SECTION 1: Identification of the substance/preparation and of the company/undertaking

1.1. Product identifier

Trade name: EuroVanillin Aromatic
Substance name: Ethyl vanillin
CAS No: 121-32-4
EC No: 204-464-7
REACH Reg. No.: 01-2119958961-24
Formula: C9H10O3

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

Recommended uses: Formulation of flavouring and fragrance compounds

See enclosed exposure scenarios for further information.

Inadvisable uses: None.

1.3. Details of the supplier of the safety data sheet

Supplier

Company: Borregaard AS
Address: P.O. Box 162
Zip code: 1701 Sarpsborg
Country: NORWAY
E-mail: sds@borregaard.com
Phone: + 47 69 11 80 00
Fax: + 47 69 11 87 70

1.4. Emergency Telephone Number

0870 600 6266 (UK only) Only available to health professionals.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

CLP-classification: Eye Irrit. 2;H319
Most serious harmful effects: Causes serious eye irritation.

2.2. Label elements

Pictograms
Signal word: Warning

Contains

Substance: Ethyl vanillin
CAS No: 121-32-4

H-phrases
H319 Causes serious eye irritation.

P-phrases
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305/351/338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337/313 If eye irritation persists: Get medical advice/attention.
P264 Wash hands thoroughly after handling.

2.3. Other hazards
None.

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS No</th>
<th>EC No</th>
<th>REACH Reg. No.</th>
<th>Concentration</th>
<th>Notes</th>
<th>CLP-classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl vanillin</td>
<td>121-32-4</td>
<td>204-464-7</td>
<td>01-2119958961-24</td>
<td>&gt; 99%</td>
<td></td>
<td>Eye Irrt. 2H319</td>
</tr>
</tbody>
</table>

Please see section 16 for the full text of H-phrases.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation: Seek fresh air, wash out mouth with water and blow nose thoroughly. Seek medical advice in case of persistent discomfort.

Ingestion: Wash out mouth thoroughly and drink 1-2 glasses of water in small sips. Induce vomiting if victim is conscious. Seek medical advice in case of discomfort.

Skin contact: Immediately remove contaminated clothing. Wash the skin thoroughly with water and continue washing for a long time. Wash contaminated clothing before reuse.

Eye contact: Open eye wide, remove any contact lenses and flush immediately with water (preferably using eye wash equipment). Seek medical advice immediately. Continue flushing until medical attention is obtained.

4.2. Most important symptoms and effects, both acute and delayed
Irritating to eyes. Causes a burning sensation and tearing.

4.3. Indication of any immediate medical attention and special treatment needed
Flush with water (preferably using eye wash equipment) until irritation subsides. Seek medical advice if symptoms persist.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media: Extinguish with powder, foam, carbon dioxide or water mist.

Unsuitable extinguishing media: Do not use water stream, as it may spread the fire.
5.2. Special hazards arising from the substance or mixture

Avoid formation of dust.

5.3. Advice for fire-fighters

If there is a risk of exposure to vapour and flue gases, a self-contained breathing apparatus must be worn.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Provide good ventilation. Wear safety goggles if there is a risk of dust contact with eyes.

6.2. Environmental precautions

Prevent spillage from entering drains and/or surface water.

6.3. Methods and material for containment and cleaning up

Contain and absorb spill with sand or other absorbent material and transfer to suitable waste containers. Rinse with water. Do not sweep - use vacuum cleaner to collect spillage.

6.4. Reference to other sections

See section 13 for instructions on disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Work processes where generation of dust may occur must be performed under effective process ventilation (e.g. local exhaust ventilation). Running water and eye wash equipment must be available. Wash hands before breaks, before using restroom facilities, and at the end of work.

7.2. Conditions for safe storage, including any incompatibilities

Store in a dry, cool, well-ventilated area. Do not expose to heat (e.g. sunlight). Take precautionary measures against static discharges. Use spark-free tools and explosion proof equipment.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

### Occupational exposure limit

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Time period</th>
<th>ppm</th>
<th>mg/m3</th>
<th>fiber/cm3</th>
<th>Comments</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl vanillin</td>
<td>8h</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuisance dust, total</td>
<td>8h</td>
<td>0</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other Information: Avoid formation of dust.

