

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name : Menaquinone (K2)  
CAS-No. : 863-61-6

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not a dangerous substance according to GHS.  
This substance is not classified as dangerous according to Directive 67/548/EEC.

2.2 Label elements

The product does not need to be labelled in accordance with EC directives or respective national laws.

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

|                  |                                                |               |
|------------------|------------------------------------------------|---------------|
| Synonyms         | : Menaquinone 4<br>Menatetrenone<br>Vitamin K2 |               |
| Formula          | : C31H40O2C31H40O2                             |               |
| Molecular Weight | : 444,65 g/mol                                 |               |
| Component        |                                                | Concentration |

2-Methyl-3-(3,7,11,15-tetramethyl-2,6,10,14-hexadecatrienyl)-1,4-naphthoquinone  
CAS-No. 863-61-6 -

4. FIRST AID MEASURES

4.1 Description of first aid measures

**If inhaled**  
If breathed in, move person into fresh air. If not breathing, give artificial respiration.

**In case of skin contact**  
Wash off with soap and plenty of water.

**In case of eye contact**  
Flush eyes with water as a precaution.

**If swallowed**  
Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

4.3 Indication of immediate medical attention and special treatment needed

no data available

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

**Suitable extinguishing media**  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Precautions for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

no data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapors, mist or gas.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed.Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.  
Recommended storage temperature: -20 °C

7.3 Specific end uses

no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

**Components with workplace control parameters**

8.2 Exposure controls

**Appropriate engineering controls**

General industrial hygiene practice.

**Personal protective equipment**

**Eye/face protection**  
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**  
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Body Protection**  
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**  
Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

|                                                 |                   |
|-------------------------------------------------|-------------------|
| a) Appearance                                   | Form: solid       |
| b) Odour                                        | no data available |
| c) Odour Threshold                              | no data available |
| d) pH                                           | no data available |
| e) Melting/freezing point                       | no data available |
| f) Initial boiling point and boiling range      | no data available |
| g) Flash point                                  | no data available |
| h) Evaporation rate                             | no data available |
| i) Flammability (solid, gas)                    | no data available |
| j) Upper/lower flammability or explosive limits | no data available |
| k) Vapour pressure                              | no data available |
| l) Vapour density                               | no data available |
| m) Relative density                             | no data available |
| n) Water solubility                             | no data available |
| o) Partition coefficient: n-octanol/water       | no data available |
| p) Autoignition temperature                     | no data available |
| q) Decomposition temperature                    | no data available |
| r) Viscosity                                    | no data available |
| s) Explosive properties                         | no data available |
| t) Oxidizing properties                         | no data available |

9.2 Other safety information

no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

**Acute toxicity**

LD50 Intravenous - rat - > 40.000 mg/kg  
Remarks: Skin and Appendages: Other: Hair.

**Skin corrosion/irritation**  
no data available

**Serious eye damage/eye irritation**  
no data available

**Respiratory or skin sensitization**  
no data available

**Germ cell mutagenicity**  
no data available

**Carcinogenicity**

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**  
no data available

**Specific target organ toxicity - single exposure**  
no data available

**Specific target organ toxicity - repeated exposure**  
no data available

**Aspiration hazard**  
no data available

**Potential health effects**

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.

**Ingestion** May be harmful if swallowed.

**Skin** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes** May cause eye irritation.

**Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information**  
RTECS: QL9279500

12. ECOLOGICAL INFORMATION

12.1 Toxicity

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**  
Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN-Number

|            |         |         |
|------------|---------|---------|
| ADR/RID: - | IMDG: - | IATA: - |
|------------|---------|---------|

14.2 UN proper shipping name

|                              |
|------------------------------|
| ADR/RID: Not dangerous goods |
| IMDG: Not dangerous goods    |
| IATA: Not dangerous goods    |

14.3 Transport hazard class(es)

|            |         |         |
|------------|---------|---------|
| ADR/RID: - | IMDG: - | IATA: - |
|------------|---------|---------|

14.4 Packaging group

|            |         |         |
|------------|---------|---------|
| ADR/RID: - | IMDG: - | IATA: - |
|------------|---------|---------|

14.5 Environmental hazards

|             |                           |          |
|-------------|---------------------------|----------|
| ADR/RID: no | IMDG Marine pollutant: no | IATA: no |
|-------------|---------------------------|----------|

14.6 Special precautions for users

no data available

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

15.2 Chemical Safety Assessment

no data available

16. OTHER INFORMATION

**Further information**

For R&D use only. Not for drug, household or other uses.

**WARRANTY:**  
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Lookchem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

**LookChem**  
Look for Chemicals

www.lookchem.com