INGESTION & NEAT APPLICATION OF ESSENTIAL OILS GUIDANCE

口服攝入及純精油的應用：神話背後的事實

口服摄入及纯精油的应用：神话背后的事实

The term essential 'oil' is itself misleading. They are considered 'essential' in the sense that they carry a distinctive scent, or essence of the plant (European Chemicals Agency 2017). The term 'oil' relates to their behaviour in water; they are 'oil-like' in that they generally do not combine or 'dissolve' in water (although some 'water-loving' components do, hence floral waters and distillates, the majority of components do not). They are mostly lighter than water, therefore will float on the surface, or in some instances, where they are heavier and denser than water, the essential oil will sink (for example, vetiver and myrrh).

精華「油」一詞本身就具有誤導性。它們被稱為「精華」，是因為它們具有獨特的香味或植物的精髓（**European Chemicals Agency 2017**）。「油」一詞與他們在水中的表現有關；它們是「油狀」，是因為它們通常不會與水結合或在水中「溶解」（雖然一些「親水」成分，例如花水和純露會與水結合，但大多數成分不會），它們大多比水輕，會浮在水面上，或者在某些情況下，當它們比水重和密度較大時，會下沉（例如，岩蘭草和沒藥）。
精华「油」一词本身就具有误导性。它们被称为「精华」，是因为它们具有独特的香味或植物的精髓（European Chemicals Agency 2017）。「油」一词与他们在水中的表现有关；它们是「油状」，是因为它们通常不会与水结合或在水中「溶解」（虽然一些「亲水」成分，例如花水和纯露会与水结合，但大多数成分不会），它们大多比水轻，会浮在水面上，或者在某些情况下，当它们比水重和密度较大时，会下沉（例如，岩兰草和没药）。

Essential oils are highly concentrated derivatives extracted from various parts of plants; leaves, twigs, blossoms and flowers, fruits, seeds, bark, roots, and so on. For example:

- It takes 2,500 – 4,000 kg of rose petals to produce 1 kg of essential oil.
- It takes 1.4 kg of fresh lavender to produce 15ml of lavender essential oil.
- One drop of essential oil is equivalent to 15-40 cups of medicinal tea, or up to 10 teaspoons of tincture (Krumbeck 2014).
- One drop of peppermint essential oil is equivalent to 26 cups of peppermint tea.

精油是從植物的各個部分，如樹葉、樹枝、花苞和花朵、水果、種子、樹皮和根等提取出來的高度濃縮的衍生物。例如：

- 需要 **2,500** 至 **4,000** 公斤玫瑰花瓣才能生產 **1** 公斤精油。
- 需要 **1.4** 千克新鮮薰衣草才能生產 **15** 毫升薰衣草精油。
- 一滴精油相當於 **15-40** 杯藥用茶，或多至 **10** 茶匙酊劑（**Krumbeck 2014**）。
- 一滴薄荷精油相當於 **26** 杯薄荷茶。

精油是从植物的各个部分，如树叶、树枝、花苞和花朵、水果、种子、树皮和根等提取出来的高度浓缩的衍生物。例如：

- 需要 2,500 至 4,000 公斤玫瑰花瓣才能生產 1 公斤精油。
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- 一滴精油相当于 15-40 杯药用茶，或多至 10 茶匙酊剂（Krumbeck 2014）。
- 一滴薄荷精油相当于 26 杯薄荷茶。

Thus, essential oils must be used and applied with caution, careful consideration and in moderation.

因此，使用精油時必須謹慎、仔細考量和適量使用。
因此，使用精油时必须谨慎、仔细考量和适量使用。

In terms of skin contact, therefore, it must be remembered essential oils alone are not emollient, they certainly do not have an 'oily' texture. This is why essential oils should always be dispensed in an emulsifying medium before being added to a bath (water itself is very drying to the skin, which can exacerbate irritation), and they should never be added to water and consumed internally as this is virtually the same as consuming them neat (water offers no protection to the lining of the mucous membrane or stomach).
因此，在皮膚上使用時，必須緊記純精油不是潤膚劑，它們不具有「油性」本質。這就說明為何總是要先把精油與乳化載體混合，才加入浴盤內浸浴（水本身會使皮膚非常乾燥，而且會增加刺激度）。並且，不應該把純精油直接添加到水中內服，因為這實際上是與直接內服純精油無異（水對粘膜或胃的襯裡並沒有保護作用）。
因此，在皮肤上使用时，必须紧记纯精油不是润肤剂，它们不具有「油性」本质。这就说明为何总是要先把精油与乳化载体混合，才加入浴盘内浸浴（水本身会使皮肤非常干燥，而且会增加刺激度）。并且，不应该把纯精油直接添加到水中内服，因为这实际上是与直接内服纯精油无异（水对粘膜或胃的衬里并没有保护作用）。

