Gypelite

ARE WE LIVING IN Cancer traps ?

Past:

- Gypsum is one of the oldest known building materials
- The Egyptians used gypsum in plaster form during construction of pyramids
- The Greeks were good in plaster works around 500BC
- Excavations carried out at Pompeii- city lost in AD 79 by eruption of The Mount Vesuvius- revealed some of the most beautiful plaster works by the Romans
- Since 19th century gypsum boards usage in modern day construction started

Present:

- Gypsum is one of the most widely used construction material throughout the world
- Gypsum is used in the manufacturing of plaster boards, fibrous plaster, plaster mouldings, wall putty, cement, cornices, crockeries, dental products etc.
- Gypsum is used in agriculture as well for enhancing the soil properties.

What is gypsum?

- It's a naturally occurring material in the earth crust
- Chemical formula is $CaSO_4.2H_2O$ – Calcium Sulphate Dihydrate
- Gypsum rock contains Calcium Sulphate, chemically combined water and impurities
- Only thing we can alter is the water presence
- Impurities include MgO, SiO_2, Al_2O_3, Fe_2O_3, SO_3, NaCl, P_2O_5, Na_2O etc.

But, is all the gypsum same???


NO

Gypsum – 2 types:

Natural Gypsum

Phospho Gypsum

What is Phosphogypsum?

- Phosphogypsum is a by-product of the phosphoric acid industry.
- Sulphuric acid reacts with phosphate rocks to produce phosphoric acid. During this reaction phosphogypsum formed as a side product. For making
- For 1 ton of phosphoric acid, approx. 4.5 tons of phosphogypsum is produced.
- $Ca5(PO4)3X + 5\ H2SO4 + 10\ H2O \rightarrow 3\ H3PO4 + 5\ (CaSO4 \cdot 2\ H2O) + HX$, where X may include traces of Radium and many heavy metals including Chromium, Cadmium, Lead, Arsenic, Fluorides etc
- Phosphogypsum is used in the construction industry for making gypsum boards, plasters, ceiling tiles, panels, blocks etc and also as a fertilizer.

How phosphogypsum is dangerous?

IT'S RADIOACTIVE

Phosphogypsum contains Radium-226, a radioactive element which decays into Radon emitting α-radiations.

Exposure to these radiations can increase the risk of **cancer.**

These radiations cannot be sealed with any types of paints or coatings

How phosphogypsum is dangerous?

IT CAN TRAVEL THROUGH THE FOOD CHAIN

Presence of heavy metals like Cadmium, Chromium, Lead, Arsenic etc may enter the food chain through water contamination and agricultural products and can reach us.

How phosphogypsum is dangerous?

