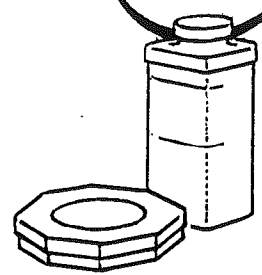




SIERRA
TALCS
FOR
COSMETIC
AND
PHARMACEUTICAL
USES



● MINED AND SCIENTIFICALLY GRADED BY

SIERRA TALC & CLAY CO.

5509 RANDOLPH ST.
Los Angeles 22, California
U. S. A.

PLAINTIFF'S
EXHIBIT
CAM-287

04921772

"Once upon a time..."

THERE was a time when the cosmetic and pharmaceutical industry looked exclusively to Europe for its talcs. Talc, as well as fragrances and essential oils, reached a high state of development in Europe generations before America was a factor in these industries.

Two world wars changed all that. Necessity forced the development of American technology to a point where dependence on European talcs is no longer necessary. Domestic talcs are now superior in many respects to those formerly imported.

Born in world World War I, Sierra Talc & Clay Company throughout the years has acquired the most extensive deposits of pure talcs in the world. Its laboratories and mills, except for wartime restrictions, have devoted their full resources to the production of quality talcs. Since the end of World War II, research work has been expanded and the latest and best equipment acquired. Today Sierra Talcs are unexcelled throughout the world in many important respects. Sierra's well known brands of different chemical and physical characteristics are adaptable to all types of cosmetics and medicated powders and tablets.



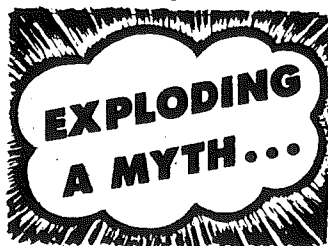
The better grades of talcs are noted for their translucent, platey particle structure which imparts the characteristic "Slip." Until recently, talcs were purchased by the cosmetic manufacturer by the "feel" of the talc and its color only. Modern technical advances, in which Sierra has played a leading part, have shown that chemical purity, hiding power, freedom from grit, bulking, and fineness are equally or more important. These factors are so controlled in Sierra's mines, mills and laboratory that it is possible for the cosmetic or pharmaceutical manufacturer to produce a constantly wider range of consumer products.



These two properties are considered together because some common misconceptions over many years have a bearing particularly on the manufacture of face powders. The original cosmetic producers of Europe and America had only European talc to use in the production of their powders. These talcs are so greasy in feel and the particles so flat and thin that they leave a soapy, translucent shine on the skin. Hence, the name "soapstone," a synonym for talc. When rubbed on the skin they seem to disappear. They have in fact no **HIDING POWER**. To compensate for this characteristic it was the practice of cosmetic manufacturers to blend rather large percentages of rice powder with the talc. Later, the heavy

hiding pigments like titanium dioxide and zinc oxide replaced the rice powder and often small percentages of stearates were added to make the slippery talc stick to the face. These pigments impart necessary **HIDING POWER** and tone down the "slip" of the talc so that the face powder, while still soft and smooth, pleasingly **COVERS** the skin.

The better grades of Sierra Talcs, while still of translucent, platey particle structure, do not have the pronounced greasy feel or "slip" of the European talcs. *This is where popular misconceptions come in.* What has been considered a disadvantage in domestic talcs by some cosmetic manufacturers is **ACTUALLY** an advantage.



We contend that there are two ways to make good face powders with today's talcs. Start with a greasy, low-hide talc and add *high* percentages of hiding pigments to kill the shine and add covering power — **OR THE SIERRA WAY** — Start with a soft, grit-free, platey talc that has its **OWN** hiding power (wrongfully described as chalky), and materially **REDUCE** the percentage of hiding pigments. The end product is the same — a smooth, soft, high covering face powder that leaves the face smooth and velvety. And the cost will be less! Lower initial cost—lesser quantities of hiding pigments costing several times more than talc!

