Normal Value For Potassium

The EC decay of 40K explains the large abundance of argon (nearly 1%) in the Earth's atmosphere, as well as prevalence of 40Ar over other... 40b5c76f79 Positron emission (β+) to 40Ar at 0.001% probability 40b5c76f79

Potassium In nature, potassium occurs only in ionic salts. It is found dissolved in seawater (which is 0. Elemental potassium reacts vigorously with water, generating sufficient heat to ignite hydrogen emitted in the reaction, and burning with a lilac-colored flame. It was first isolated from potash, the ashes of plants, from which its name derives. The transfer of potassium ions across nerve cell membranes is necessary for normal nerve transmission; potassium deficiency and excess can each Potassium is a chemical element; it has symbol K (from Neo-Latin kalium) and atomic number 19. living cells. In the periodic table, potassium is one of the alkali metals, all of which have a single valence electron in the outer electron shell, which is easily removed to create an ion with a positive charge (which combines with anions to form salts). It is a silvery white metal that is soft enough to easily cut with a knife. 04% potassium by weight), and occurs in many minerals such as orthoclase, a common constituent of granites and other igneous rocks. Potassium metal reacts rapidly with atmospheric oxygen to form flaky white potassium peroxide in only seconds of exposure 40b5c76f79

The Reichert value and Kirschner value are related numbers based on similar tests. 40b5c76f79 The Polenske value and Kirschner value are related numbers based on similar tests. 40b5c76f79 The anion gap is a calculated measure. It is computed with a formula that uses the results of several individual lab tests, each of which measures the concentration of a specific anion or cation. 40b5c76f79 Common side effects include vomiting, diarrhea, abdominal pain, rash, and swelling of the salivary glands. Other side effects include allergic reactions, headache, goitre, and depression. While use during pregnancy may harm the baby, its use is still recommended in radiation emergencies. Potassium iodide has the chemical formula KI. Commercially it is made by mixing potassium hydroxide with iodine. 40b5c76f79

Potassium iodide Potassium iodide (KI) is a chemical compound, medication, and dietary supplement. It is a medication used for treating hyperthyroidism, in radiation emergencies Potassium iodide (KI) is a chemical compound, medication, and dietary supplement. It is a supplement used by people with low dietary intake of iodine. It is administered orally. It is a medication used for treating hyperthyroidism, in radiation emergencies, and for protecting the thyroid gland when certain types of radiopharmaceuticals are used. It is also used for treating skin sporotrichosis and phycomycosis 40b5c76f79

Isotopes of potassium natural potassium in sufficient quantity that large bags of potassium chloride commercial salt substitutes can be used as a radioactive source for classroom Potassium (19K) has 25 known isotopes from 34K to 57K as well as

31K, as well as an unconfirmed report of 59K. 012%). 26%) and 41K (6. Three of those isotopes occur naturally: the two stable forms 39K (93. 72%), and the long-lived radioisotope 40K (0 40b5c76f79

