

SAFETY DATA SHEET

according to regulation (EC) 1907/2006

according to regulation (EU) 453/2010

2150 Monarda**1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY****1.1 Product identifier**

Trade Name: Monarda
 Botanical Name: Monarda fistulosa
 INCI: Monarda fistulosa Oil
 CAS TSCA-No: 97952-61-9
 CAS EINECS-No: 97952-61-9
 EINECS-No.: 308-354-0
 FEMA-No.: /

1.2 Relevant identified uses of the substance and uses advised against

Substance use: Perfumery and/or aromatic uses

1.3 Details of the supplier of the safety data sheet

Supplier name: AYUS GmbH
 Address: Am Dreschschopf 1, 77815 Bühl, Deutschland
 Phone: +49 7227 600 99-0
 Fax: +49 7227 600 99-99
 E-mail: info@oshadhi.eu

1.4 Emergency telephone number

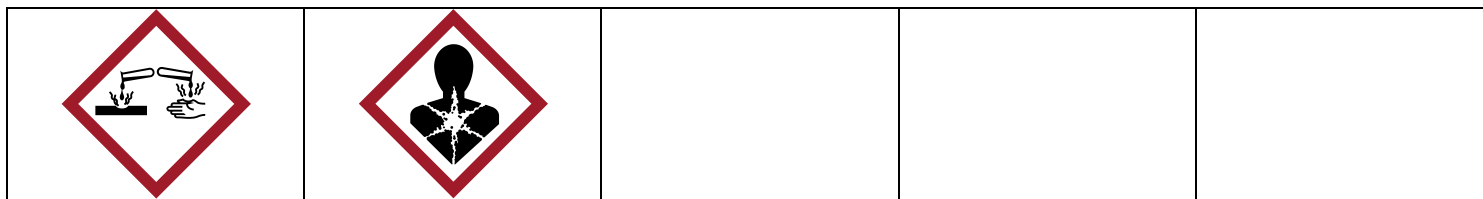
Poison emergency number: +49 89-19240

2. HAZARDS IDENTIFICATION**2.1 Classification of the substance according to regulation (EG) 1272/2008 (CLP)**

| Hazard class and Hazard category | Code | Hazard statement |
|---|------|--------------------------------------|
| Skin corrosion/irritation, category 2 | H315 | Causes skin irritation. |
| Respiratory/skin sensitisation, skin sensitisation category 1 | H317 | May cause an allergic skin reaction. |
| Causes serious eye damage/irritation, category 1 | H318 | Causes serious eye damage. |

2.2 Label elements

Hazard pictogram and signal word

**DANGER:****H-Statements:**

H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.

P-Statements:**Prevention:**

| | |
|------|--|
| P261 | Avoid breathing dust /fume /gas /mist /vapours /spray. |
| P262 | Do not get in eyes, on skin, or on clothing. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P280 | Wear protective gloves /eye protection. |

Response:

| | |
|----------------|--|
| P302+P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P313 | Get medical advice /attention. |
| P321 | Specific treatment (see on this label). |
| P333+P313 | If skin irritation or rash occurs: Get medical advice /attention. |
| P337+P313 | If eye irritation persists: Get medical advice /attention. |
| P363 | Wash contaminated clothing before reuse. |

Storage:

Disposal:

| | |
|------|--|
| P501 | Dispose of contents /container to special waste. |
|------|--|

2.3 Other Hazards

Allergens (according to regulation (EC) No 1223/2009 on cosmetic products)

| | |
|----------|---------|
| Limonene | < 0,1 % |
| Linalool | < 2 % |
| Geraniol | < 90 % |
| Citral | < 1,5 % |

(-) = no data available

(+) = not detected

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Identification: Monarda fistulosa oil (100% natural essential oil)

Hazardous constituent: according to EG-Regulation 1272/2008 (CLP)

| Ingredient | Concentration | Registration-N. | CLP-Classification |
|---------------------------|---------------|--|---|
| 1-Octen-3-ol | < 1 % | CAS-No: 3391-86-4 EINECS-No: 222-226-0 | Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Acute Tox. 4, H332 Aquatic Acute 1, H400 |
| alpha-Copaene | < 1 % | CAS-No: 3856-25-5 EINECS-No: 223-364-4 | No records, - |
| alpha-Terpinene | < 0,1 % | CAS-No: 99-86-5 EINECS-No: 202-795-1 | Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 2, H411 |
| alpha-Thuyene | < 0,1 % | CAS-No: 2867-05-2 EINECS-No: 220-686-7 | No records, - |
| beta-Bourbonene | < 1 % | CAS-No: 5208-59-3 EINECS-No: / | No records, - |
| beta-Elemene | < 1 % | CAS-No: 33880-83-0 EINECS-No: 251-713-0 | No records, - |
| cis-beta-Ocimene | < 0,1 % | CAS-No: 3338-55-4 EINECS-No: 222-081-3 | No records, - |
| Citral (Neral + Geraniol) | < 1,5 % | CAS-No: 5392-40-5 | Skin Irrit. 2, H315 |