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(continued from previous page)

SILVER COSMETIC "IS" and SILVER TALC "NS"

These talcs are distinguished by their lower bulking characteristics, differing principally in fineness. Silver Cosmetic "IS" is about 1/5 heavier in density than Sierra's other types, and Silver Talc "NS" is about 1/3 heavier. They permit the smallest size face powder package of equal weight of any cosmetic talc on the market. Packed density is still greater and powders produced from "IS" and "NS" will not fly in the air when applied with a powder puff. They are excellent for rouges and cake applications.

ECONOMY TALCS

Sierra produces several talcs in the low price range designed primarily for those catering to the ten to fifty cent trade. Specifications are not shown in the table but can be found in Sierra's complete Talc Portfolio. These are Trinity XXX, Sierra White and LS Silver. Trinity XXX is milled to a fineness of 98-99%/325, has a color range of 93-95 and loose bulking of 26-28 lbs. cu. ft. Sierra White is produced to a fineness of 95-97%/325, color 90-92, bulking 26-28 lbs. cu. ft. L. S. Silver is of the same type as "IS" and "NS" Silver talcs, with a fineness of 95-97%/325, color 93-95, bulking 31-33 lbs. cu. ft.

Special talcs to meet any manufacturer's specifications can be custom produced by Sierra from its many types of raw talcs.

The following table lists the principal properties of interest to the pharmaceutical and cosmetic manufacturer. For further data consult the complete Sierra Talc Portfolio:

	Percent ¹ Purity	Acid Solubles		Bulking Loose ⁴ Packed ⁵		Milled ⁶ Color	Grit ⁷	Fineness
		TGA ² (%)	Sierra ³ (%)				Residue	% Minus
								(%)
Sierra Supreme USP	96-97	0.90-0.95	0.35-0.50	21-22	38-40	98-99	0.1-0.2	99.7-99.9
Sierra Supreme 325	95-97	1.0-1.5	0.60-0.75	21-22	38-40	98-99	0.2-0.3	99.7-99.9
Sierra Supreme 200	95-97	2.5-2.8	0.8-1.0	26-27	54-55	98-99	0.7-0.9	95-97
Trinity Superfine	95-97	2.8-3.0	0.9-1.2	23-24	45-46	98-99	0.6-0.8	99.5-99.7
Trinity Super	95-97	2.8-3.0	0.9-1.2	25-26	50-51	97-98	2.0-2.5	95-97
Sierra Cloud	94-96	3.5-4.5	1.9-2.5	27-28	50-51	95-97	1.0-1.5	99.5-99.7
Sierra Snow	94-96	3.5-4.5	1.9-2.5	28-29	52-53	95-97	1.8-2.3	95-97
Sierra Vapor	96-97	2.8-3.0	0.6-0.9	22-23	38-40	96-97	0.6-0.8	99.6-99.8
Silver Cosmetic "IS"	92-93	6.0-8.0	3.2-3.5	28-29	51-53	95-97	1.5-2.5	99.5-99.7
Silver Talc "NS"	91-92	6.0-8.0	2.5-3.0	32-33	53-55	95-97	3.5-4.5	95-97

NOTES

- 1 Percent purity is expressed as the combined percentages of Silicon dioxide (SiO₂), Magnesia Oxide (MgO), and chemically combined water (H₂O).
- 2 Tested in accordance with the Toilet Goods Association Specification No. 10, Method No. 11. Issued June 1, 1942.
- 3 Sierra Talc & Clay Co. Method: Boil 1 gm talc with 50 ml N/10 H₂SO₄ for one minute. Titrate while hot with N/10 NaOH using phenolphthalein indicator. 50 minus NaOH titer multiplied by 0.281 equals percent acid soluble substances calculated as CaO.
- 4 Scott Volumeter bulking of the "fluffed" materials as lbs./ft.³
- 5 Toilet goods Association Specification No. 10, Method No. 12, reported as lbs. per cu. ft. For grams per milliliter divide by 62.43.
- 6 Diffuse reflectance of a smooth plane surface of the powdered material. Measured using a Pfaltz & Bauer Universal Reflectometer and freshly prepared MgO as standard of 100 percent reflectance.
- 7 Figures shown represent the percent mineralogical constituents, determined petrographically, having a Mohs hardness greater than that of talc, in the decantation residue.

