

The Minerals Supply Chain In Relation To Customers And Consumers: *“If It Can’t Be Grown, It Has To Be Mined.”*

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FDA Public Meeting: Testing Methods for Asbestos in Talc
and Cosmetic Products Containing Talc

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EVERY YEAR

40,633 pounds of new minerals must be provided for every person in the United States to make the things we use daily

9,924 lbs.

Stone used to make roads, buildings, bridges, landscaping, numerous chemical and construction uses

7,345 lbs.

Sand & Gravel used to make concrete, asphalt, roads, blocks & bricks

675 lbs.

Cement used to make roads, sidewalks, bridges, buildings, schools, houses

256 lbs.

Iron Ore used to make steel—buildings, cars, trucks, planes, trains, other construction, containers

384 lbs.

Salt used in various chemicals, highway deicing, food & agriculture

182 lbs.

Phosphate Rock used to make fertilizers to grow food, animal feed supplements

155 lbs.

Clays used to make floor & wall tile, dinnerware, kitty litter, bricks & cement, paper

26 lbs.

Aluminum (Bauxite) used to make buildings, beverage containers, autos, airplanes

12 lbs.

Copper used in buildings, electrical & electronic parts, plumbing, transportation

12 lbs.

Lead 75% used for transportation—batteries, electrical, communications

6 lbs.

Zinc used to make metals rust resistant, various metals & alloys, paint, rubber, skin creams, health care, and nutrition

34 lbs.

Soda Ash used to make all kinds of glass, in powdered detergents, medicines, as a food additive, photography, water treatment

6 lbs.

Manganese used to make almost all steel for construction, machinery, transportation

624 lbs.

Other Nonmetals used in glass, chemicals, soaps, paper, computers, cell phones, etc.

23 lbs.

Other Metals used in electronics, TV & video equipment, recreation equipment, etc.

Source: Society for Mining, Metallurgy & Exploration. "2019 Per Capita Use of Minerals." [mineralseducationcoalition.org. https://mineralseducationcoalition.org/mining-mineral-statistics](https://mineralseducationcoalition.org/mining-mineral-statistics) (accessed January 24, 2020).

Including These Energy Fuels

- 958 gallons of Petroleum
- 4,206 lbs. of Coal
- 97,988 cu. ft. of Natural Gas
- 0.13 lb. of Uranium

To generate the energy each person uses in one year—

MEC

Minerals Education Coalition

Minerals Covered in the IWGACP Recommendations

INCLUDE: chrysotile (but not other serpentine minerals) and members of the amphibole group (inclusive, but not restricted to the five amphiboles used commercially)(e.g., asbestiform riebeckite (commercially called “crocidolite”), asbestiform grunerite-cummingtonite (commercially called “amosite”), tremolite asbestos, anthophyllite asbestos, and actinolite asbestos (with the latter five being members of the amphibole group.)¹

OTHERS FROM THE AMPHIBOLE GROUP? actinolite, anthophyllite, arfvedsonite, barroisite, cannilloite, clino-holmquistite, crossite, cummingtonite, eckermannite, edenite, ferripedrizite, fluoro-magnesio-arfvedsonite, gedrite, glaucophane, grunerite, hastingsite, homquistite, hornblende, IMA2001-065, IMA2001-066, IMA2001-067, IMA2001-069, IMA2002-010, IMA2002-051, kaesutite, katophorite, kornite, kôzulite, leakeite, obertiite, ottoliniite, nyböite, pargasite, richterite, riebeckite, sadanagaite, taramite, tremolite, tschermakite, ungaretiite, whittakerite, winchite²

