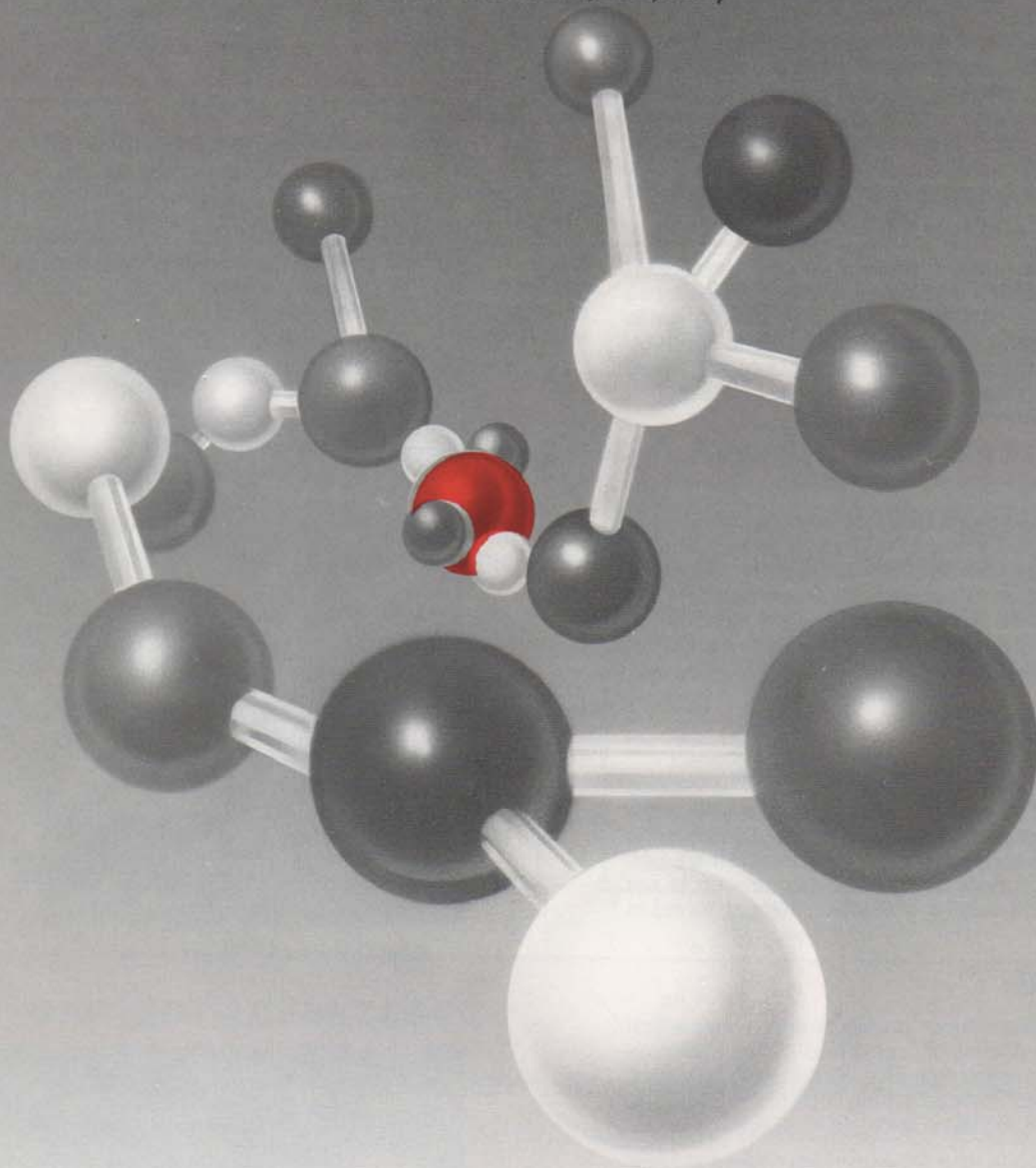


EPA 55

(U.S. Patent #4,699,666)



**Molecular Hydrogen Bonding Agent for
quicker, easier & safer Asbestos removal**

ACC

AMERICAN COATINGS CORPORATION

(800) 533-0151

EPA 55 ASBESTOS REMOVAL AGENT

EPA 55 is a patented aqueous formulation which wets out asbestos, including Amosite, and *keeps* it wet for extended intervals. Its outstanding "water retention" feature minimizes the levels of airborne fibers generated during asbestos removal while eliminating costly and time-consuming reapplications of treated surfaces.