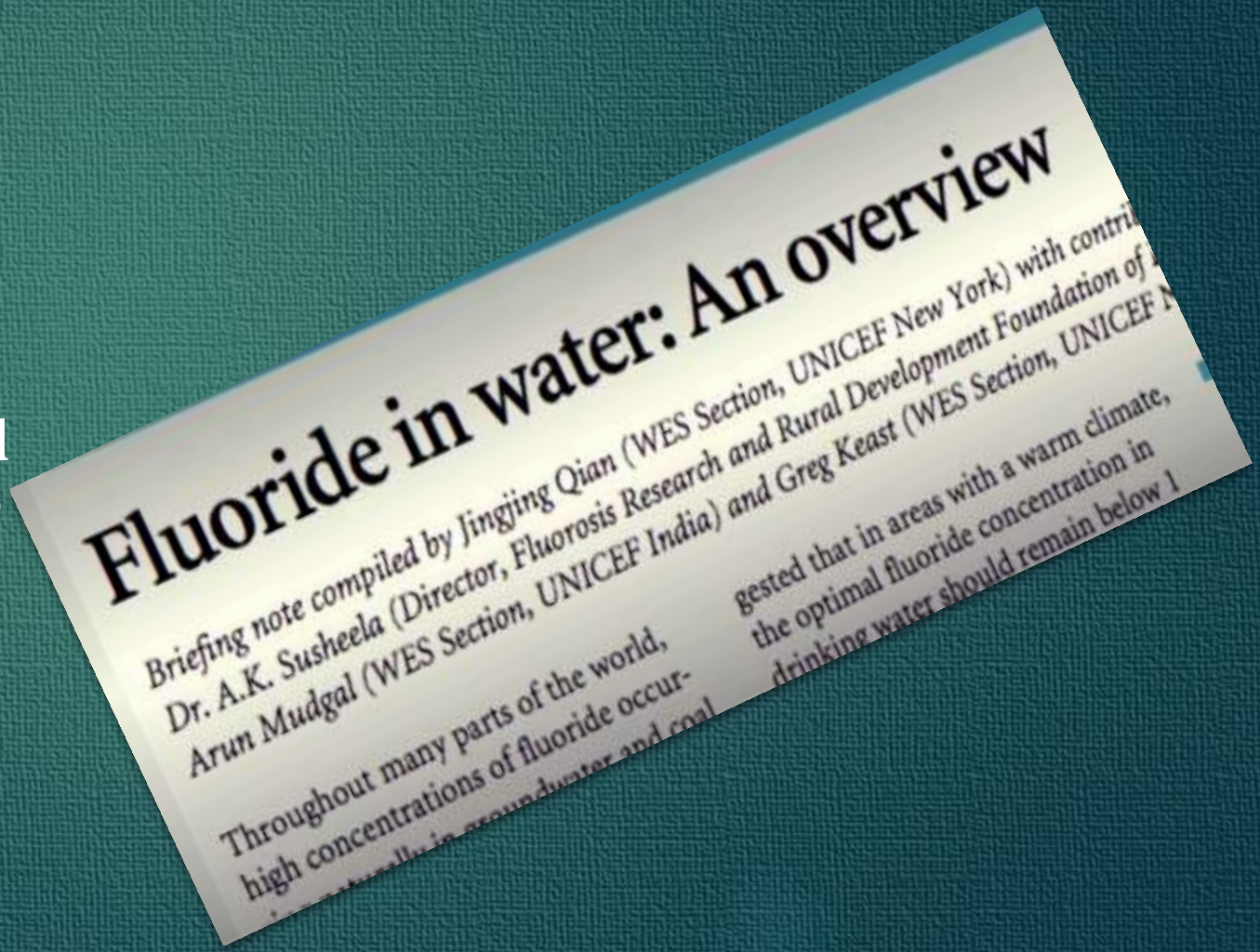
IT CAN DESTROY AQUATIC LIFE

Due to the acidic nature of phosphogypsum, it can be a threat to the aquatic life.

How phosphogypsum is dangerous?

IT CAN CONTAMINATE GROUND WATER

High fluoride concentration in phosphogypsum can leach and contaminate the ground water



How phosphogypsum is dangerous?

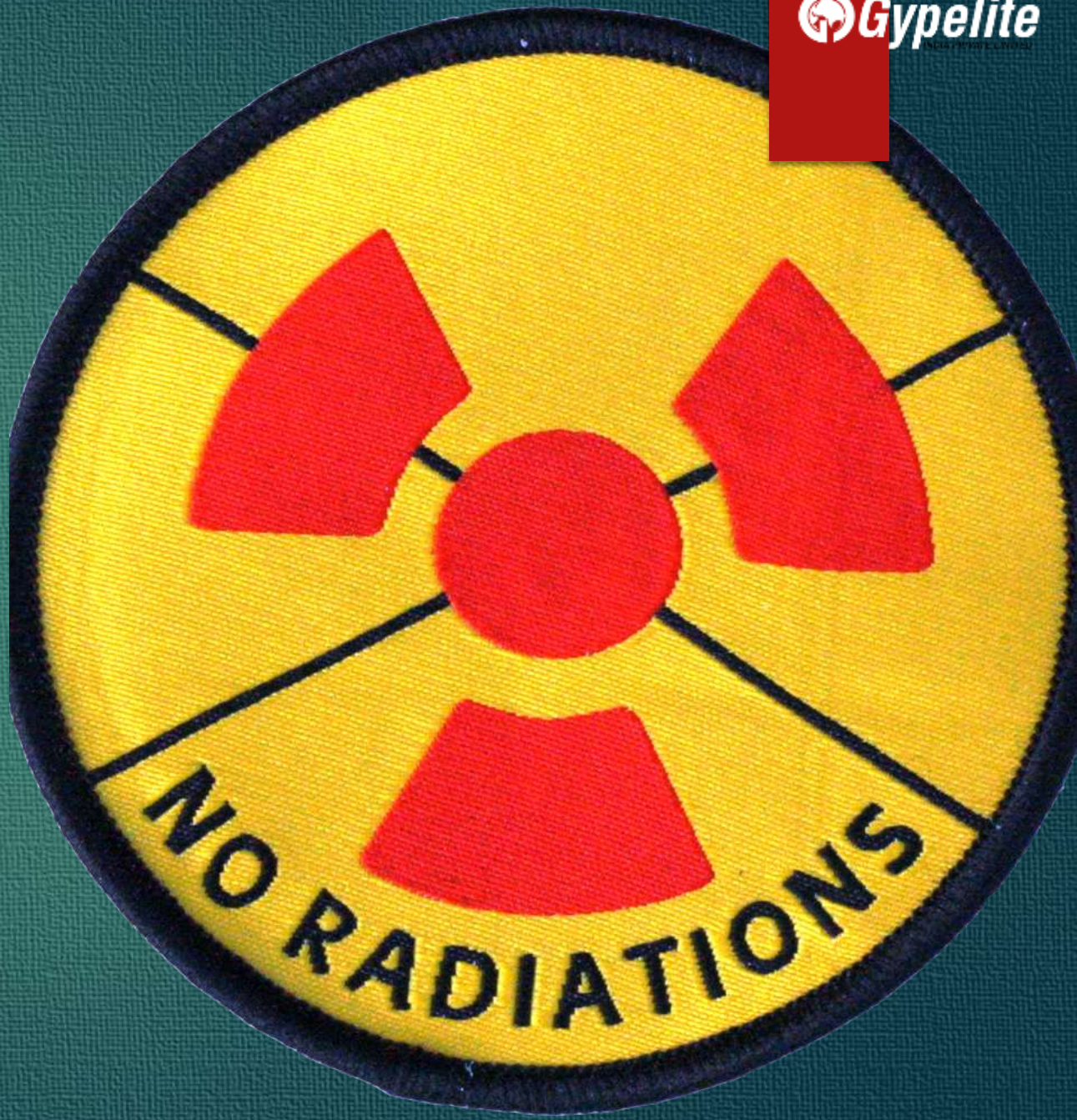
IT'S CORROSSIVE IN NATURE AND CAN DAMAGE YOUR METAL PARTS

Phosphogypsum in building products can accelerate corrosion of metal parts in contact, resulting in structural failure.

What is the solution?

Say  to

PHOSPHOGYPSUM



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