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SIERRA SUPREME USP

Most important to the pharmaceutical manufacturer is *CHEMICAL PURITY*. This is becoming recognized as equally important to the producers of baby powders, foot powders, heat rash powders and other medicated preparations. The standard of purity is set by the U. S. Pharmacopoeia. No talc producer was able to market *in quantity* a talc that could be certified U. S. P. until Sierra started producing Sierra Supreme USP. Formerly, U. S. P. Talcs had to be produced by acid leaching—a costly process. Sierra by means of research and special equipment developed Sierra Supreme USP for the pharmaceutical and medicated powder trade. Being grit free, white, and of maximum purity it can be incorporated in tablets for internal use without wear on the delicate tablet dies and without danger of toxicity.

Properties By U. S. P. Test Methods		
	U. S. P. XIII Requirement	Sierra Supreme USP
Loss on Ignition (1 hr. at 850° C)	5.00% maximum	3.00—4.00%
Acid Soluble Substances	10.00 Mg "	7—9 Mg
Water Soluble Substances	5.00 Mg "	3—4 Mg
Reaction to Litmus	Neutral	Neutral
Water Soluble Iron	None	None
Grit (Bite Test)	None	None

SIERRA SUPREME 325

This talc is similar to Sierra Supreme USP except it is not certified to pass the requirements of the U. S. Pharmacopoeia. Nevertheless, it is an extremely pure talc containing less than 1% acid solubles. It assures maximum fragrance retention. It is the whitest of all regular quality Sierra talcs, making possible uniform production of the most delicate face powder tints. Its fine grind and light bulking permits the cosmetic producer to produce a large package of fluffy bath or dusting powder.

SIERRA SUPREME 200

This talc is identical to Sierra Supreme 325 except it is milled coarser and is of greater apparent density. It is designed for those wishing to produce a heavier or smaller package.

TRINITY SUPERFINE and TRINITY SUPER

These are Sierra's most popular non-premium cosmetic talcs and are the largest selling cosmetic talcs in the country. Trinity talcs have been the standard of a number of world famous cosmetic companies for many years. Production comes from Sierra's Oasis mine (Nevada) which has been in operation for over 15 years. This mine contains many years supply of uniform quality talc of very white, platy structure, low in acid solubles and of great uniformity. The two talcs differ only in fineness. Trinity talcs are recommended for both face and dusting powder.

SIERRA CLOUD and SIERRA SNOW

These are Sierra's original cosmetic talcs first produced in the early twenties and still the best known medium-priced talcs on the market. The two grades differ only in fineness. Sierra Cloud is recommended for face and dusting powders. Sierra Snow, slightly heavier in bulking, is recommended for after shave talcum. Both talcs are soft in texture and are maintained to strict uniformity.

SIERRA VAPOR

This grade is made from the same raw talcs as Cloud and Snow. The name, Sierra Vapor, indicates its greater fineness. It is graded to minimum alkalinity—less than 3/4 of 1%. Its lighter bulking makes it adaptable to very fluffy powders.

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WHAT IS TALC?

a natural hydrous magnesium silicate having the chemical formula $H_2Mg_3(SiO_3)_4$. It occurs in many world and is seldom found in the pure state. The consist of carbonates and silicates of lime, the oxides of iron, alumina, and soda and potash. The reduction of iron is the function of the mining, milling and refining.