Being highly volatile, essential oil components rapidly vaporise as they bind to moisture within the skin and surrounding atmosphere. Applied neat to the skin they are thus drying and potential irritants and sensitisers, so must be dispersed in a suitable emulsifying carrying medium before they are applied to the body; for example, in vegetable oil, cream, lotion, ointment or gel. Certain essential oil molecules can bind to proteins within the skin and may instigate an allergic reaction (whether applied neat or in a carrier medium).
因為精油揮發性高，當它們與皮膚和周圍大氣中的水分結合時，精油成分便會迅速蒸發。所以，把純精油直接用於皮膚上，會使皮膚乾燥，並成為潛在的刺激物和致敏劑。故此，在身體上使用精油前，必須使用適合的乳化載體稀釋；例如，使用植物油、乳霜、乳液、軟膏或凝膠。某些精油分子可以與皮膚內的蛋白質結合，並可能引起過敏反應（無論是純精油還是在載體中的精油亦然）。
因为精油挥发性高，当它们与皮肤和周围大气中的水分结合时，精油成分便会迅速蒸发。所以，把纯精油直接用于皮肤上，会使皮肤干燥，并成为潜在的刺激物和致敏剂。故此，在身体上使用精油前，必须使用适合的乳化载体稀释；例如，使用植物油、乳霜、乳液、软膏或凝胶。某些精油分子可以与皮肤内的蛋白质结合，并可能引起过敏反应（无论是纯精油还是在载体中的精油亦然）。

Although Tea Tree and Lavender may be applied neat to very small areas of skin as first aid remedies for insect bites, minor burns, spots etc, repeated long term application is not recommended; these oils are the exception but have equal propensity to cause skin irritation if overused.
雖然可以在非常細小的皮膚範圍上使用茶樹和薰衣草純精油，作為昆蟲叮咬、輕微燒傷和暗瘡等的急救用途，但並不建議長期重複使用。這些精油雖是例外，但如果過度使用亦具有引起皮膚刺激的相同問題。

虽然可以在非常细小的皮肤范围上使用茶树和熏衣草纯精油，作为昆虫叮咬、轻微烧伤和暗疮等的急救用途，但并不建议长期重复使用。这些精油虽是例外，但如果过度使用亦具有引起皮肤刺激的相同问题。

In summary, therefore, the IFA advises against the use of essential oils neat on the skin.

Essential oils absolutely must not be taken internally unless prescribed and administered by a primary healthcare practitioner, pharmacist, or herbalist who is also a trained and qualified essential oil practitioner - the IFA does not advocate the internal use of essential oils in any other circumstance, either via oral, rectal or vaginal means. Please see below for the legal implications of essential oil ingestion.
除非由經過培訓且合格的人士和精油從業者，如醫生、藥劑師或草藥醫生處方和管理，否則精油絕對不能內部服用。IFA 不主張在任何其他情況下口服攝入精油。
除非由经过培训且合格的人士和精油从业者，如医生、药剂师或草药医生处方和管理，否则精油绝对不能内部服用。IFA 不主张在任何其他情况下口服摄入精油。

Ingestion

There are numerous cautionary contributory factors to consider when ingesting essential oils, whether ingestion is orally, via the rectum or vagina. It is likely that when administered orally 100% of the essential oil ingested will be absorbed into the body's internal system (unlike skin absorption, where the epidermis acts as a semi porous barrier), so dose is very significant. Essential oils should never be swallowed neat because they can cause severe mucous membrane irritation.

