meets current 21C Requirements as shown below.

	21B	21C
Coal dust mean particle size	1.2 Microns	1.3 Microns
Concentration, mg/m³	75 ± 25	100 +
Test Duration, Min.	30	15
Test Procedure	2 Repetitions	1 Repetition

NOTE: Person(s) Wearing Respirator Carries Out Following Routine During Test Procedure:

3 Minutes — Walking, Turning and Nodding Head
1.5 Minutes — Smiling
1.5 Minutes — Frowning
3 Minutes — Reciting Alphabet
3 Minutes — Talking
3 Minutes — Shallow and Deep Breathing

Number Tested	8	3
Acceptance criteria	Quantitative — 10% leakage permitted	Qualitative — No coal dust visible on facial area under respirator

Weight: lightest by far of all approved respirators

Respirator	Approval #	Weight, gms
"3M" #8710	TC-21C-132	8
MSA "Dustfoe" 66	BM 21B 113	85
MSA "Dustfoe" 77	BM 21B 97	130
Welsh 7506	BM-21B-79	150
Welsh 7165	BM-21B 129	55
AO "Dust Demon"	BM 21B 107	45
Baseline #5340	BM-21B-108	45

Vision: Respirators were fitted to test subjects, heads were held straight, and subjects were asked to point out all areas of a numbered grid on the floor which were not obscured from view. Results are shown below and specific respirator identification will be provided upon request. Units indicate distance in feet which was obscured from view.

Respirator	Angle from center line			
	0° (Straight ahead)	30°	60°	90°
None	3.0	3.0	3.5	3.5
"3M" #8710	3.0	3.5	3.0	3.5
Competitor A	3.5	3.5	3.5	4.0
Competitor B	6.0	4.5	4.0	4.0
Competitor C	3.5	5.0	4.0	3.5
Competitor D	4.0	3.5	3.5	3.5
Competitor E	8.0	4.5	4.0	4.0
Competitor F	4.0	4.0	3.5	3.5

Flammability: The #8710 has been tested for flammability using several tests. The current test specified under the Flammable Fabrics Act is NBS Commercial Standard 191-53. This test is identical to ASTM D-1230-61 and to AATCC 33. Using this method, the #8710 does not ignite. Under the test described in NFPA Bulletin 702, the 8710 has an average burn time of 18 seconds which puts it right at the Class 1/Class 2 dividing line.

For information about our other disposable respirators and masks, including the popular #8500, write: Occupational Health & Safety Products, 3M Company, 3M Center, Bldg. 517-110, St. Paul, Minnesota 55101.

Occupational Health & Safety Products

3M

LITHO IN U.S.A. WITH 3M BRAND PHOTO OFFSET PLATES

The nose can't do it alone



THOMCAT

DISPOSABLE GARMENTS MADE OF TYVEK

By Laminaire

The highest quality workmanship available!



DISCARD OLD DEFINITIONS BEFORE EXAMINING TYVEK

"Tyvek" spunbonded olefin is a DuPont sheet product made from one hundred percent high density polyethylene fibers. It is neither a fiber, fabric, or paper, but combines some of the best qualities of each. This tough, durable material is formed by the random distribution of very fine continuous polyethylene fibers and is ideally suited for commercial garments.

LINT THROW-OFF LIMITED

Since fibers are bonded with heat and pressure, there are no binders or adhesives to flake off. If extreme lint is a necessity in your operation, this new garment approach offers help. Tests indicate that garments of "Tyvek" do not generate less lint particles under use and wear. This helps keep your air clean.

Garments of "Tyvek" are ideal for use in lab, paint application departments, pharmaceutical production areas, or other locations where particle-free air is essential. They provide the clean barrier to contamination garments needs... and they are fresh when donned rather than workwear like the coveralls.

THE SOURCE OF STRENGTH IS TYVEK

There is no need to pamper this disposable. It will take abuse because it is virtually tear-free, puncture and snag-proof. DuPont has created this tough and durable product from polyethylene fibers married in a continuous fiber process that is cold-bonded. Garments of "Tyvek" defy damage under normal use.

"Tyvek" is the opaque disposable garment that outlasts all the disposables. Whatever garment you previously depended on, "Tyvek" will offer a new standard for practicality and economy.

PROPERTIES OF TYVEK MATERIAL

"Tyvek" passes requirements of the Federal Flammable Fabrics Act and is rated class 1, low flammability, under NFPA test method #702 for wearing apparel. It also contains an effective antistatic agent. An important characteristic of "Tyvek" is that it has a high filtration capacity which offers a barrier for body particles from contaminating the work area or a barrier for worker protection.





AVAILABLE CLEAN ROOM CLEANED!

LAMINAIRE Corporation • 1472 Randolph Avenue • Rahway, New Jersey 07065 • (201) 381-4288

CLEAN ROOM FABRIC GARM ACCESSORIES by FASHION

From Laminaire



















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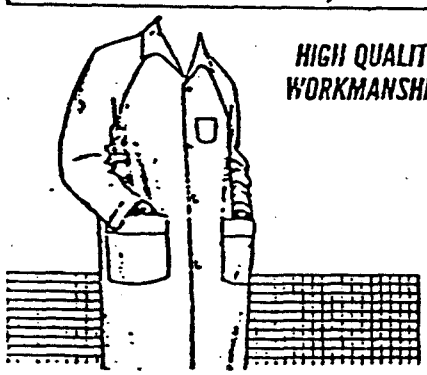
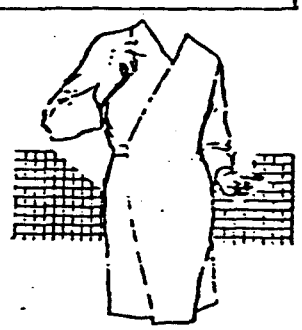
DISPOSABLE GARMENTS MADE OF TYVEK

By Laminaire



HIGH QUALITY WORKMANSHIP!



GARMENT PROBLEMS DISCARDED, NEVER ACCUMULATED

GARMENTS OF TYVEK® RESIST CHEMICALS









CERTIFIED CLEAN-ROOM APPARE

From Laminaire





