German chamomile

Matricaria recutita

Its petals open with the sun, and it pulls down the energy from the heavens and the solar system. When inhaled with purpose, it can allow a deeper knowledge of the working of the universe, and of certain angelic orders who work close to the earth.

Valerie Ann Worwood’s description of German chamomile beautifully describes the oils subtle qualities.

Synonyms
Blue chamomile, Hungarian chamomile, Matricaria chamomilla

Family
Asteraceae

Botany and origins
German chamomile is a fragrant, low annual herb, up to 0.6 m tall with delicate feather leaves and simple daisy-like white flowers on a single stem.

It is native to Europe, particularly to central and northern Europe. It is cultivated in Hungary, Yugoslavia, Bulgaria, Russia, Germany, Belgium and Spain. Hungary is one of the main producers of the oil.¹

Frequent changes in the interpretation of the scientific name of German chamomile have led to confusion over the past two decades. The current accepted scientific name is Matricaria recutita, though Chamomilla recutita and, to a lesser extent, Matricaria chamomilla are commonly seen in literature.²

Method of extraction
German chamomile oil is steam distilled from the dried flower heads of Matricaria recutita. The essential oil content is highest at the beginning of flowering. Drying the flowers at 40-45°C is reported to preserve the matricarin and the essential oil is reputed to be the best.³

Characteristics
German chamomile is a deep, inky blue somewhat viscous oil with an intensely sweet, herbaceous odour with a fresh, fruity undertone. The pure undiluted oil has an intense odour which some find overwhelming and unpleasant.¹

Adulteration
The chances of adulteration are very high as it is a low yield, high price essential oil. Typical adulterants include azulenes from other plants such as yarrow, Moroccan chamomile or synthetic azulenes.¹

Traditional uses
Since antiquity, chamomile flowers have been used both internally for digestive disorders and externally for skin and mucous membrane irritations. It has been difficult to ascertain which species were used historically, as many plants within the Compositae family or, in the most recent botanical nomenclature, Asteraceae family, were referred to by the common name of chamomile.⁴

German chamomile flowers are extensively used as a herbal tea. The oil is extensively used in cosmetics.²

The healing qualities of chamomile have been known by physicians for over 2,500 years. Hippocrates gives description of the herb in the 5th century B.C. Chamomile appeared as a medicinal plant in De Materia Medica written by Dioscorides in the 1st century A.D. Saladin von Asculum mentions the blue volatile chamomile oil in 1488 and in 1500 Hieronymus Brunschwig describes the distillation of the essential oil of chamomile.⁵

Herbal infusions of German...
Chamomile flowers are listed in the German Commission E for topical application for the inflammation of the skin as well as bactericidal skin diseases. Internally, the infusion is recommended for gastrointestinal spasm and inflammatory diseases of the gastrointestinal tract.\(^6\)

**Chemistry**

It is difficult for me to say with confidence that there is a typical chemical composition for German chamomile. Tisserand states the blue chamomile oils are produced in many parts of the world and have greatly varying composition. Typically those oils with the higher α-bisabolol are preferred in aromatherapy.\(^7\)

In *The Complete Guide to Aromatherapy* I stated that a typical chemical composition of German chamomile is reported as follows:

- Chamazulene (2.16–35.59%)
- α-bisabolol (1.72–67.25%)
- bisabolol oxide A (0–55.08%)
- bisabolol oxide B (4.35–18.93%)
- and bisabolone oxide A (0–63.85%).\(^8\)

German chamomile essential oil varies in composition according to the source. Four main chemotypes have been identified as follows.\(^9\)

- **Type A**
  - α-bisabolol oxide B > α-bisabolol oxide A > α-bisabolol
- **Type B**
  - α-bisabolol oxide A > α-bisabolol oxide B > α-bisabolol
- **Type C**
  - α-bisabolol > α-bisabolol oxide B > α-bisabolol oxide A
- **Type D**
  - α-bisabolol oxide B = α-bisabolol oxide A = α-bisabolol

The content and composition of the essential oil are dependent on the development stage of the plant. For example, the quantity of α-bisabolol, α-bisabolol oxide A and B and bisabolone oxide A reached a maximum in full bloom, whereas the farnesene content decreased rapidly with the growth and development of the flower.\(^4\)

**Pharmacology and clinical studies**

**Anti-inflammatory activity**

The anti-inflammatory properties of German chamomile oil are well documented when used topically.\(^10\)

The accepted wisdom is that the anti-inflammatory activity of chamomile is mainly due to chamazulene. This blue compound is formed from matricarin by steam distillation. In other words the compound found naturally in chamomile is matricarin, and this is converted into chamazulene by the action of the steam.\(^3\)

The antiphlogistic effects of (-)-bisabolol found in German chamomile have been proven in experiments on adjuvant arthritis in rats.\(^11\)

Experiments showed that (-)-bisabolol had a greater effect than bisabolol oxides A and B. It was suggested that standardising the content of (-)-bisabolol was important to the antiphlogistic effectiveness of chamomile, but that standardising the amount of oxides present was not necessary.\(^11\)