Although essential oils metabolise and are eliminated or excreted from the body quite quickly, there is increased risk of causing renal (kidney) and hepatic (liver) damage and internal irritation to other accessory organs of the digestive system. Some essential oils are oral toxins.

There is also increased risk of negative chemical interaction between the constituents of essential oils and other prescribed medication that may be being taken at the same time, which might potentiate or exacerbate their action. For example, sweet birch or wintergreen essential oil should never be administered internally if a person is also taking Warfarin, as these essential oils dangerously increase the anticoagulant and blood thinning potential of Warfarin and other anticoagulant medication. In other examples, Tisserand and Young (2014 p 58) warn of possible incompatibility between **oral** ingestion of chamomile German (blue), chaste tree, cypress (blue), jasmine sambac absolute and sandalwood (W. Australian) essential oils (Latin names not given) and tricyclic antidepressants, such as imipramine and amitriptyline, or opiates such as codeine, because these essential oils can potentiate the action of these drugs and other CYP1A2, CYP2C9, CYP2D6, CYP3A4 substrates **(*inhalation and topical dermal application of balsam poplar, chamomile blue, sage and yarrow may also potentiate the action of CYP2D6 substrate drugs*).**

UK Legislation Concerning the Oral Use of Aromatherapy Products

The IFA's Specialist Advisor from the Aromatherapy Trade Council (ATC) provides the following information regarding the supply of essential oils for internal use to the UK market.

"If you supply, or advertise to supply essential oils, or any consumer product for that matter, to the general public with the intention that it is to be ingested, then that product will meet the definition of a 'food' unless it meets the definition of a 'medicine'.

It is entirely possible to buy certified food grade essential oils and to fill, pack and store them on food registered and food hygiene compliant premises. However, when supplying them to the public, all of the regulations require that the intended use of the product is identified by the information on the packaging, together with appropriate instructions for use. Once a product intended to be ingested, like an essential oil, is marketed for internal use, is presented as a medicine, typically by making medicinal claims for its product benefits or those of its components, then it can only legally be supplied or advertised for supply as a licensed medicine. In practice this would be subject to a Traditional Herbal Registration (THR). Currently there for ingestion to treat mild depression and anxiety. Generally, essential oils are not considered to be medicinal by function, with the exception of Valerian essential oil, so will need to be licensed on the basis of their traditional use that does not rely on proof of efficacy.

There are essential oils (suitably diluted), currently marketed as food flavourings and there are some oils, like peppermint and oregano in capsule form, supplied as supplements to aid digestion.

As I understand it the majority of health claims made for essential oils and products containing them intended for internal use would meet the MHRA (UK Medicines Regulator) criteria for presentation as a medicine contrary to the Human Medicines regulation 2012.

The current practice of supplying, or advertising for supply, essential oils for an internal use to the general public, that are intended for external use for an aromatherapeutic purpose and regulated by the General Product Safety Regulation 2005, irrespective of whether they are certified food grade or not, is as I understand it illegal.

The above only applies in the UK and the consumer safety regulations in other member states of the EU and overseas may be different and does not apply to practitioners who supply essential oils or other products for internal use to their clients under the 'herbalists exemption', regulation 3(6) of the Human medicines regulation 2012."

<u>口服攝入</u>

口服攝入精油時需要謹慎地考慮許多因素。當口服純精油時，所服用的劑量會 **100%**被吸收到身體的內部系統中（不像皮膚吸收，表皮充當了半多孔屏障），因此劑量非常重要。絕不能服用純精油，因為它們會引起嚴重的粘膜刺激。

