



# Material Safety Data Sheet

## Vitamin K1 (Phylloquinone) MSDS

### 1. SUBSTANCE IDENTIFICATION

- 1.1. Product Name: Vitamin K1
- 1.2. Description: Vitamin K1 is a polycyclic aromatic ketone manufactured through chemical synthesis.
- 1.3. Chemical Formula: C<sub>31</sub>H<sub>46</sub>O<sub>3</sub>
- 1.4. Molecular weight: 466.69514
- 1.5. CAS #: 84-80-0
- 1.6. EINECS #: 201-564-2
- 1.7. Manufactured by: Foodchem International Corporation, Shanghai China.
- 1.8. Supplied by: Foodchem International Corporation, Shanghai China.
- 1.9. Usage: In food as nutritional supplements

### 2. Composition

- 2.1. Vitamin K1: >20%
- 2.2. Hazardous impurities: Heavy metals Not more than 10ppm, Arsenic Not more than 3 ppm, Yeast and mould Not more than 100CFU/g, Coliforms Not more than 10/g, E. Coli & Salmonella Negative

### 3. Physical/Chemical Characteristics

- 3.1. Physical State: Powder
- 3.2. Appearance: Off-white to yellow, fine powder
- 3.3. Odor: Odorless
- 3.4. pH: 6.3
- 3.5. Melting point/range: -4 ° F (-20 ° C) ; also reported as 20 ° C
- 3.6. Boiling point: 284 - 293 ° F (140 - 145 ° C)
- 3.7. Bulk density: 0.964g/cm<sup>3</sup>
- 3.8. Solubility: Insoluble.

### 4. Stability/Reactivity

- 4.1. Chemical Stability: Stable under normal temperatures and pressures
- 4.2. Shelf Life: 24 months period
- 4.3. Hazardous decomposition: carbon oxides (CO, CO<sub>2</sub>).
- 4.4. Hazardous polymerization: Will not occur
- 4.5. Incompatible with: Strong oxidizing agents. Strong bases. Reducing agents.

### 5. Handling/Storage

- 5.1. Storage: Store in a cool and dry place and Keep away from strong light and heat
- 5.2. Handling precaution: Avoid all contact and inhalation of dust, mists, and/or vapors associated with the material

### 6. Exposure Control

- 6.1. Engineering Controls: Safety shower and eye bath. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations below their respective threshold limit value.
- 6.2. Respiratory protection: NIOSH/MSHA or European Standard EN 149 approved respirator
- 6.3. Eye Protection: Protective eyeglasses or chemical safety goggles
- 6.4. Skin Protection: Wear appropriate protective gloves and clothes to minimize skin contact.
- 6.5. Other: Consult professionals if Vitamin K1 need to be handled under some special conditions.



## 7. Hazards Identification

- 7.1. Hazardous overview: Vitamin K1 is Slightly hazardous in case of inhalation, skin contact, ingestion or eye contact.
- 7.2. Contact with eyes: May cause eye irritation.
- 7.3. Contact with skin: May cause skin irritation.
- 7.4. Ingestion: May irritate the tissues of the mouth, esophagus, and other tissues of the digestive system
- 7.5. Inhalation: May cause irritation to the respiratory tract and gastrointestinal
- 7.6. Other: Not Applicable

## 8. First Aid Measures

- 8.1. Contact with eyes: Flush immediately with plenty of water for 15 minutes and seek medical advice
- 8.2. Contact with skin: After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap
- 8.3. Ingestion: Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
- 8.4. Inhalation: Remove from exposure, move to fresh air and seek medical advice immediately.

## 9. Fire and Explosion Data

- 9.1. General information: Combustible solid.
- 9.2. Flash point: > 235.40 ° F (> 113.00 ° C) Closed Cup
- 9.3. Ignition control: Not applicable
- 9.4. Dust control: Keep the handling area with adequate ventilation
- 9.5. Extinguishing Media: Do not use water jet as an extinguisher, as this will spread the fire
- 9.6. Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container

## 10. Transport Information

- 10.1. No special requirements and no restrictions on transportation by land, sea or air.

## 11. Ecological Information

- 11.1. Vitamin K1 is fully biodegradable and the products of degradation are as toxic as the original product.

## 12. Other Information

- 12.1. This Safety Data Sheet of Vitamin K1 is based upon a limited review of Foodchem International Corporation files and standard Toxicological handbooks. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Foodchem International Corporation be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Foodchem International Corporation has been advised of the possibility of such damages.

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