| | | | |
|--------------------|---------|---|---|
| | | EINECS-No: 226-394-6 | Skin Sens. 1, H317 Eye Irrit. 2, H319 |
| gamma-Terpinene | < 2 % | CAS-No: 99-85-4 EINECS-No: 202-794-6 | Flam. Liq. 3, H226 Asp. Tox. 1, H304 |
| Geraniol | < 90 % | CAS-No: 106-24-1 EINECS-No: 203-377-1 | Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Dam. 1, H318 |
| Geranyl acetate | < 1 % | CAS-No: 105-87-3 EINECS-No: 203-341-5 | Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 3, H412 |
| Germacrene-D | < 2 % | CAS-No: 37839-63-7 EINECS-No: / | No records, - |
| Limonene | < 0,1 % | CAS-No: 5989-27-5 EINECS-No: 227-813-5 | Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| Linalool | < 2 % | CAS-No: 78-70-6 EINECS-No: 201-134-4 | Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 |
| Myrcene | < 1 % | CAS-No: 123-35-3 EINECS-No: 204-622-5 | Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Eye Irrit. 2, H319 |
| Neral | < 1 % | CAS-No: 106-26-3 EINECS-No: 203-379-2 | Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 |
| Nerol | < 1 % | CAS-No: 106-25-2 EINECS-No: 203-378-7 | Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335 |
| p-Cymene | < 1 % | CAS-No: 99-87-6 EINECS-No: 202-796-7 | Flam. Liq. 3, H226 Acute Tox. 4, H302 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Aquatic Chronic 2, H411 |
| trans-beta-Ocimene | < 0,1 % | CAS-No: 3779-61-1 EINECS-No: 223-241-5 | No other information. |

4. FIRST AID MEASURES

4.1 Description of first aid measures

| | |
|------------------------------|--|
| Excessive inhalation: | Remove to fresh air environment – summon a physician immediately. |
| Skin contact: | Wash contaminated skin with copious amounts of water and soap. Remove contaminated clothes and wash them before reuse. Summon a physician, if an irritation appears. |
| Eye contact: | Wash contaminated skin with copious amounts of water for at least 10 minutes – open eyelids forcibly. Summon a physician immediately. |
| Ingestion: | Dilute with water. Do not induce vomiting. Contact physician. |

4.2 Most important symptoms and effects, both acute and delayed

No further details.

4.3 Indication of any immediate medical attention and special treatment needed

Contact a poison specialist immediately if large quantities have been ingested or inhaled.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

| | |
|----------------------------------|--|
| Advised extinguisher: | Use CO ₂ , dry powder, fire extinguisher or foam. |
| Unadvisable extinguisher: | Direct jet of water. |

5.2 Special hazards arising from the substance or mixture

Avoid breathing vapours and smokes produced by fire.

Burning will cause strong smoke and soot.

5.3 Advice for firefighters

Do not attempt to fight the fire with water, which tends to feed rather than smother the flames. Essential oils have the ability to float on water and this causes the fire to propagate more quickly.

Small fires can be smothered by covering with earth, sand or a blanket.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid skin, eye and clothes contact. There is a risk of sliding caused by the leaked product. Ventilate well spilling area. Keep away from sources of ignition.

6.2 Environmental precautions

Avoid dispose into drainage, sewer system or in any natural environment. Dispose binding material, cloths and sponges according to the national law.

6.3 Methods and material for containment and cleaning up

Use of absorbent material (e.g. sand, diatomaceous earth).

6.4 Reference to other sections

Please see section 8 and 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Ventilate the storage and preparation warehouse/laboratory. Avoid eating, drinking and smoking in the places where products are stored and treated. Manipulate with caution to avoid any projection particularly in eyes and on mucous membranes. Do not expose vapors to the flame or quite other source of ignition. Do not inhale warm vapors.

7.2 Conditions for safe storage, including any incompatibilities

It is recommended to keep the product in a water-tight and air-tight container. Keep away from heat and sunlight. Store in a cool and good ventilated area.

7.3 Specific end uses

No specific.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Please pay attention to the usual precautionary measures with the contact of essential oils. Use good hygiene practice: Please wash before contact, before eating and at the end of the working day.

