Beer is one of the earliest human inventions and globally the most consumed alcoholic beverage in terms of volume. In addition to water, the German Beer Purity Law, based on the Bavarian Beer Purity Law from 1516, allows only barley, hops, yeasts and water for beer brewing. The extracts of these ingredients, especially the hops, contain an abundance of polyphenols such as kaempferol, quercetin, tyrosol, ferulic acid, xanthohumol/isoxanthohumol/8-prenylnaringenin, -bitter acids like humulone and -bitter acids like lupulone. 8-prenylnaringenin is the most potent phytoestrogen known to date. These compounds have been shown to possess various anti-bacterial, anti-inflammatory, anti-oxidative, anti-angiogenic, anti-melanogenic, anti-osteoporotic and anti-carcinogenic effects. Epidemiological studies on the association between beer drinking and skin disease are limited while direct evidence of beer compounds in clinical application is lacking. Potential uses of these substances in dermatology may include treatment of atopic eczema, contact dermatitis, pigmentary disorders, skin infections, skin ageing, skin cancers and photoprotections, which require an optimization of the biostability and topical delivery of these compounds. Further studies are needed to determine the bioavailability of these compounds and their possible beneficial health effects when taken by moderate beer consumption.