

DATA SHEET – GERANIUM and ROSE GERANIUM
Pelargonium graveolens and *Pelargonium graveolens* var. *roseum* aka *Pelargonium roseum*



FAMILY: Geraniaceae

DESCRIPTION AND BOTANICAL INFORMATION: There is a lot of confusion about the geranium used in aromatherapy and the so-called true geraniums. The “geranium” and “rose geranium” oil used in aromatherapy comes from *Pelargonium graveolens* which is a non-hardy plant species native to South Africa; these are the scented geraniums and not the big, showy red and pink geraniums that are seen more frequently in garden centers and which have the botanical name *Pelargonium hortum*. They are also not “true” geraniums which are referred to as “cranesbills” and which belong to the Genus *Geranium*. Several species in the *Pelargonium* genus yield an essential oil but the one that’s most frequently used in aromatherapy is *Pelargonium graveolens*.

Geranium essential oil and Rose Geranium essential oil both come from *P. graveolens* – they are just from different varieties; the full botanical name of “Rose” Geranium is *Pelargonium graveolens* var. *Roseum* while “regular” Geranium is just known as *Pelargonium graveolens*. They have almost exactly the same properties and actions although many people prefer the fragrance of rose geranium.

Pelargonium graveolens is grown for essential oil production mainly in Egypt, China, Morocco, Crimea, Ukraine, Georgia, India, and South Africa. There is also some small scale production in Italy and France. The name “Rose Geranium” was traditionally applied to the essential oil extracted from a specific cultivar of geranium, known as Geranium Bourbon, which was produced on the island of Reunion. Geranium Bourbon is currently produced only in small quantities; it is not widely available and is much sought after. “Rose” geranium essential oil is now produced in other countries.

FOLKLORE AND HISTORY: *Pelargonium* species (probably *P. sideoides*) have been used medicinally by the Hottentots and Zulus of South Africa for hundreds of years for dysentery, coughs, upper respiratory irritations, gastritis, tuberculosis, and other problems. In 1897, an Englishman named Charles Stephens was treated for tuberculosis by a traditional healer in South Africa who gave him an herbal decoction of the local geranium. Stevens is said to have been cured and he subsequently returned to England and sold the remedy as “Stevens’ Consumption Cure”. During the 1920’s a Swiss physician, Dr. Adrien Seche, reportedly used Stevens’ Consumption Cure to treat and cure 800 patients with tuberculosis. According to Charles Wells, the founder of Essentially Oils Ltd. and a well-known authority on essential oils, a lot of the information about the medicinal properties of *P. graveolens* essential oil is actually derived from the old folk medicine uses of the true geraniums (genus *Geranium*) and there is virtually no reference in the old herbal literature to *P. graveolens* which has not ever been widely used in western herbal medicine except for aromatherapy.

PRODUCTION: The essential oil is steam distilled from the leaves, stalks and flowers. The yield of oil is fairly small with most of the oil coming from the leaves.

PHYSICAL AND AROMATIC PROPERTIES: The essential oil of *P. graveolens* is colorless to greenish-brown and it has a beautiful, heavy sweet aroma with nuances of rose; rose geranium has the best rose notes and many people prefer its aroma. Both geranium and rose geranium are sometimes used as adulterants to “extend” real rose essential oil.

MAIN CONSTITUENTS: Geranium Egypt

Name	%
Citronellol	32.10
Geraniol	19.70
Linalool	9.90
Citronellyl formate	7.43
Isomenthone	6.05
10-epi-gamma-Eudesmol	4.62
Geranyl formate	3.89
Citronellyl propionate	2.10
Geranyl butyrate	1.72
Geranyl propionate	1.69
Geranyl tiglate	1.44
cis-Rose oxide	1.04
Menthone	0.78
alpha-Pinene	0.45
trans-Rose oxide	0.40
Sesquiterpene hydrocarbons	0.10
Monoterpenyl esters	0.05
Isogeraniol	0.01
Neryl formate	0.01

2-Phenylethyl propionate	0.01
Geranyl isobutyrate	0.01
Geranyl 2-methylbutyrate	0.01
Citronellyl 3-methylbutyrate	0.01
Geranyl 3-methylbutyrate	0.01
Citronellyl tiglate	0.01
2-Phenylethyl tiglate	0.01
Isomenthol	0.01
Menthol	0.01
beta-Pinene	0.01
para-Cymene	0.01
Limonene	0.01
beta-Phellandrene	0.01
(E)-beta-Ocimene	0.01
Citronellyl acetate	0.01
Geranyl acetate	0.01
beta-Caryophyllene	0.01
alpha-Humulene	0.01
Furopolargonic acetate	0.01

WESTERN ACTIONS WITH EMPIRICAL SUPPORT:

Analgesic

Antibacterial (some staph, possibly including MRSA, strep, enterococci, et al.)

Antifungal (candida, tinea, et al.)

Antiviral (HSV1, HSV2, herpes zoster)

Anti-inflammatory on skin

Antioxidant

Antispasmodic

Calming/relaxing vs. stimulating - (based on human studies of Contingent Negative Variation); possibly dose dependent but there are also individual variations in clinical response)

Hypoglycemic (with oral administration)

A sampling of references:

Bakkali, F. et al. (2008) Biological effects of essential oils – a review. *Food and Chemical Toxicology*, 46 (2): 446-475.