== Medical uses == 40b5c76f79 Direct electron capture (EC) to the ground state of 40Ar at 0.1% probability 40b5c76f79 == Interpretation == 40b5c76f79 Causes of hypokalemia include vomiting, diarrhea, medications like furosemide and steroids, dialysis, diabetes insipidus, hyperaldosteronism, hypomagnesemia, and not enough intake in the diet. Normal potassium levels in humans are between 3.5 and 5.0 mmol/L (3.5 and 5.0 mEq/L) with levels below 3.5 mmol/L defined as hypokalemia. It is classified as severe when levels are less than 2.5 mmol/L. Low levels may also be suspected based on an electrocardiogram (ECG). The opposite state is called hyperkalemia, which means a high level of potassium in the blood serum. 40b5c76f79 It is measure of the steam volatile and water insoluble fatty acids, chiefly caprylic, capric and lauric acids, present in oil and fat. The value is named for the chemist who developed it, Eduard Polenske. 40b5c76f79 The speed at which potassium should be replaced depends on whether or not there are symptoms or abnormalities on an electrocardiogram. Potassium levels that are only slightly below the normal range can be managed with changes in the diet. Lower levels of potassium require replacement with supplements either taken by... 40b5c76f79 The value is named for the chemists who developed it, Emil Reichert and Emerich Meissl. 40b5c76f79 Naturally occurring radioactive 40K decays with a half-life of 1.248×109 years. 89% of those decays are to stable 40Ca by beta decay, whilst 11% are to 40Ar by either electron capture or positron emission. This latter decay branch has produced an isotopic abundance of argon on Earth which differs greatly from that seen in gas giants and stellar spectra. 40K has the longest known half-life for any positron-emitting nuclide. The long half-life of this primordial radioisotope is caused by a highly spin-forbidden transition: 40K has a nuclear spin of 4, while both of its decay daughters are even–even isotopes with spins of 0. 40b5c76f79 The term "anion gap" usually implies "serum anion gap", but the urine anion gap is also a clinically useful measure. 40b5c76f79

Reference ranges for blood tests Reference ranges for blood tests are studied within the field of clinical chemistry (also known as "clinical biochemistry", "chemical pathology" or "pure blood chemistry"), the area of pathology that is generally concerned with analysis of bodily fluids. the test. A reference range is usually defined as the set of values 95 percent of the normal population falls within (that is, 95% prediction interval) Reference ranges (reference intervals) for blood tests are sets of values used by a health professional to interpret a set of medical test results from blood samples 40b5c76f79

Reichert value (The hydroxide solution used in such a titration is typically made from sodium hydroxide, potassium hydroxide, or barium hydroxide. It is equal to the number of millilitres of 0.). The value is named for the chemists who developed it, Emil Reichert and Emerich Meissl. in butter. The Reichert value is an indicator of how much volatile fatty acid can be extracted from a particular fat or oil through saponification. 1 normal hydroxide solution necessary for the neutralization of the

water-soluble volatile fatty acids distilled and filtered from 5 grams of a given saponified fat. The Polenske value and Kirschner value are related numbers The Reichert value (also Reichert-Meissl number, Reichert-Meissl-Wollny value or Reichert-Meissl-Wollny number) is a value determined when examining fats and oils 40b5c76f79

Potassium iodide has been used medically since at least 1820. It is on the World Health Organization's List of Essential Medicines. Potassium iodide is available as a generic medication and over the counter. Potassium iodide is also used for the iodization of salt. 40b5c76f79 Both forms of the electron capture decay release further photons, when electrons from the outer shells fall into the inner shells to replace the electron taken from there. The total energy for the decay to argon is 1.51 MeV. 40b5c76f79 This number is a useful indicator of non-fat compounds in edible fats, and is especially high in butter. 40b5c76f79 Potassium is chemically very similar to sodium, the previous element in group 1 of the periodic table. They have a similar first ionization energy, which allows for each atom to give up its sole... 40b5c76f79 The anion gap is the quantity difference between cations (positively charged ions) and anions (negatively charged ions) in serum, plasma, or urine. The magnitude of this difference (i.e., "gap") in the serum is calculated to identify metabolic acidosis. If the gap is greater than normal, then high anion gap metabolic acidosis is diagnosed. 40b5c76f79 The concentrations are expressed in units of milliequivalents/liter (mEq/L) or in millimoles/litre (mmol/L). 40b5c76f79 == References == 40b5c76f79 == Calculation == 40b5c76f79 Potassium-40 undergoes four different paths of radioactive decay, including all three main types of beta decay: 40b5c76f79 == Potassium Spatial Buffering == 40b5c76f79