EPA 55 surpasses the wetting ability of water amended with standard surfactants, especially on dense-cementitious materials. In lieu of merely rinsing the asbestos material like amended water, EPA 55 *soaks* into the insulation, attaches itself to the asbestos fiber and stays there. In addition to keeping the treated material wet, EPA 55 significantly reduces the risk of water damage in the work area while cutting labor expenses for asbestos removal and post removal clean up.

In direct contrast to silicate based "removal encapsulants", EPA 55 does *NOT* crust or harden in a matter of minutes. Surfaces treated with EPA 55 remain soft and moist enabling personnel to remove the asbestos cleanly and easily. EPA 55 allows for "wetting out" large areas of asbestos materials *without* concern over how many "minutes" have elapsed before removal must begin or the added expense of continuous applications.

HOW DOES EPA 55 WORK

Wetting asbestos materials thoroughly, not simply washing away the surrounding binders, is the key to preventing airborne fibers during removal. EPA 55 is a scientific approach utilizing the physical characteristics common to commercial asbestos fibers. Its mixture of special additives have been chemically balanced to achieve a maximum level of saturation in less time, stay wet longer, and eliminate the expensive problems associated with other wetting solutions.

LOWER SURFACE TENSION

EPA 55 provides *faster* penetration than competitive wetting techniques. Its low Surface Tension of 22.0 Dynes/cm, *24% better* than established standards, allows EPA 55 to quickly permeate into the affected substrate and start wetting the asbestos materials. Also, because EPA 55 is nonionic, its fast penetration is not adversely affected by the varying electrical charges found in asbestos materials.

THOROUGH SATURATION

Commercial asbestos minerals intrinsically contain water which has been physically and chemically combined. Some asbestos have as much as 15% water by weight. EPA 55 utilizes this physical trait to "wet out" the asbestos by attaching itself to the asbestos fiber through a MOLECULAR BONDING PROCESS.

The specific polymer used in EPA 55, especially when it is combined with water, has an acute natural attraction for the silicate mineral fibers of asbestos. Initially, this polymer forms strong electrical bonds with the water element of EPA 55. Subsequently, the resultant moieties bond firmly with the fiber's inherent water content, allowing EPA 55 to thoroughly *saturate* the treated material and virtually eliminate airborne fibers during asbestos removal.

WATER RETENTION

Once EPA 55 has thoroughly wetted the matrix it keeps right on working, maintaining a soft, easy-to-remove surface!

The bonding action effected by its polymer also serves to keep EPA 55 *inside* the treated matrix, diminishing water seepage from the treated insulation, and consequently, reducing the risk of water damage in the work area. In conjunction with its bonding action, EPA 55 also employs a special humectant which minimizes its evaporation rate and sustains the treated material's wetness *far longer* than water amended with surfactants.

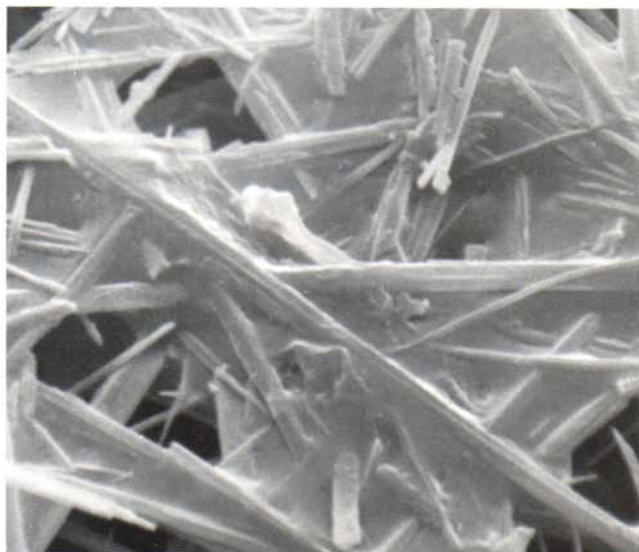
Because removing asbestos which remains soft and wet is *safer, easier, and faster* than trying to remove material which may have dried or hardened, there is no substitute for the overall effectiveness of EPA 55!