雖然精油會在身體被代謝，並且很快從體內被釋出或排出，但卻會增加了導致腎臟和肝臟損傷，以及對消化系統的輔助器官的內部刺激性的風險。有一些精油是口服毒藥。

精油成分與可能同時服用的其他處方藥之間存在負面的化學作用，口服攝入純精油也會增加此存在風險，或會加劇此負面作用。例如，如果一個人正在服用華法林**(Warfarin)**，則不應服用甜樺木**(sweet birch)**或冬青**(wintergreen)**精油，因為這些精油會嚴重地增加華法林的抗凝血和稀釋血液的潛在效力。在其他例子中，**Tisserand** 和 **Young**（**2014** 年第 **58** 頁）警告口服攝入德國**(**藍**)**洋甘菊、貞節樹、藍絲柏、小花茉莉原精和澳洲檀香精油（未提供拉丁學名），可能會與三環類抗抑鬱藥**(tricyclic antidepressants)**，如丙咪嗪**(imipramine)**和阿米替林**(amitriptyline)**，或阿片類藥物**(opiates)**，如可待因**(codeine)**不相容，因為這些精油可以增強這些藥物和其他 **CYP1A2**，**CYP2C9**，**CYP2D6**，**CYP3A4** 基底物的效用*（吸入和於表皮使用香脂楊樹(balsam poplar)、藍洋甘菊、鼠尾草(sage)和洋蓍草(yarrow)也可能加強 CYP2D6 基底物的作用。）*

<u>口服摄入</u>
口服摄入精油时需要谨慎地考虑许多因素。当口服纯精油时，所服用的剂量会 100％被吸收到身体的内部系统中（不像皮肤吸收，表皮充当了半多孔屏障），因此剂量非常重要。绝不能服用纯精油，因为它们会引起严重的粘膜刺激。

虽然精油会在身体被代谢，并且很快从体内被释出或排出，但却会增加了导致肾脏和肝脏损伤，以及对消化系统的辅助器官的内部刺激性的风险。有一些精油是口服毒药。

精油成分与可能同时服用的其他处方药之间存在负面的化学作用，口服摄入纯精油也会增加此存在风险，或会加剧此负面作用。例如，如果一个人正在服用华法林(Warfarin)，则不应服用甜桦木(sweet birch)或冬青(wintergreen)精油，因为这些精油会严重地增加华法林的抗凝血和稀释血液的潜在效力。在其他例子中，Tisserand 和 Young（2014 年第 58 页）警告口服摄入德国(蓝)洋甘菊、贞节树、蓝丝柏、小花茉莉原精和澳洲檀香精油（未提供拉丁学名），可能会与三环类抗抑郁药(tricyclic antidepressants)，如丙咪嗪(imipramine)和阿米替林(amitriptyline)，或阿片类药物(opiates)，如可待因(codeine)不相容，因为这些精油可以增强这些药物和其他 CYP1A2，CYP2C9，CYP2D6，CYP3A4 基底物的效用*（吸入和于表皮使用香脂杨树(balsam poplar)、蓝洋甘菊、鼠尾草(sage)和洋蓍草(yarrow)也可能加强 CYP2D6 基底物的作用。）*

Skin Reaction
There are three main forms of skin reaction to essential oils:

- **Irritation**
- **Sensitisation**
- **Photo-toxicity**

Irritation
Irritation may manifest as localised inflammation, affecting the skin or mucous membrane. The respiratory tract is particularly susceptible to inflammatory and non-inflammatory irritation from essential oils (experienced as drying, burning, stinging, tingling, tickling). Some essential oils are useful for conditions affecting the respiratory system (sore throats, bronchitis etc.) but should only be applied via inhalation methods, in low doses for a short duration, to avoid respiratory irritation. Phenols and aromatic aldehydes tend to be the most irritant essential oil compounds. For example, **eugenol**

(**basil**, **cinnamon bark**, **clove**), **thymol** (**basil**, **thyme**), **carvacrol** (**thyme**, **oregano**, **savoury**), **cinnamic aldehyde** (**cinnamon leaf**).

Sensitisation

Sensitisation is not the same as 'sensitive skin'. Sensitisation is a contact hypersensitive or allergic reaction and/or severe irritation that involves the immune system (T-lymphocytes and macrophages). T-lymphocyte cells become sensitised through an adaptive, exaggerated or inappropriate immune response; once sensitised, even a small amount of the potential antagonist substance can cause a reaction. **Sensitisation is *not* dose dependent and is difficult to predict**. Also, a sensitised reaction may be delayed, symptoms manifesting sometime after application.

The saturation point of chemical exposure can be reached through contact with products other than essential oils, such as cosmetics, perfumes, household cleaning materials etc.; there can also be a potential insidious cumulative effect especially where the same products are used repeatedly.

Symptoms of sensitisation are various and may include skin irritation, rashes, headaches, migraine, anxiety, heart palpitations, feelings of unease, shortness of breath and dry mouth.