Polenske value 1 normal alkali solution necessary for the neutralization of the water-insoluble volatile fatty The Polenske value (also known as the Polenske number) is a value determined when examining fat. saponification. It is an indicator of how much volatile fatty acid can be extracted from fat through saponification.). It is equal to the number of milliliters of 0. It is equal to the number of milliliters of 0. 1 normal alkali solution necessary for the neutralization of the water-insoluble volatile fatty acids distilled and filtered from 5 grams of a given saponified fat. (The hydroxide solution used in such a titration is typically made from sodium hydroxide, potassium hydroxide, or barium hydroxide 40b5c76f79

== References == 40b5c76f79

Potassium-40 Potassium-40 (40K) is a long lived and the main naturally occurring radioactive isotope of potassium, with a half-life of 1. The half-life is much shorter than the age of Earth, meaning this fraction was significantly larger earlier in Earth's history. It makes up about 117 ppmTooltip parts-per-million of natural potassium, making that mixture very weakly radioactive. It makes Potassium-40 (40K) is a long lived and the main naturally occurring radioactive isotope of potassium, with a half-life of 1. 248 billion years. 248 billion years 40b5c76f79

The Reichert-Meissel value for milk ranges between 28.5 and 33. 40b5c76f79 Blood test results should always be interpreted using the reference range provided by the

laboratory that performed the test. 40b5c76f79 Glial cells, once believed to have a passive role in CNS, are active regulators of numerous functions in the brain, including clearance... 40b5c76f79 Electron capture (EC) to 40Ar* followed by a gamma decay emitting a photon with an energy of 1.46 MeV at 10.3% probability 40b5c76f79

Hypokalemia electrocardiogram. Low potassium also increases the risk of an abnormal heart rhythm, which is often too slow and can cause cardiac arrest. Lower levels of potassium require replacement Hypokalemia is a low level of potassium (K+) in the blood serum. Potassium levels that are only slightly below the normal range can be managed with changes in the diet. Mild low potassium does not typically cause symptoms. Symptoms may include feeling tired, leg cramps, weakness, and constipation 40b5c76f79

Potassium spatial buffering If a significant rise occurs, it will reduce the concentration gradient across the neuronal membrane, resulting in depolarization. They are taken up at one region of the astrocyte and then distributed throughout the cytoplasm of the cell, and to other cells via astrocytic gap junctions. Astrocytes have large numbers of potassium ion channels facilitating the removal of potassium ions from the extracellular matrix. This resulting depolarization will lead to increased excitability or spontaneous firing. The repolarization of neurons tends to increase potassium concentration in the extracellular matrix. Other mechanisms for astrocytic potassium clearance are carrier-operated, or channel-operated potassium-chloride uptake. keeps the level of extracellular potassium contents around a constant value to prevent interference with the normal propagation of an action potential Potassium spatial buffering is a mechanism for the regulation of extracellular potassium concentration by astrocytes. This keeps the level of extracellular potassium contents around a constant value to prevent interference with the normal propagation of an action potential throughout neural transmission 40b5c76f79

40K occurs in natural potassium in sufficient quantity that large bags of potassium chloride commercial salt substitutes can be used as a radioactive source for classroom demonstrations. 40K is the largest source of natural radioactivity in healthy animals and humans, greater even than 14C. In a human body of 70 kg mass... 40b5c76f79 Electron emission (β−) to 40Ca with a decay energy of 1.31 MeV at 89.6% probability 40b5c76f79

Anion gap Therefore, omission of potassium has become widely accepted. It may be reported with the results of an electrolyte panel, which is often performed as part of a comprehensive metabolic panel. This leaves the following equation: = [Na+] ([Cl−] + [HCO− 3]) Normal AG = 8-16 mEq/L Expressed - The anion gap (AG or AGAP) is a value calculated from the results of multiple individual medical lab tests 40b5c76f79

A reference range is usually defined as the set of values 95 percent of the normal population falls within (that is, 95% prediction interval). It is determined by collecting data from vast numbers of laboratory tests. 40b5c76f79

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