1. Product and company identification

Trade Name

Vinosorb

Nutrinova Nutrition Specialties & Food Ingredients GmbH
Industriepark Höchst
D-65926 Frankfurt am Main

Transportation emergency phone numbers:
For Chemical Emergency: Spill Leak Fire Exposure or Accident
Call CHEMTREC Day or Night
DOMESTIC NORTH AMERICA: 800-424-9300
INTERNATIONAL, CALL +1 703-527-3887 (collect calls accepted)

Identified uses
Food additive

2. Hazard Identification

GHS Classification

Hazard Statements
Serious eye damage/eye irritation

Label elements

Signal Word
Warning

Hazard Statements
Causes eye irritation

Precautionary statements
Wash hands thoroughly after handling
Wear eye protection/face protection
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

3. Composition/information on ingredients
3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No</th>
<th>Percent %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium (E,E)-hexa-2,4-dienoate</td>
<td>24634-61-5</td>
<td>&gt; 99</td>
</tr>
</tbody>
</table>

4. First aid measures

**Skin**
Wash off immediately with plenty of water. Get medical attention if irritation develops and persists.

**Eyes**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Inhalation**
Get medical attention immediately if symptoms occur.

**Ingestion**
Do NOT induce vomiting. Call a physician immediately.

5. Fire-fighting measures

**Suitable extinguishing media**
Carbon dioxide (CO2), Water spray, Foam, Dry chemical

**Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases**
Under conditions giving incomplete combustion, hazardous gases produced may consist of Carbon monoxide Carbon dioxide (CO2)
Combustion gases of organic materials must in principle be graded as inhalation poisons

**Special protective equipment for fire-fighters**
Wear self-contained breathing apparatus and protective suit.

6. Accidental release measures

**Personal precautions**
Avoid contact with the skin and the eyes. Keep away from heat and sources of ignition. Provide adequate ventilation.

**Environmental precautions**
Prevent further leakage or spillage. Do not discharge into the drains/surface waters/groundwater.

**Methods for cleaning up**
Use mechanical handling equipment. Dispose of in accordance with local regulations.

**Authority Notification**
Within the United States, call the National Response Center (800-424-8802) and appropriate state and local authorities if the quantity released over 24 hours is equal to or greater than the reportable quantity listed below:
7. Handling and Storage

Advice on safe handling
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing.

Protection - fire and explosion:
Take measures to prevent the build up of electrostatic charge. Keep away from sources of ignition - No smoking.

Technical measures/Storage conditions
Keep tightly closed in a dry, cool and well-ventilated place.

Material storage
Keep in a dry, cool place. Protect against light.

Incompatible products
Keep away from oxidizing agents.

8. Exposure controls / personal protection

OSHA Exposure Limits
No exposure limits established.

ACGIH Exposure Limits
No exposure limits established.

Mexico National Exposure Limits
No exposure limits established

Exposure controls

Engineering measures
General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Protective equipment
A safety shower and eyewash should be readily available.

General advice
Avoid contact with skin and eyes. Do not breathe dust.

9. Physical and chemical properties

Appearance
9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>solid</td>
</tr>
<tr>
<td>Color</td>
<td>white</td>
</tr>
<tr>
<td>Odor</td>
<td>slightly pungent</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>178 °C</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>&gt; 150°C</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>not determined</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>not determined</td>
</tr>
<tr>
<td>Density</td>
<td>1.36 g/ml @ 23°C</td>
</tr>
<tr>
<td>Viscosity</td>
<td>not applicable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>1.0 x 10^-7 hPa @ 20°C</td>
</tr>
<tr>
<td>Water solubility</td>
<td>1.95 g/l @ 20°C</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>not determined</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>-1.72 @ 20°C (pH: 6.5)</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Chemical stability
Stable under normal conditions of handling, use and transportation.

Conditions to avoid
Avoid dust formation

Incompatible Materials
Keep away from:
oxidizing agents

Hazardous Combustion or Decomposition Products:
Thermal decomposition products may include oxides of carbon.

11. Toxicological information

Potential health effects

Routes of exposure
Skin, eyes, inhalation.