The anti-inflammatory and anti-allergic effects of volatile and non-volatile components of German chamomile significantly inhibited swelling induced by carrageenan in rats.\(^12\)

**Antimicrobial activity**

German chamomile essential oil exerted significant bacteriostatic and bactericidal effects against *Staphylococcus aureus, Bacillus subtilis* and *Candida albicans*. However, even at concentrations as high as 8% v/v, complete bactericidal effect was not achieved against *Pseudomonas aeruginosa* and *Escherichia coli*.\(^13\)

The antibacterial activity of German chamomile essential oil was evaluated against *Helicobacter pylori*. It was shown that the oil inhibited the production of urease by *H.pylori*. It is known that the level of activity of urease is very important for the survival of this microorganism in the stomach.\(^14\)

German chamomile oil has demonstrated antibacterial activity against organisms such as *Klebsiella sp.*, *Proteus vulgaris* and *Clostridium sporogenes*.\(^15\)

**Antifungal activity**

German chamomile essential oil was evaluated against medically important dermatophytes and opportunistic saprophytes. The results of the study indicated that *M.recutita* is a potential candidate for designing effective antifungal formulations suitable for treatment of dermatophytosis.\(^16\)

**Liver tonic**

German chamomile oil is rich in monoterpenes and sesquiterpenes which exhibit cholagogue and choleretic activities.\(^17\) Both the herbal extract and essential oil have a dose-dependent spasmolytic effect on the smooth muscle of the intestine and also demonstrated liver regenerating properties.\(^18,19\)

**Properties**

Many aromatherapists suggest that German chamomile has analgesic, antiallergenic, anti-inflammatory, antiphlogistic, antispasmodic, bactericidal, carminative, cicatrisant, cholagogue, emmenagogue, hepatic, sedative,
stomachic and vulnerary properties.8

**Aromatherapy uses**

Schnaubelt refers to German chamomile as one of the most reliable anti-inflammatory agents in aromatherapy. He also says that an important, often overlooked feature is that it neutralises toxic bacterial metabolic wastes, which are often the cause of fever during acute illness.20

**Children’s remedy**

German chamomile is considered one of the gentlest of essential oils and is particularly beneficial for treating children. It may be used to alleviate the pain associated with teething infants.21,22

**Detoxification**

Holmes describes German chamomile as a liver cell regenerator and liver restorative. It would work very well in synergy with essential oils such as everlasting, rosemary and lemon to alleviate liver congestion and to promote detoxification.23

**Digestive system**

German chamomile oil can be used in treating colic, dyspepsia and indigestion.21,24 The oil stimulates the liver and gall bladder and is recommended for poor appetite and slow painful digestion.25,26

As it is an anti-inflammatory, Holmes suggests using German chamomile for alleviating gastritis, enteritis, IBS and stomatitis.23

**Immune system**

Schnaubelt states that an overlooked quality of German chamomile is its ability to neutralize toxic bacterial metabolic wastes, which is often the cause of fever during acute illness.20 German chamomile is reputed to stimulate leukocyte production; however, for this purpose, Valnet recommends the internal use of German chamomile.27

**Integumentary system**

German chamomile can be used for wounds that are slow to heal such as open leg sores, abscesses and infected ingrown nails.24 It is important for the treatment of eczema, urticaria and dry, itchy conditions.21,22

**Psychological**

German chamomile is recommended for emotional frustration, anger, irritability, agitation, sudden fits of rage, mood swings and anxiety. It calms the mind and promotes relaxation.23

**Musculoskeletal system**

Holmes states that German chamomile has a strong anti-inflammatory effect. He recommends using it for fibromyalgia, neuralgia, tendinitis, plantar fasciitis and bursitis.23 German Chamomile oil can be used in a massage for muscular aches and pain, and for inflamed joints associated with rheumatoid arthritis. It is beneficial in treating sprains, inflamed tendons, and swollen painful joints in bursitis.2,21,22

**Reproductive system**

Chamomile is recommended for promoting and harmonising the menses, for spasmodic dysmenorrhoea and PMS.24,26

**Respiratory system**

Holmes states that German chamomile is a moderate anti-allergenic and can be used to alleviate allergic rhinitis, sinusitis and asthma.23

**Urinary system**

German chamomile is especially beneficial for urinary tract infections such as cystitis. Davis recommends drinking chamomile tea and having compresses and massages over the lower abdomen with the oil. The oil should also be used in a bath.22

**Skin care**

German chamomile is beneficial for sensitive skin problems. It is a local vasoconstrictor and can reduce the redness of cheeks due to enlarged capillaries.22

**Personality profile**

The German Chamomile person is a very strong emotional person. They have emotional depth and the ability to draw out the best in other people, but keep their own feelings to themselves. They are usually down to earth and upfront. They are always good to have around in an emotional storm, or when grieving, as they provide a strong, solid shoulder to cry on if needed.28

Worwood suggests that German chamomiles are well suited to a profession involving teaching or anything to do with books. She describes them as great organisers.

