The website of ATSDR (a public health agency of the US Department of Health and Human Services) reports research that concludes that dermal contact with thorium and uranium does not cause any negative effects on health. (Tandon et. al, 1975)

Energy products made from volcanic material have been widely available in Japan & Korea for decades. They have not been shown to be detrimental to health. In fact, their sole purpose is to improve health & well-being. Similar energy pendants made from volcanic ash have been available through other companies for numerous years/decades, with good response and no side effects.

Since the launch of the SE pendant, we have received a never-ending stream of positive testimonies about health benefits that have been nothing short of amazing. The number of these positive testimonials has been immense. Many of you have, or know of friends who have personally experienced the health-improving benefits of the pendant.

There are many independent studies published in reputable journals that show that low dose radiation is actually *beneficial* to health, and may even increase longevity. These studies are readily available upon request.

Interestingly, volcanic soil has actually proven to be more fertile than regular soil. Plants and vegetation grow and flourish better in volcanic soil. Broken/chipped energy pendants are routinely used in poultry farms because they make the chickens less prone to sickness and infections and increase egg yield. They are also used extensively in fish rearing farms for their positive effects.

We continue to believe that the SE Pendant is a great product with great benefits. So far, there is no evidence of any negative side effects ever occurring from a solid, natural form of volcanic material worn as a pendant. On the contrary, we have seen many positive studies, and have heard literally thousands of positive testimonials.

The below excerpts are taken word-for-word from ATSDR, the Agency for Toxic Substances & Disease Registry site. ATSDR is a federal public health agency of the U.S. Department of Health and Human Services :

Thorium:

- Thorium is a **naturally occurring, radioactive substance**. In the environment, thorium exists in combination with other minerals, such as silica. Small amounts of thorium are **present in all rocks, soil, water, plants, and animals**. Windblown dust and volcanic eruptions are natural sources of thorium in the air.
- Burning coal may release small amounts of thorium into the air.

- Just by being alive, everyone is exposed to small amounts of thorium in air, water, and food.

From the Public Health Statement issued by ATSDR:

- Most thorium compounds commonly found in the environment **do not dissolve easily in water.**
- Thorium is not known to cause birth defects or to affect the ability to have children.
- The rate of emission of alpha particles from thorium is low, and the rate of emission of gamma rays is very low. Alpha particles are **unable to deeply penetrate skin**.
- Thorium-232 is considered **radiologically inert** since its half-life is so long.

2.2.3 Dermal Exposure

Death
Tandon et al. (1975) reported **no lethality** in rats following dermal application of 529 mg thorium/kg body weight (58 nCi/kg = **2146 Bq/kg).**

Hepatic Effects.
Tandon et al. (1975) reported **no histopathological effects on the liver** of rats following dermal application of 529 mg thorium/kg body weight/day (58 nCi/kg/day - **2146 Bq/kg/day)**

Renal Effects.
Tandon et al. (1975) reported **no histopathological effects on the kidneys** of rats following dermal application of 529 mg thorium/kg body weight/day (58 nCi/kg/day = **2146 Bq/kg/day)**

Note : SE pendant reading : 13.7Bq/g
SE pendant : 20g Total reading = 275Bq
Human of 60kg = effects would be 4.59Bq/kg body weight
4.59Bq/kg body weight exposure is extremely low compare to 2,146Bq/kg exposure which still yield no lethality, no histopathological effects on the liver and kidneys!
http://en.wikipedia.org/wiki/Thorium

Natural thorium decays very slowly compared to many other radioactive materials, and the **alpha radiation emitted cannot penetrate human skin.** Owning and handling small amounts of thorium, such as a gas mantle, is considered safe if care is taken not to ingest the thorium.

The below excerpts are taken word-for-word from ATSDR, the Agency for Toxic Substances & Disease Registry site. ATSDR is a federal

public health agency of the U.S. Department of Health and Human Services :

Uranium:

- **Natural uranium is radioactive but poses little radioactive danger because it gives off very small amounts of radiation.**
- **Unlike other kinds of radiation, the alpha radiation ordinarily given off by uranium cannot pass through solid objects, such as paper or human skin.**
- Since uranium is found everywhere in small amounts, you always take it into your body from the air, water, food, and soil. Food and water have small amounts of natural uranium in them.
- People eat about 1–2 micrograms (0.6–1.0 picocuries) of natural uranium every day with their food and take in about 1.5 micrograms (0.8 picocuries) of natural uranium for every liter of water they drink, but they breathe in much lower amounts. Root vegetables, such as beets and potatoes, tend to have a bit more uranium than other foods.
- People who are artists, art or craft teachers, ceramic hobbyists, or glass workers who still use certain banned uranium-containing glazes or enamels may also be near to higher levels of uranium, but they will not necessarily take any into their bodies.
- Although uranium is weakly radioactive, most of the radiation it gives off cannot travel far from its source. If the uranium is outside your body, such as in soil, most of its radiation cannot penetrate your skin and enter your body.
- **No human cancer of any type has ever been seen as a result of exposure to natural or depleted uranium.**
- EPA calls this the Maximum Contaminant Level (MCL). The MCL for uranium is based on calculations that if 150,000 people drink water that contains 20 μg/L of uranium for a lifetime, there is a chance that one of them may develop cancer from the uranium in the drinking water. In 1994, EPA considered changing the MCL to 80 μg per liter based on newer human intake and uptake values and the high cost of reducing uranium levels in drinking water supplies.
- Small amounts of natural uranium are used to make some ceramic ornament glazes, light bulbs, photographic chemicals, and household products. Some fertilizers contain slightly higher amounts of natural uranium.

Cardiovascular Effects.
No cardiovascular effects have been reported in humans after inhalation exposure to uranium. No effect on blood pressure or pulse rate was observed in a man accidentally exposed to powdered uranium tetrafluoride. No cardiovascular effects were seen in rats exposed to 0.2 mg U/m3 (0.13 nCi U/m3)

Dermal Effects.

No dermal effects were found in a man accidentally exposed to powdered uranium (Zhao and Zhao 1990).
Histopathologic examination of the skin was normal in rats exposed to 0.2 mg U/m3 as uranium tetrachloride for 1 year (Stokinger et al. 1953).

Human studies that assessed damage to cellular immune components following inhalation exposure to uranium found **no clear evidence of an immunotoxic potential for uranium.** No association was found between the uranium exposure and the development of abnormal leukocytes in workers employed for 12–18 years at a nuclear fuels production facility (Cragle et al. 1988).

Uranium has not been shown to cause damage to the nervous system of humans by metallotoxic or radiotoxic action following inhalation exposures for any duration.

2.2.3 Dermal Exposure

Death
No deaths have been reported in humans as a result of dermal exposure to uranium.

Dermal Effects.
No human studies were located regarding the dermal effects of uranium; however, **no dermal effects were reported in studies of uranium miners, millers, and processors.**

Neurological Effects
No studies were located for humans regarding neurological effects following dermal exposure to uranium compounds; however, **such effects have not been observed in studies involving workers in uranium mining, milling, and production.**

Cancer
No information on the cancer effects in humans or animals following dermal exposure to uranium for all durations of exposure was located; however, **such effects have not been observed in studies involving uranium mining, milling, and production.**

Absorption of uranium is low by all exposure routes (inhalation, oral, and dermal).