8.2 Exposure controls

Personal protective equipment:

Breathing protection: Use in well aired areas.

Eye protection: Safety glasses.

Hand protection: Protecting gloves.

Skin protection: Avoid skin contact. Protective suit should be worn.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|--|---------------------------|
| Color: | colorless to light yellow |
| Appearance: | oily liquid |
| Odor: | floral, herbaceous, sweet |
| pH-value: | no data available |
| Flash point: | > 100°C |
| Water solubility: | Insoluble |
| Steam pressure: | Unavailable |
| Initial boiling point and boiling range: | Unavailable |

| | |
|----------------------------|---------------|
| Relative density at 20 °C: | 0,875 - 0,895 |
| Refractive index at 20°C: | 1,47 - 1,48 |
| Optical rotation at 20°C: | - 5° to 0° |

9.2 Other information:

Main components: Monarda fistulosa Oil, Citral, Geraniol, Limonene, Linalool

10. STABILITY AND REACTIVITY

10.1 Reactivity

This product is stable under normal usage conditions.

10.2. Chemical stability

This product is stable under normal usage conditions.

10.3 Possibility of hazardous reactions

None according to our knowledge.

10.4 Conditions to avoid

Do not expose to high temperature or ignition.

10.5 Incompatible materials

Avoid flammable materials, PVC.

10.6 Hazardous decompositions products

Nothing in proper storage conditions.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Toxicological specifications of the important substances:

| Chemical description | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---------------------------|----------------------|------------------------|-----------------|
| 1-Octen-3-ol | 340 mg/kg (rat) | 3.300 mg/kg (rabbit) | / |
| alpha-Copaene | / | / | / |
| alpha-Terpinene | 1.680 mg/kg (rat) | / | / |
| alpha-Thuyene | / | / | / |
| beta-Bourbonene | / | / | / |
| beta-Elemene | / | / | / |
| cis-beta-Ocimene | / | / | / |
| Citral (Neral + Geranial) | 4.960 mg/kg (rat) | 2.250 mg/kg (rabbit) | / |
| gamma-Terpinene | 3.650 mg/kg (rat) | / | / |
| Geraniol | 3.600 mg/kg (rat) | > 5.000 mg/kg (rabbit) | / |
| Geranyl acetate | 6.330 mg/kg (rat) | / | / |
| Germacrene-D | / | / | / |
| Limonene | 4.400 mg/kg (rat) | > 5.000 mg/kg (rabbit) | / |
| Linalool | 2.790 mg/kg (rat) | 5.610 mg/kg (rabbit) | / |
| Myrcene | > 11.390 mg/kg (rat) | > 5.000 mg/kg (rabbit) | / |
| Neral | / | / | / |
| Nerol | 4.500 mg/kg (rat) | > 5.000 mg/kg (rabbit) | / |
| p-Cymene | 1.400 mg/kg (rat) | > 5.000 mg/kg | / |
| trans-beta-Ocimene | / | / | / |

Skin corrosion/irritation:

H315 Causes skin irritation.

Serious eye damage/irritation:

H318 Causes serious eye damage.

Respiratory or skin sensitization:

H317 May cause an allergic skin reaction.

Aspiration hazard:

No significant effects or critical hazards.

Germ cell mutagenicity:

No significant effects or critical hazards.

Carcinogenicity:

No significant effects or critical hazards.

Reproductive toxicity:

No significant effects or critical hazards.

STOT-single exposure

Unavailable data.

STOT-repeated exposure

Unavailable data.

Information on likely routes of exposure

Unavailable data.

Symptoms related to the physical, chemical and toxicological characteristics

Unavailable data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Unavailable data.

12. ECOLOGICAL INFORMATION**12.1 Toxicity**

Use product only referred of good laboratory practice (GLP) to insure that it is not released into the environment.
According to regulation 1272/2008:

No significant effects or critical hazards.

Daphnies toxicity (EC50):

No further relevant information available.

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential**Bioconcentration factor (BCF):**

No further relevant information available.

Partition coefficient n-octanol / water (log KOW)

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

12.5 Results of PBT and vPvB assessment

No further relevant information available.

12.6 Other adverse effects

No further relevant information available.

13. DISPOSAL CONSIDERATION**13.1 Waste treatment methods**

Waste should be recycled or disposed of according to the legislation in force, preferably by an approved recycling or waste treatment company.