Immediate effects

- Skin: Essentially non-irritating.
- Eyes: Causes eye irritation.
- Inhalation: No adverse health effects have been observed.
### 12. Ecological Information

#### Potassium (E,E)-hexa-2,4-dienoate

- **Acute oral toxicity**
  - LD50: > 10000 mg/kg, rat
  - (Reference substance: Sorbic acid)

- **Acute dermal toxicity**
  - LD50: > 2000 mg/kg, rat
  - (Reference substance: Sorbic acid)

- **Acute inhalation toxicity**
  - LC50 (4h): > 5.15 mg/l

- **Skin corrosion/irritation**
  - Not irritating

- **Skin Sensitization**
  - Nonsensitizer

- **Serious eye damage/eye irritation**
  - Irritant

- **Carcinogenic effects**
  - No evidence of carcinogenicity

- **in vitro Mutagenicity**
  - Ames Test: negative - with and without metabolic activation -

- **in vivo Mutagenicity**
  - Mammalian Erythrocyte Micronucleus Test in mice: negative - Method: OECD 474 (Reference substance: Sorbic acid)

<table>
<thead>
<tr>
<th>Routes of exposure</th>
<th>Species</th>
<th>NOAEL (P-generation): 3000 mg/kg/day; NOAEL (reproductive): 3000 mg/kg/day; NOAEL (offspring): 1000 mg/kg/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral gavage</td>
<td>Rat</td>
<td>NOAEL (parental): 340 mg/kg/day; NOAEL (embryonic/teratogenic effects): 340 mg/kg/day</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Developmental effects</th>
<th>Routes of exposure</th>
<th>Species</th>
<th>NOAEL: 750 mg/kg bw/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral gavage</td>
<td>Rat</td>
<td>NOAEL: 750 mg/kg bw/day</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Repeated exposure</th>
<th>Routes of exposure</th>
<th>Species</th>
<th>Type of study</th>
<th>NOAEL: 750 mg/kg bw/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral gavage</td>
<td>Rat</td>
<td>NOAEL: 750 mg/kg bw/day</td>
<td>2 years</td>
<td></td>
</tr>
</tbody>
</table>
12. Ecological Information

Potassium (E,E)-hexa-2,4-dienoate

**Acute fish toxicity**
- Species: *Oncorhynchus mykiss* (rainbow trout)
- Method: OECD 203

**Acute daphnia toxicity**
- Species: *Daphnia magna*
- Method: OECD 202

**Toxicity to bacteria**
- Species: in activated sludge
- Method: OECD 209

**Biodegradation**
- Method: Readily biodegradable
  - (Reference substance: Sorbic acid)
- Method: OECD 301 D

**Other potential hazards**
- The substance does not meet the criteria for PBT / vPvB according to REACH, Annex XIII

13. Disposal considerations

Dispose of spilled material in accordance with state and local regulations for waste that is non-hazardous by Federal definition. Note that this information applies to the material as manufactured; processing, use, or contamination may make this information inappropriate, inaccurate, or incomplete.

14. Transport information

**US Department of Transportation** Not regulated

**TDG** Not regulated

**Mexico Transport Information** Not regulated

**ICAO/IATA** Not restricted

**IMDG** Not regulated

15. Regulatory Information

**US State Regulations**
- Chemicals associated with the product which are subject to the state right-to-know regulations are listed along with the applicable state(s):
  - *none*
U.S. FEDERAL REGULATIONS

Potassium sorbate is regulated by the Food, Drug and Cosmetics Act, GRAS status (21CFR 182.3640)

Environmental Regulations:

SARA 311:
Acute health: Yes
Chronic health: No
Fire: No
Sudden release of pressure: No
Reactive: No

INTERNATIONAL REGULATIONS

International Inventories
Australia (AICS)
Canada (DSL)
China (IECSC)
Europe (EINECS)
Japan (ENCS)
Japan (ISHL)
Korea (KECI)
New Zealand (NZIoC)
Philippines (PICCS)
United States (TSCA)

16. Other information

Food / Feed Safety Emergency Contact: 24 h Food / Feed Safety Emergency No: +49 (0)69 305 6418
(Please contact only in emergency situations)

Prepared By
Product Stewardship Department
Celanese

Sources of key data used to compile the datasheet
Information contained in this safety data sheet is based on Celanese owned data and public sources deemed valid or acceptable. The absence of data elements required by ANSI or 1907/2006/EC indicates that no data meeting these requirements is available.

Other Information:
Observe national and local legal requirements
Changes against the previous version are marked by ***
Abbreviation and Acronym:
ADR = Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS = Chemical Abstracts Service (division of the American Chemical Society)
CLP = Classification, Labelling and Packaging
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial Chemical Substances
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
ICAO = International Civil Aviation Organization
IMDG = International Maritime Code for Dangerous Goods
LC50 = Lethal Concentration
LD50 = Lethal Dose
LOAEC = Low Observed Adverse Effect Concentration
LOAEL = Low Observed Adverse Effect Level
LOEL = Low Observed Effect Level
NOAEC = No Observed Adverse Effect Concentration
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
NOEL = No Observed Effect Level
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RCR = Risk Characterization Ratio
RID = Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
STOT RE = Specific Target Organ Toxicity Repeated Exposure
STOT SE = Specific Target Organ Toxicity Single Exposure
STP = Sewage Treatment Plant
vPvB = very Persistent and very Bioaccumulative