They’ll organize everything if you let them – including what you have for lunch and who you should invite to your party. If their suggestions aren’t taken up, the Blues can get upset, although this doesn’t last too long and is soon forgotten. This is a very contented personality, and seems to take everything in its stride.28

According to the principles of Myers Briggs, I would classify German chamomile personality as ISFJ. They are extremely dependable, loyal and committed. They are quiet and unassuming. They are down-to-earth, practical, conscientious and very diligent. They enjoy their homes and like to keep things organised and tidy.
Traditional Chinese medicine, German

According to the principles of Energetics, anger is present. German chamomile promotes the free flow of Qi which is important for relaxing the nerves, relieving spasms and easing pain. This makes it beneficial for nervous tension, insomnia, indigestion and headaches. German chamomile exerts a good stabilising affect on individuals with emotional instability. Holmes suggests that it can help us deal with life’s obstacles and challenges in a lateral way not bound by habit or fear induced rigidity. It can help us adapt a more flexible, free flowing spontaneous response.

In TCM all these conditions are a result of constrained Qi with a Shen disharmony or a deficiency of Heart and Liver Yin with Shen agitation. Holmes explains that German chamomile is excellent for nourishing the energetic aspects of the Liver presenting irritability, resentment and restless insomnia.

According to the principles of Five Elements, German chamomile oil helps calm excess Wood energy. According to Ayurveda, German chamomile oil helps to calm excess Vata and Pitta dosha.

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How to use

Bath: Typically for a full body bath in a tub, use up to 5 drops of essential oils in the tub of warm water. Foot or hand baths may be prepared by adding 2-3 drops of essential oil to a bowl of warm water.

Massage: Use a 2.5% dilution of the appropriate blend of essential oils to the chosen carrier oil. A 2.5% dilution equates to 5 drops of essential oil to 10mL of carrier oil.

Inhalation: The best way to use essential oils for inhalation is by diffusing them. When you are using essential oils in an ultrasonic diffuser, please follow the instructions of the diffuser that you are using.

Blending tips

Perfumery

German chamomile is used in very small percentages in high-class perfumes to introduce a warm, rich undertone which lasts through all stages of evaporation.

Aromatherapy

It is often too easy to just think of using German chamomile in blends for sensitive skin. However, its rich sweet and herbaceous aroma can help us create some intriguing blends that can be very relaxing and calming to the psyche.

One of my favourite combinations is German chamomile blended with Roman chamomile and lavender. This is a wonderful antispasmodic blend that helps ease painful spasmodic conditions associated with the nervous system, digestive system and menstrual cramping.

German chamomile blended with lemon and everlasting enhances the German chamomile and makes a powerful liver restorative blend for liver congestion and supporting detoxification.

German chamomile together with sandalwood and lavender makes a wonderful blend for helping reduce nervous tension. This same blend would have an excellent anti-inflammatory effect.

Perfect Potion classics with German chamomile

We have utilized the anti-inflammatory quality of German chamomile in many of our skin care preparations.

German chamomile blended with lavender and neroli makes our Soothe range the perfect skin care for those with sensitive skin. Our soothe range includes Soothe Oil, Soothe Fine Tuning Solution, Soothe Moisturiser and Soothe Double Cream.

Subtle aromatherapy

Wormwood best describes the subtle qualities of German chamomile when she says that it has a very strong affinity with the throat chakra. It should be used to heal a very strong affinity with the throat chakra. It should be used to heal...
Pure Plant Hydration Mask combines the soothing properties of German chamomile with aloe vera and marshmallow extract to help hydrate and soothe your skin. Pure Plant Hydration Serum combines German chamomile with rose otto, neroli, and sandalwood essential oils and combined with vital antioxidants to create an ultra-hydrating serum to moisturize your skin. No wonder it smells divine and feels so nice on the skin!

When you blend German chamomile with everlasting, calendula-infused oil and dragon’s blood resin extract, you end up with one of the most potent healing balms ever created - Protect & Repair Balm.

All Perfect Potion baby products utilize German chamomile’s anti-inflammatory and soothing properties. German chamomile has been blended with lavender and mandarin to create our gentle Beautiful Baby range such as Beautiful Baby Top to Toe Wash, Beautiful Baby Massage Oil, Beautiful Baby Bath Oil and Beautiful Baby Bottom Balm.

The beautiful deep blue colour of German chamomile resonates with the throat chakra. It is not surprising that it is an essential ingredient in Expressive essential oil blend for the throat chakra. Together with basil, sandalwood, sweet orange and frankincense, Expressive helps to open your throat chakra and unleash your creative expression.

Demeter is the goddess of the Earth. Empgoddess Demeter essential oil blend with German chamomile, lavender, patchouli, clary sage and vetiver will help you stay connected with mother nature and restores feelings of peace and calm.

Safety

German chamomile oil has been reported to be non-toxic, non-irritant and non-sensitising.\(^8\)

References

2. Leung A, Foster S. Encyclopaedia of common natural ingredients used in food, drugs and cosmetics. 2nd edn, John Wiley and Sons, USA, 1996.
32. Mojay G. Aromatherapy for healing the spirit. Hodder and Stoughton, United Kingdom, 1996.

find German chamomile on www.perfectpotion.com.au

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