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Heavy Metals Generally Arise in Nature and are Important to Life

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INTRODUCTION

Soil contamination, soil contamination, or land contamination as part of soil degradation is caused by the presence of xenobiotic (man-made) chemicals or other changes in the natural soil environment. This is usually caused by industrial activity, pesticides, or improper waste disposal. The chemicals most commonly involved are petroleum hydrocarbons, polynuclear aromatic hydrocarbons (such as naphthalene and benzo (a) pyrene), solvents, pesticides, lead, and other heavy metals. Pollution correlates with the degree of industrialization and the intensity of chemicals. Concerns about soil contamination arise primarily from health hazards, direct contact with contaminated soil, fumes from pollutants, or cross-contamination of water supplies in and below the soil.

DESCRIPTION

Mapping and consequent remediation of contaminated soil sites is a time-consuming and expensive task requiring expertise in geology, hydrology, chemistry, computer modeling, and GIS in environmental contamination, and an understanding of the history of industrial chemistry. Is required The extent of contaminated land is best known in North America and Western Europe, and many countries in these regions have legal frameworks in place to recognize and manage this environmental problem. Developing countries are generally less regulated, but some countries are highly automated. Heavy metals and other soil contaminants adversely affect soil microbial activity, species composition, and abundance, threatening soil functions such as carbon and nitrogen biochemical cycling. However, soil contaminants can become less bioavailable over time, allowing microbes and ecosystems to adapt to changing conditions. Soil properties such as pH, organic matter content, and texture are of great importance and modify the mobility, bioavailability, and toxicity of contaminants in contaminated soils. The same amount of contaminant can be toxic in one soil but completely harmless in another. This highlights the need for soil-specific risk assessment and countermeasures. Most heavy metals cause environmental and air pollution and can be deadly to humans. Heavy metals can be highly toxic when mixed with various ecosystem elements such as water, soil and air. Humans and other organisms can be exposed to them through the food chain. The sources of heavy metals in the environment can be both natural/geological/lithogenic and anthropogenic. The global trend of industrialization and urbanization on earth is increasing the anthropogenic heavy metal content in the environment. These metals (heavy metals) are released during the mining and extraction of various elements from their respective ores. Effluents, such as industrial and domestic wastewater, add heavy metals to the environment. The use of chemical fertilizers and the burning of fossil fuels also contribute to the man-made contribution of heavy metals to the environment.

CONCLUSION

Phosphate fertilizers are of particular importance in the heavy metal content of commercial chemical fertilizers. Generally, phosphate fertilizers are made from phosphate rock (PR) by acidification. Acidification of simple superphosphate (SSP) uses sulfuric acid and acidification of triple superphosphate (TSP) uses phosphoric acid. Commercial inorganic fertilizers, especially phosphate fertilizers, may contribute to the global transportation of heavy metals. Heavy metals added to agricultural soils by inorganic fertilizers can leach and contaminate groundwater. Two major pathways by which toxic heavy metals enter the human body from phosphate fertilizers.

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