All essential oils are potential sensitisers and therefore should be applied in moderation, with regular breaks or abstinence from use (two to three weeks use followed by a week's non-use), and periodical rotation of the essential oils applied (substituting one for another appropriate oil), especially if using regularly over a long period of time. Essential oils should never be applied 'neat' to skin.

Toxicity

Toxicity refers to the strength of a poison and the degree to which a substance can damage or destroy an organism, whether the whole organism, such as a plant or animal, or a substructure of the organism, such as a cell or organ, for example, liver (hepatotoxicity), kidney (nephrotoxicity). Damage may be reversible or irreversible, depending on the level of biological disruption and whether the regeneration capacity of the affected cells has been compromised.

Toxicity is dose dependent and is influenced by factors such as the route of administration (skin absorption, ingestion, inhalation), length of time of exposure, frequency of exposure, the genetic makeup of the individual and their general state of health. Localized toxicity usually affects the organs of elimination (stomach, liver, kidneys, intestines, lungs and skin). A toxic reaction instigated by essential oil molecules can manifest at the point of topical application or systemically.

Some essential oil molecules, which may otherwise be non-toxic, can bind with compounds contained in medication (most of which are toxic substances) or certain foods, or with certain enzymes and be metabolized into a toxic substance or relocate to an area within the body where they may cause damage. Camphor and methyl salicylate compounds, and clove, cinnamon and eucalyptus essential oils are most frequently cited as causes of systemic toxicity in humans. Most reported essential oil poisoning incidents involve children under six years old who accidently ingest the oils.

Chemical components within essential oils can become toxic when they oxidise and degrade. Old essential oils are more likely to be toxic than those that are freshly extracted and appropriately stored (this is especially applicable to citrus and pine oils). Essential oils containing phenols, aromatic aldehydes, and oxidized terpenes are the main culprits for causing dermal toxicity and irritation.

Photo-toxicity
This is an excessive reaction to sunlight (or UV light, including UV light emissions from sun-tanning lamps) induced by certain chemicals present within the superficial layers of the skin. Phototoxic substances (such as furanocoumarins found in a few essential oils, for example, bergamot and angelica root) absorb UV light, which in turn causes the production of abnormally dark pigmentation (brown patches), that may last for years, and reddening and burning of the surrounding skin, which is often slow to heal. A phototoxic reaction only occurs if the sensitising agent is present. Avoid phototoxic essential oils on skin exposed to sunlight or UV light and sun-tanning lamps.

When applied sensibly and in moderation, essential oils are extremely beneficial. Ensure the authenticity and age of your essential oil before applying (once opened, essentials have approximately a 12 month shelf life; citrus oils, usually only 6 months). Store in a cool, dark place away from sunlight. Always ensure lids are replaced immediately after use. Wash any residue essential oil from your fingers to avoid contact with your eyes or other sensitive areas of your body.

Example of an extreme adverse reaction:
https://www.allure.com/story/negative-reaction-to-essential-oils-tanning-bed
https://www.facebook.com/graetel.anderson/posts/10100850320518299

皮膚反應

皮膚對精油有三種主要的反應：

•刺激

•過敏

•光毒性

刺激

刺激可以表現為局部炎症、影響皮膚或粘膜組織。呼吸道特別容易受到精油的炎症和非炎症刺激（表現得乾燥，灼燒，刺痛，麻刺痛，發癢）。一些精油可用於影響呼吸系統的疾病（喉嚨痛，支氣管炎等），如以吸聞的方法運用，應低劑量及短時間地使用，以避免刺激呼吸道。酚類和芳香醛往往是最具刺激性的精油化合物。 例如，丁香酚**(eugenol)**（羅勒、桂

皮、丁香精油），百里酚**(thymol)**（羅勒、百里香精油），香芹酚**(carvacrol)**（百里香、牛至、**savoury** 精油），肉桂醛**(cinnamic aldehyde)**（肉桂葉精油）。