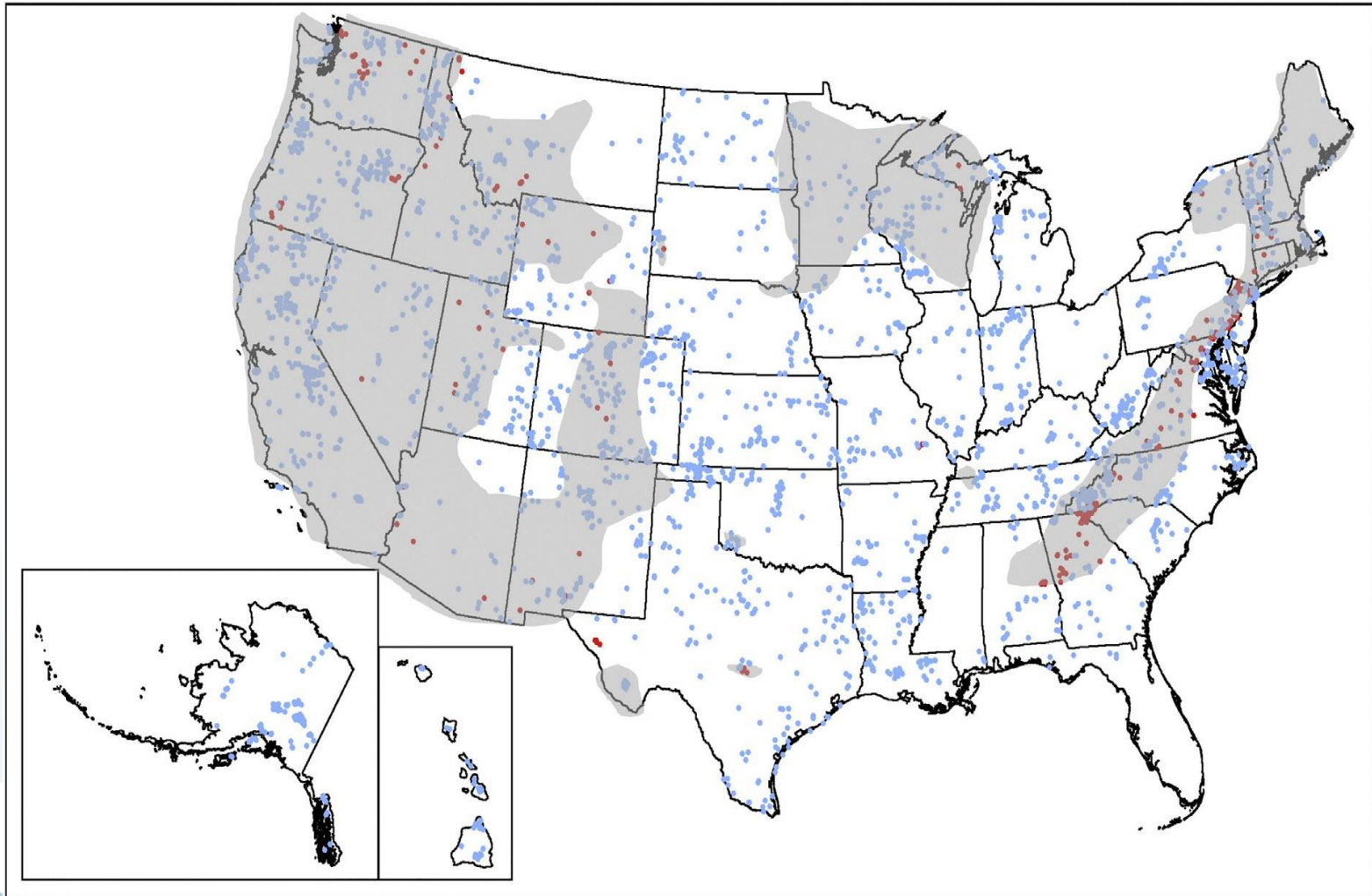
MINERALS, WHEN CRUSHED, THAT CAN OCCUR IN A 3:1 ASPECT RATIO?

¹Source: Executive Summary, Preliminary Recommendations on Testing Methods for Asbestos in Talc and Cosmetic Products Containing Talc, Interagency Working Group on Asbestos in Consumer Products (IWGACP), January 6, 2020. Pages 3 and 4.

²Source: Dyar, M.D., Gunter, M.E., 2008. Mineralogy and Optical Mineralogy. Mineralogical Society of America, Chantilly, Virginia (708 pp. with DVD-ROM). Table 22.12. Pages 607-608.