PHOTOGRAPHS

Asbestos samples were treated with EPA 55 on April 23, 1987. Treated samples were then placed in a Drying Desiccator at 70°F and 0% Relative Humidity for 24 hours. Pictures are dated 3 weeks later on May 14, 1987. Pictures taken by Structure Probe, Inc. using a Scanning Electron Microscope.



Raw Chrysotile Fibers



Chrysotile Fibers Treated With EPA 55

MINIMAL AIRBORNE FIBERS = SAFER WORK AREA

Various dilutions of EPA 55 were used to treat 99% chrysotile fibers and 20% chrysotile ceiling material. Asbestos samples of approximately 5.000 grams were prepared and treated with approximately 1 ml dilutions of EPA 55. Samples were placed in a container affixed with a 0.8 micron pore size cellulose ester cassette and immediately disturbed to produce airborne fibers. Following disturbance, the immediate internal environment was sampled with the cassette and corresponding air pump for 2 hours. Sampling and analysis were done in accordance with NIOSH method P&CAM 7400/B for 2 hours.

Dilution Ratio EPA : Water	% Asbestos Sample	Background Level	EPA 55's Time Wght. Ave.
1 : 1	99% Chrysotile	0.0007	0.0007
1 : 2	99% Chrysotile	0.0007	0.0007
1 : 5	99% Chrysotile	0.0007	0.0007

Dilution Ratio EPA : Water	% Asbestos Sample	Background Level	EPA 5's Time Wght. Ave.
1 : 1	20% Chrysotile	0.0007	0.0007
1 : 2	20% Chrysotile	0.0007	0.0007
1 : 5	20% Chrysotile	0.0007	0.0013

LOW SURFACE TENSION = FASTER PENETRATION

Dilution Ratio EPA : Water	Test Method	Recommended Surface Tension Level	EPA 55 Surface Tension Level	% Better Than Recommended Level
1 : 0	ASTM D 1331	29.0 Dynes/cm	22.0 Dynes/cm	24.1%
1 : 1	ASTM D 1331	29.0 Dynes/cm	25.5 Dynes/cm	12.7%
1 : 2	ASTM D 1331	29.0 Dynes/cm	26.3 Dynes/cm	9.3%

OUTSTANDING WATER RETENTION = SAVES TIME & REDUCES WATER DAMAGE

Ten series of 10 samples each were run to determine liquid retention. EPA 55 and a surfactant composed of 50% polyoxyethylene ester and 50% polyoxyethylene polyglycol ether were each diluted 1 : 1 and 1 : 2 with water and used to treat asbestos materials. Asbestos samples of approximately 5.000 grams were prepared and weighed. Approximately 1 ml volumes of EPA 55 and amended water were then added to the respective samples. Each sample was weighed again and then placed in a Drying Desiccator for 24 hours. After drying, each sample was weighed again to determine weight loss, representing liquid loss. Results are stated as an average of the ten samples in terms of the percentage of liquid lost in comparison to the amount of liquid originally added.