Boukhris, M. et al (2012) Hypoglycemic and antioxidant effects of leaf essential oil of *Pelargonium graveolens* L'Her. In alloxan induced diabetic rats. *Lipids in Health and Disease*, 11 (81): 2-10.

Edris, A.E. (2007) Pharmaceutical and therapeutic potentials of essential oils and their individual volatile components: a review. *Phytotherapy Research*, 21 (4):308-323

Maruyama, N. et al. (2006) Suppression of carrageenan – and collagen II-induced inflammation in mice by geranium oil. *Mediators of Inflammation*, vol. 2006, Article ID 62537, 2006, doi:10.1155/MI/2006/62537

TRADITIONAL AROMATHERAPY ACTIONS:

Analgesic – neuralgic and musculoskeletal pain
Anti-inflammatory for joints/muscles, GI tract, tonsils, skin
Antifungal
Antispasmodic
Antiviral
Astringent/styptic
Vulnerary, lymphatic decongestant, digestive, phlebotonic,
Relaxant – but sometimes there are opposite reactions
Estrogenic effects
Aphrodisiac
Antidepressant
Cicatrizant
Phlebotonic
Emmenagogic (according to some authors)

TYPICAL WESTERN INDICATIONS:

According to Patricia Davis, the balancing actions of geranium and rose geranium essential oils arise from the fact that they are adrenal cortex stimulants; she cites no evidence in support of this assertion. The geranium essential oils are widely used for female hormonal issues such as menstrual problems (especially menorrhagia), PMS and menopausal symptoms. Both are useful in skin care (fungal infections, oily skin, minor wounds/bites, pressure ulcers) and for musculoskeletal problems (arthritis, rheumatism, aches and pains).

The geranium essential oils have been successfully used to manage the peripheral neuropathy of diabetes and neuralgic pain of various types. They help to stimulate the circulation of lymph and blood and as phlebotonics they have been used in sprays for varicose veins and in facial creams to help reduce thread veins.

Like most floral essential oils, the geranium oils have an uplifting effect on mood and they can be helpful in cases of sadness and grief. The geranium oils usually have a relaxing effect on most people and have been used to calm agitation, restlessness and anxiety and to help people with chronic stress; however some people are stimulated by the geranium oils.

The geranium essential oils are useful for repelling gnats and mosquitoes.

CHINESE MEDICINE CORRELATES:

Energy: cool and moist

Main Element: Water (Earth)

Spheres of Action: Body, Mind, Spirit

CM Actions:

- Yin tonic
- Clears heat
- Circulates qi
- Tonic of the Spleen/pancreas

CM Indications:

Chronic anxiety

Chronic fatigue

Menopause

Inflamed skin conditions

Arthritis/rheumatism

Body pain with lymphatic congestion

Geranium oil is said to be a tonic of the Spleen/pancreas (Earth element) so it's good for people who complain of exhaustion and lethargy coupled with diarrhea, lymphatic congestion and body pain related to lymphatic congestion.

SUBTLE ACTIONS: In the same way that geranium clears heat and inflammation from the body it also clears it from the mind when it's inflamed with agitation, frustration and irritability. Like all yin tonics, it has a strengthening, centering effect on the Mind and Spirit

Blend with a little sweet orange and lavender for a deeply pleasurable and relaxing effect.

BEST USES BY SYSTEM:

SKIN CARE – eczema, fungal infections, psoriasis, abscess, oily skin, acne, insect bites, minor wounds and blisters, shingles, thread veins, possibly good in blends for pressure ulcers, warts, hives

MUSCULOSKELETAL ISSUES – arthritis, rheumatism, body aches associated with the flu

DIGESTIVE SYSTEM ISSUES – nervous indigestion, IBS

NERVOUS SYSTEM and PSYCHOLOGICAL ISSUES – facial neuralgia, agitation, anxiety, depression, mood swings, nervous exhaustion/adrenal fatigue; hospice

ENDOCRINE AND REPRODUCTIVE ISSUES: menopause, PMS, puberty

RESPIRATORY SYSTEM ISSUES: - viral and bacterial infections

CIRCULATORY SYSTEM AND LYMPHATIC SYSTEM ISSUES: lymphatic congestion, swollen ankles, cellulite

IMMUNE SYSTEM: immune system depression related to stress

SAFETY: non-toxic for topical use, non-irritant; recently **classified as a strong sensitizer in the EU which warrants careful use on the skin, especially in people with dermatitis; however, Tisserand and Young (2014) summarize studies on skin sensitization and conclude that there is a low risk of skin sensitization with this essential oil. I recommend avoiding frequent use over time and not exceeding 1.5% concentration. Some authors recommend avoiding in pregnancy and in estrogen-dependent cancers;** nonetheless, Geranium essential oil is on Tisserand and Balacs list of essential oils that are safe to use during pregnancy.

DRUG INTERACTIONS – ORAL USE: diabetic medications (see study by Boukhris cited above); there is a theoretical risk for interactions with drugs metabolized by CYP2B6 enzyme (such as cyclophosphamide) since Geranium essential oils inhibits this enzyme. STANDARD TOPICAL USE/INHALATION: no drug interactions are likely