14. TRANSPORT INFORMATION

14.1 UN-number

/

14.2 UN proper shipping name

Land transport: ADR/RID; Dispatch Name: EXTRAKTE, AROMATISCH, FLÜSSIG

Transport by sea: IMDG/IMO; Technical Name: EXTRACTS, AROMATIC, LIQUID

Transport by air: ICAO/IATA; Technical Name: EXTRACTS, AROMATIC, LIQUID

14.3 Transport hazard class

ADR/RID: Class 3

IMDG/IMO: Class 3

ICAO/IATA: Class 3

14.4 Packing group

ADR/RID: Packing group III, Kemler code: 30

IMDG/IMO: Packing group III

ICAO/IATA: Packing group III

14.5 Environmental hazards

IMDG - Sea pollutant: No

14.6 Special precautions for user

Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code

Not applicable.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations (legislation) specific for the substance or mixture

Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances and its subsequent amendments.

Directive 1999/45/EC of the European Parliament concerning the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous preparations and its subsequent amendments.

Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work preparations.

Directive 2003/15/EC

Directive 2006/8/EC

Directive 91/322/EEC

Directive 2000/39/EC

Regulation (EC) No 1907/2006 (REACH) and its subsequent amendments

Regulation (EC) No 1272/2008 (CLP)

Regulation (EC) No 790/2009

Directive 2003/105/EC - Protection of workers - Control of major-accident hazards involving dangerous substances and its subsequent amendments

German Regulation on Substances Hazardous to Water 2005 (VwVwS),

15.2 Chemical safety assessment

Not relevant.

16. OTHER INFORMATION

Latest changes

This data sheet replaces all previous editions. The content of the SDS is regulated by the Regulation (EC) n°1907/2006 (REACH).

Common shortened form:

| | |
|---------|---|
| ADR: | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| CAS: | Chemical Abstracts Service (division of the American Chemical Society) |
| CLP: | Classification, Labeling, Packaging |
| EINECS: | European Inventory of Existing Commercial Chemical Substances |
| FEMA: | Federal Emergency Management Agency |
| GHS: | Globally Harmonized System of Classification and Labeling of Chemicals |
| IATA: | Dangerous Goods Regulation by the "International Air Transport Association" (IATA) |
| ICAO: | Technical Instructions by the "International Civil Aviation Organization" (ICAO) |
| IMDG: | International Maritime Code for Dangerous Goods |
| IMO: | International Maritime Organization |
| INCI: | International Nomenclature of Cosmetic Ingredients |
| LC50: | Lethal Concentration for 50 percent of the test population |
| LD50: | Lethal Dose for 50 percent of the test population |
| REACH: | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| PBT: | Persistent Bioaccumulating Toxicants |
| vPvB: | Very Persistent and Very Bioaccumulative Substance |
| RID: | Regulation Concerning the International Transport of Dangerous Goods by Rail |
| STOT: | Specific Target Organ Toxicity |
| TSCA: | Toxic Substances Control Act |

Hazard statements according to regulation (EC) 1272/2008 (CLP):

| Code | Description |
|-------------|--------------------------------------|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |

Precaution statements according to regulation (EC) 1272/2008 (CLP):

| Code | Description |
|--------------------|--|
| Prevention: | |
| P261 | Avoid breathing dust /fume /gas /mist /vapours /spray. |
| P262 | Do not get in eyes, on skin, or on clothing. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P280 | Wear protective gloves /eye protection. |

Response:

| | |
|----------------|--|
| P302+P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P313 | Get medical advice /attention. |
| P321 | Specific treatment (see on this label). |
| P333+P313 | If skin irritation or rash occurs: Get medical advice /attention. |
| P337+P313 | If eye irritation persists: Get medical advice /attention. |
| P363 | Wash contaminated clothing before reuse. |

Storage:**Disposal:**

| | |
|------|--|
| P501 | Dispose of contents /container to special waste. |
|------|--|

Training advice:

| | |
|--------------------------------|----------------|
| Possible hazards: | see section 2 |
| First aid measures: | see section 4 |
| Firefighting measures: | see section 5 |
| Personal protection equipment: | see section 8 |
| Waste treatment methods: | see section 13 |

The information this contains is based on the state of our knowledge about the product concerned at the time of update. They are given in good faith. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other Materials

or in any process, unless specified in the text. Even though precaution has been taken to ensure accuracy of data, no guarantee can be given. Because data's are taken partly from other sources.

To be observed: This data sheet contains product data as it was available to Ayus GmbH at the date of release. Ayus GmbH cannot take any responsibility for the correctness of the data – this lies entirely with the producer or manufacturer. The responsibility for proper utilization of the product, as well as its handling and storage lies with the buyer or user. They have been educated about the consequences of misuse of the product.

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