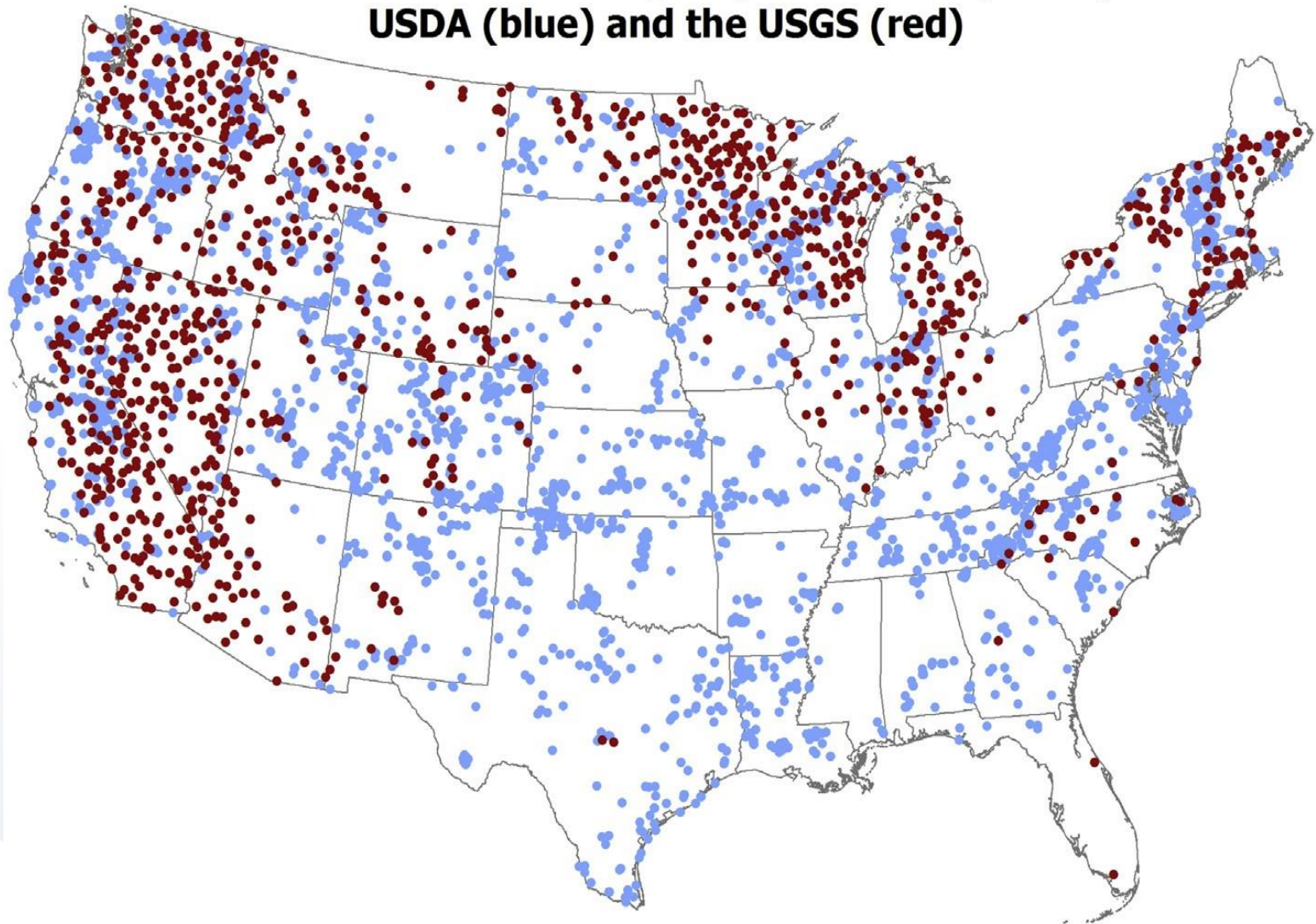
Locations of rocks with the potential to include amphiboles (in grey), with red and blue dots marking known amphibole asbestos locations



A map of the USA showing locations of rocks with the potential to contain amphiboles (in grey), with red dots marking the locations of known amphibole asbestos locations and blue dots for those obtained from the USDA-NRCS database (see [Thompson et al., 2011](#) and references therein). (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)³

³ Source: Gunter, Mickey. (2018). Elongate mineral particles in the natural environment. *Toxicology and Applied Pharmacology*. 361. 10.1016/j.taap.2018.09.024. Fig. 6.

Locations of soils containing amphiboles sampled by the USDA (blue) and the USGS (red)



This USA map combines the USDA-NRCS amphibole locations (blue dots) ([Thompson et al., 2011](#)) with those from the USGS (red dots) ([Smith et al., 2013](#); [McNamee and Gunter, 2014b](#)). (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)⁴

⁴ Source: Gunter, Mickey. (2018). Elongate mineral particles in the natural environment. *Toxicology and Applied Pharmacology*. 361. 10.1016/j.taap.2018.09.024. Fig. 8.