Wetting Agent	Dilution Agent:H2O	Weight Liq. Added (Gr)	Weight Liq. Lost (Gr)	% Liquid Weight Lost
20% CHRYSOTILE CEILING MATERIAL SAMPLES				
EPA 55	1 : 1	1.0432	.0009	0.09%
Amend. Water	1 : 1	.8993	.4730	52.50%
EPA 55	1 : 2	.9919	.0016	0.16%
Amend. Water	1 : 2	.9397	.5961	63.40%

Wetting Agent	Dilution Agent:H2O	Weight Liq. Added (Gr)	Weight Liq. Lost (Gr)	% Liquid Weight Lost
99% CHRYSOTILE FIBER SAMPLES				
EPA 55	1 : 1	1.0143	.0014	0.14%
Amend. Water	1 : 1	.9271	.5051	54.40%
EPA 55	1 : 2	.8854	.0029	0.33%
Amend. Water	1 : 2	.9020	.5817	64.40%

EPA 55 - DISTINCT ADVANTAGES

- Minimizes airborne fibers generated during asbestos removal providing a safer work area.
- Keeps asbestos wet for long periods eliminating costly, time-consuming reapplications.
- Significantly reduces labor costs for asbestos removal and post removal clean-up.
- Treated surfaces stay moist and soft providing faster removal and cleaner underlying surfaces.
- Lower Surface Tension provides fast penetration and thorough saturation of treated substrates.
- EPA 55 is nonionic and is *NOT* rejected by varying electrical charges.
- Wets out dense-cementitious insulations, including Amosite.
- Outstanding water retention lessens the risk of water damage in the work area.
- EPA 55 will *NOT* harden quickly like silicate based removal encapsulants. EPA 55 allows crews to "wet out" large areas of asbestos *WITHOUT* concern over how many minutes have gone by before removal operations must begin.
- May be used at temperatures less than 32° Fahrenheit.

EPA 55 - PRODUCT DATA

Classification	Asbestos Removal Agent
Formulation	Aqueous Concentration
Surface Tension (ASTM D-1331):	
Full-Strength	22.0 Dynes/cm
Diluted 1 Part Water	25.5 Dynes/cm
Diluted 2 Parts Water	26.3 Dynes/cm
Evaporation Rate	Slower than Water
Viscosity, cps	40
Flammability Classification:	
OSHA	Class IIIB
DOT	Not Regulated
Flash Point (Closed Cup)	214°F
LEL	2.6%
Boiling Range	212°F
Freezing Point	Less than 32°F
pH	8.5
Specific Gravity	1.001
Ionic Type	Non Ionic
Freeze/Thaw (3 Cycles)	Excellent
Weight per Gallon, Pounds	8.3 - 8.4
Reactivity Data	Stable
Incompatibility	Strong Oxidizing Agents
Odor	Mild
Color	Clear
Recommended Storage	40°F - 90°F
Shelf Life	Indefinite
Application Equipment	Airless Spray
Application Pressure	10 - 150 PSI

APPLICATION

EPA 55 shall be used in accordance with all Federal, State and Local standards governing the safe handling of asbestos containing materials.

Only remove asbestos materials which are wet.

Wear safety non-skid footwear.

EPA 55 may be used full-strength or may be diluted up to 2 parts water. Manufacturer recommends trial application to determine the most effective dilution for each application. Excessive dilution reduces product's efficiency.

May be applied by airless spray, injection or hand held garden sprayer.

1. Prepare desired concentration of EPA 55.
2. Lightly mist substrate to break surface tension and control surface particulates. Full-strength misting is recommended for dense/cementitious materials.
3. Thoroughly saturate surface in continuous passes. Avoid excessive dripping. Coverage is dependent upon field conditions.
4. Allow to permeate.
5. Removal may begin when insulation is completely saturated.

ADDITIONAL PRODUCTS FOR ENVIRONMENTAL CONTROL

CABLE COATING 22-P  **"Lock Down" & Penetrating Encapsulant**
Full Strength or Dilute Up to 3 Parts Water

22-P POWERLOCK  **"Lock Down" & Removal Encapsulant**
Ready-to-Spray Formula Adheres to All Standard Surfaces

CABLE COATING 2-B **Bridging Encapsulant**
Forms a Tough Nonporous Membrane in Either Spray or Palm Grade

EARTH-KOTE PROCESS **Soil Encapsulation**
Patented Procedure for Treating Contaminated Soil



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