致敏

致敏性與「敏感皮膚」不同。致敏性是一種涉及免疫系統（**T** 淋巴細胞和巨噬細胞）的接觸過敏或過敏反應和/或嚴重刺激。**T** 淋巴細胞通過適應性、誇大或不適當的免疫反應而變得敏感起來；一旦如此，即使少量潛在的拮抗物質也會引起反應。致敏性與劑量無關，並難以預測。此外，致敏反應可能會延遲，症狀會在使用後的某個時間出現。

通過與精油以外的產品，如化妝品、香水和家居清潔用品等的接觸，可以達到化學品接觸飽和點。特別是在重複使用相同產品的情況下，可能出現潛在隱性累積效應。

致敏性的症狀是多樣性，可包括皮膚刺激、皮疹、頭痛、偏頭痛、焦慮、心悸、不安感、呼吸短促和口乾。

所有精油都是潛在的致敏劑，因此應適量使用、定期停用或禁止使用（使用兩到三週，然後一週不使用），特別是如果經常長時間使用的話，應定期交替轉換（以另一種適當的精油替代）。 精油永遠不應該「直接」塗抹到皮膚上。

毒性

毒性是指毒物的強度，及生物體（無論是整個生物體，如植物或動物，還是生物體的子結構，如細胞或器官如肝臟（肝毒性），腎臟（腎毒性））被該毒物損害或破壞的程度。損害是可逆轉的或不可逆轉的，是取決於生物被破壞的程度，以及受影響細胞的再生能力是否受到損害。

毒性是與劑量有關的，並且受一些因素如施藥途徑（皮膚吸收、內服攝取或吸聞）、暴露時間長度、暴露頻率、個人的遺傳結構及其一般健康狀況等影響。局部毒性通常影響消除器官（胃、肝、腎、腸、肺和皮膚）。精油分子引發的毒性反應可以在局部或全身應用精油時表現出來。

一些可能是無毒的精油分子，可以與藥物中的化合物（大多數是有毒物質）或某些食物，或某些酶結合，並且被代謝成有毒物質或重新被放置到身體某個區域中而因此對身體造成傷害。樟腦和水楊酸甲酯化合物，以及丁香、肉桂和尤加利精油，是最常被提及對人體造成全身中毒的原因。大多數有關精油中毒的報導，都涉及 **6** 歲以下兒童誤服精油的事件。

精油中的化學成分在氧化和降解時可能會變為有毒。陳舊的精油比新鮮提取和適當地儲存的精油（尤其是柑橘類和松樹精油）更容易產生毒性。含有酚類、芳香醛類和氧化萜烯類的精油是引起皮膚毒性和刺激的主要元兇。

光毒性

這是由皮膚表層內的某些化學物質對太陽光（或紫外線，包括來自日光燈的紫外線）的過度反應。光毒性物質（例如在少數精油如佛手柑和歐白芷精油中發現的呋喃香豆素）吸收紫外線，引致產生可停留數年的異常黑色素沉著（褐色斑塊），並且使周圍的皮膚變紅，和通常需要很長時間才能癒合的灼傷。光毒性反應只在致敏媒界存在時發生。避免在暴露於陽光或紫外線和日光燈的皮膚上使用光毒性精油。

當合理地和適度地使用時，精油是非常有益的。在使用之前確保精油的純正度和新鮮度（一旦開封後，精油有 **12** 個月的保質期，柑橘類精油則有 **6** 個月）。存放在陰涼和黑暗的地方，遠離陽光。確保在使用後立即把蓋子蓋上。清洗在手指上殘留的精油，以免接觸眼睛或身體其他敏感部位。

極端不良反應的例子：

https://www.allure.com/story/negative-reaction-to-essential-oils-tanning-bed

https://www.facebook.com/graetel.anderson/posts/10100850320518299

<u>皮肤反应</u>

皮肤对精油有三种主要的反应：

•刺激

•过敏

•光毒性

刺激

刺激可以表现为局部炎症、影响皮肤或粘膜组织。呼吸道特别容易受到精油的炎症和非炎症刺激（表现得干燥，灼烧，刺痛，麻刺痛，发痒）。一些精油可用于影响呼吸系统的疾病（喉咙痛，支气管炎等），如以吸闻的方法运用，应低剂量及短时间地使用，以避免刺激呼吸道。酚类和芳香醛往往是最具刺激性的精油化合物。 例如，丁香酚**(eugenol)**（罗勒、桂皮、丁香精油），百里酚**(thymol)**（罗勒、百里香精油），香芹酚**(carvacrol)**（百里香、牛至、savoury 精油），肉桂醛**(cinnamic aldehyde)**（肉桂叶精油）。