Secondary mineral altered by hydro-thermal action in carbonate rocks, quartzite, and basic rocks. The difference in talcs produced in various parts of the world is generally physical rather than chemical.

To the cosmetic manufacturer, next in importance are suitable color and color control. The uniformity of delicate face powder tints is dependent upon the color of the talc. Generally speaking, talcs having a yellow-white cast are superior to those having a blue-white or gray cast. Sierra Talcs are tested both for top color on the reflectometer and for undertone by visual comparison in turpentine—the best medium for bringing out the shade of the talc. Each lot passing through Sierra's mills is tested frequently throughout the milling period for uniformity by direct comparison with a laboratory standard.

Selective mining, hand sorting, grit throw-out by mechanical means and fine grinding are the methods used by Sierra for obtaining chemical purity.

Stability of color and of fragrance are of utmost importance to the cosmetic manufacturer. While it has never been conclusively proven that impurities in talc can cause a reaction with chemical colors or perfumes, the belief still persists.

Sierra takes all possible steps to keep their talcs as pure as possible. Complete chemical analyses can be found in Sierra's Talc Portfolio.

Sierra has developed its own simple laboratory method of determining acid solubles in talc. By this method calcium and magnesium carbonates and soda

and potash are digested and reported as Acid Solubles computed for convenience as CaO. The more severe methods such as prescribed in the U. S. Pharmacopoeia and by the Toilet Goods Association actually dissolve a substantial amount of the talc mineral.

Some domestic talcs have often been noted for their harsh, gritty feel. Many imported talcs, while soft to the touch, carry high percentages of grit. These harsh particles consist of free silica (quartz), calcite, dolomite, tremolite, ilmenite, garnet, etc. These are wall rock impurities surrounding the talc vein or are unaltered minerals in the talc body. Proper mining technique, screening, hand sorting, mechanical elimination, fine grinding and air separation are the methods used by Sierra to eliminate grit. Sierra Talcs are frequently tested by the old reliable "bite" test but are graded in the laboratory by decantation and microscopic study.

Knowledge of the bulking characteristics of a talc is essential to the cosmetic manufacturer because of the packing problem. Sierra Talcs are graded to a definite bulking range—by the Scott Volumeter for loose bulking and by the T. G. A. (Sturges) method for packed density. You can build your package around a Sierra Talc whether you produce a large fluffy-packed bath or dusting powder, or a small densely packed face powder or cake and Sierra controls will assure you a uniformly filled package.

Sierra Talcs are generally milled finer than talcs produced elsewhere. The latest and most efficient pulverizers and efficient air separation assure freedom from over-size particles irritating to the skin. In addition to fineness reported by screen tests in the Table, Sierra tests and grades all of its talc by detailed particle size distribution analyses in the subsieve micron range. These analyses are to be found in Sierra's complete Talc Portfolio or will be furnished separately on request.

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SIERRA Talc & Clay Company operates three mills, two in Los Angeles and one at Keeler, in the Owens Valley of California, west of Death Valley. Fourteen mining properties operated by Sierra on both sides of Death Valley yield all the known types of talc — steatite, fibrous, platey, and tremolitic. Control laboratories are located at each mill, and a large central laboratory is maintained at headquarters for research and development.

The availability of necessary raw talcs, plus expert mining technique, production know-how and laboratory control and research make possible a **SPECIFIC** Sierra Talc for every known use.

CERAMICS	PAPER MAKING
COSMETICS	RUBBER
PHARMACEUTICALS	PRINTING INKS
PAINT MANUFACTURING	ROOFING
TEXTILE FINISHING	RICE COATING
SOAP MANUFACTURING	INSECTICIDES



For the complete story of Sierra talcs, our handy and complete loose Talc Portfolio will be sent you on request. Full specifications on ALL our talcs for ALL uses are contained in this portfolio together with results of our research projects. Individual pamphlets similar to this are also available covering the specific industries listed above.



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