

# *Euphorbia* *tirucalli*

## Firesticks

A toxic and caustic legacy – don't grow this plant!

Long, hot dry summers have escalated the popularity of succulent plants, both in the garden, and as potted plants. However, **Firesticks**, *Euphorbia tirucalli*, a plant that

has become increasingly popular in recent years, is one species that should be avoided like the plague. The potential for serious injury including poisoning, severe caustic burns, blindness, even anaphylactic shock, from this plant is much greater than from many laboratory chemicals for which we are required to spend many hours writing assessments, and for which heavy duty personal protective equipment, including goggles, would be required.



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*Euphorbia tirucalli* in its natural habitat in Nampula province of Mozambique. Photo: Ton Rulkens / CC BY-SA (<https://creativecommons.org/licenses/by-sa/2.0/>)

The very colourful *Firesticks* plant is a particularly colourful horticultural form of *Euphorbia tirucalli*, a small tree with succulent, cylindrical branches and tiny leaves that are quite short lived. It is a native of Africa where it is widely distributed in north-eastern, central and southern Africa, and possibly also surrounding islands and the Arabian Peninsula. Typically, it grows in black clay soils, in dry areas, especially savanna. Many garden plants, both edible and ornamental, have toxic

components, for example potatoes, tomatoes, rhubarb and foxgloves, and many have milky sap, including all species of *Euphorbia*, but this particular species seems to exceed most in its particularly unpleasant and hazardous characteristics. The sap is not only toxic but also corrosive. If consumed, it can cause severe burns to lips, tongue and mouth. Sap in the eyes can lead to blindness. Gloves and goggles are suggested as the minimum protection if you must handle the plants.

*Euphorbia* species are known as *hydrocarbon plants* - plants that produces terpenoids which are products similar to petrol. One of the most famous hydrocarbon plants, and certainly the most significant for the world economy, is the Rubber Tree – *Hevea brasiliensis* – from which about one-third of the world’s rubber is produced. Dr Melvin *Calvin*, who, together with biologists Andrew Benson and James Bassham, discovered the *Calvin Cycle*, studied the family Euphorbiaceae extensively as a potential source of fuel but as few species grow into trees, it is uneconomical to harvest sap for rubber from shrubs.

*Euphorbia* is one of the largest genera of flowering plants in the world, with possibly 2000 or more species, mostly from subtropical or warm-temperate regions. There are more than 50 Australian native species, and at least 26 introduced and naturalised species. All have poisonous milky white sap, and unusual flowers. The structures that we

see that *look like* petals, are *bracts*, leaves modified to serve the same purpose as petals. These are particularly conspicuous in species such as Poinsettia (*Euphorbia pulcherrima*) which delights us with scarlet *bracts* at Christmas

**We recommend extreme caution and the use of protective equipment when handling *Euphorbia tirucalli* plants.**



Latex collection from a rubber tree, *Hevea*, in Cameroon, Central Africa.

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Children's Health Queensland and Hospital Service: <https://www.childrens.health.qld.gov.au/poisonous-plant-naked-lady-euphorbia-tirucalli/>

Forrester M B, Layton G M, Varney SM (2020) *Euphorbia tirucalli* exposures reported to Texas poison centers, *Clinical Toxicology*, 58:7, 748-751, DOI: 10.1080/15563650.2019.1678756

Plantnet: <https://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=gn&name=Euphorbia>

Wikipedia: <https://en.wikipedia.org/wiki/Euphorbia>

Wikipedia: [https://en.wikipedia.org/wiki/Euphorbia\\_tirucalli](https://en.wikipedia.org/wiki/Euphorbia_tirucalli)

Wikipedia: [https://en.wikipedia.org/wiki/Melvin\\_Calvin](https://en.wikipedia.org/wiki/Melvin_Calvin)



Colourful, petal-like structures are modified leaves (bracts)

Small clusters of tiny flowers in Poinsettia, *Euphorbia pulcherrima*



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