致敏

致敏性与「敏感皮肤」不同。致敏性是一种涉及免疫系统（T 淋巴细胞和巨噬细胞）的接触过敏或过敏反应和/或严重刺激。T 淋巴细胞通过适应性、夸大或不适当的免疫反应而变得敏感起来；一旦如此，即使少量潜在的拮抗物质也会引起反应。**致敏性与剂量无关，并难以预测。**此外，致敏反应可能会延迟，症状会在使用后的某个时间出现。

通过与精油以外的产品，如化妆品、香水和家居清洁用品等的接髑，可以达到化学品接触饱和点。特别是在重复使用相同产品的情况下，可能出现潜在隐性累积效应。

致敏性的症状是多样性，可包括皮肤刺激、皮疹、头痛、偏头痛、焦虑、心悸、不安感、呼吸短促和口干。

所有精油都是潜在的致敏剂，因此应适量使用、定期停用或禁止使用（使用两到三周，然后一周不使用），特别是如果经常长时间使用的话，应定期交替转换（以另一种适当的精油替代）。 精油永远不应该「直接」涂抹到皮肤上。

毒性

毒性是指毒物的强度，及生物体（无论是整个生物体，如植物或动物，还是生物体的子结构，如细胞或器官如肝脏（肝毒性），肾脏（肾毒性））被该毒物损害或破坏的程度。损害是可逆转的或不可逆转的，是取决于生物被破坏的程度，以及受影响细胞的再生能力是否受到损害。

毒性是与剂量有关的，并且受一些因素如施药途径（皮肤吸收、内服摄取或吸闻）、暴露时间长度、暴露频率、个人的遗传结构及其一般健康状况等影响。局部毒性通常影响消除器官（胃、肝、肾、肠、肺和皮肤）。精油分子引发的毒性反应可以在局部或全身应用精油时表现出来。

一些可能是无毒的精油分子，可以与药物中的化合物（大多数是有毒物质）或某些食物，或某些酶结合，并且被代谢成有毒物质或重新被放置到身体某个区域中而因此对身体造成伤害。樟脑和水杨酸甲酯化合物，以及丁香、肉桂和尤加利精油，是最常被提及对人体造成全身中毒的原因。大多数有关精油中毒的报导，都涉及 6 岁以下儿童误服精油的事件。

精油中的化学成分在氧化和降解时可能会变为有毒。陈旧的精油比新鲜提取和适当地储存的精油（尤其是柑橘类和松树精油）更容易产生毒性。含有酚类、芳香醛类和氧化萜烯类的精油是引起皮肤毒性和刺激的主要元凶。

光毒性

这是由皮肤表层内的某些化学物质对太阳光（或紫外线，包括来自日光灯的紫外线）的过度反应。光毒性物质（例如在少数精油如佛手柑和欧白芷精油中发现的呋喃香豆素）吸收紫外线，引致产生可停留数年的异常黑色素沉着（褐色斑块），并且使周围的皮肤变红，和通常需要很长时间才能愈合的灼伤。光毒性反应只在致敏媒界存在时发生。避免在暴露于阳光或紫外线和日光灯的皮肤上使用光毒性精油。

当合理地和适度地使用时，精油是非常有益的。在使用之前确保精油的纯正度和新鲜度（一旦开封后，精油有 12 个月的保质期，柑橘类精油则有 6 个月）。存放在阴凉和黑暗的地方，远离阳光。确保在使用后立即把盖子盖上。清洗在手指上残留的精油，以免接触眼睛或身体其他敏感部位。

极端不良反应的例子：

https://www.allure.com/story/negative-reaction-to-essential-oils-tanning-bed

https://www.facebook.com/graetel.anderson/posts/10100850320518299

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This explanation has been provided by Heather Godfrey on behalf of the International Federation of Aromatherapists (IFA).

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由 **Heather Godfrey** 代表國際芳療師協會提供註釋。

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由 Heather Godfrey 代表国际芳疗师协会提供注释。