8.2. Exposure controls

Exposure controls: Work processes where generation of dust may occur must be performed under effective process ventilation (e.g. local exhaust ventilation). Running water and eye wash equipment must be available. Wash hands before breaks, before using restroom facilities, and at the end of work.
Appropriate engineering controls:
Provide good ventilation. Running water and eye wash equipment must be available.

Personal protective equipment, eye/face protection:
Wear safety goggles if there is a risk of dust contact with eyes.

Personal protective equipment, skin protection:
Wear suitable protective clothing.

Personal protective equipment, hand protection:
Wear gloves.

Personal protective equipment, respiratory protection:
Wear respiratory protective equipment with P2 filter when performing dusty work.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value/unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>Powder Crystals</td>
</tr>
<tr>
<td>Colour</td>
<td>White Yellowish</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in the following: Organic solvents.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value/unit</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH (solution for use)</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>pH (concentrate)</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>Melting point</td>
<td>76 - 78 °C</td>
<td></td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>285 °C</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>Flammability limits</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>0.0029 hPa</td>
<td></td>
</tr>
<tr>
<td>Vapour density</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data</td>
<td></td>
</tr>
</tbody>
</table>

9.2 Other information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value/unit</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>1.05 g/cm³</td>
<td></td>
</tr>
<tr>
<td>Molecular weight</td>
<td>166.19</td>
<td></td>
</tr>
</tbody>
</table>

Other Information: Ref.: Hawley’s Condensed Chemical Dictionary, 12th Edition; BIBRA Toxicity Profile, 1988; personal analysis / experience
SECTION 10: Stability and reactivity

10.1. Reactivity

No known data.

10.2. Chemical stability

Avoid direct sunlight. The substance is stable when used in accordance with the supplier's directions.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Avoid formation of dust.

10.5. Incompatible materials

Strong alkalis/ Strong oxidisers/ Strong acids/ Metals/

10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral
Ethyl vanillin, cas-no 121-32-4

<table>
<thead>
<tr>
<th>Organism</th>
<th>Test Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Conclusion</th>
<th>Test method</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>LD50</td>
<td></td>
<td>&gt; 3100mg/kg</td>
<td></td>
<td>OECD 401</td>
<td>REACH dossier</td>
</tr>
</tbody>
</table>

Acute toxicity - dermal
Ethyl vanillin, cas-no 121-32-4

<table>
<thead>
<tr>
<th>Organism</th>
<th>Test Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Conclusion</th>
<th>Test method</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>LD50</td>
<td></td>
<td>&gt; 2000mg/kg</td>
<td></td>
<td>OECD 402</td>
<td>REACH dossier</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Ethyl vanillin, cas-no 121-32-4

<table>
<thead>
<tr>
<th>Organism</th>
<th>Test Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Conclusion</th>
<th>Test method</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td></td>
<td></td>
<td>Non-irritating</td>
<td></td>
<td>OECD 404</td>
<td>REACH dossier</td>
</tr>
</tbody>
</table>

May cause slight irritation.

Serious eye damage/eye irritation
Ethyl vanillin, cas-no 121-32-4

<table>
<thead>
<tr>
<th>Organism</th>
<th>Test Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Conclusion</th>
<th>Test method</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td></td>
<td></td>
<td></td>
<td>Slightly irritating</td>
<td>OECD 405</td>
<td>REACH dossier</td>
</tr>
</tbody>
</table>

Irritating to eyes. Causes a burning sensation and tearing.

Respiratory sensitisation or skin sensitisation
Ethyl vanillin, cas-no 121-32-4

<table>
<thead>
<tr>
<th>Organism</th>
<th>Test Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Conclusion</th>
<th>Test method</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse</td>
<td></td>
<td></td>
<td>Non-sensitising</td>
<td></td>
<td>OECD 429</td>
<td>REACH dossier</td>
</tr>
</tbody>
</table>

Germ cell mutagenicity
Ethyl vanillin, cas-no 121-32-4

Other toxicological effects: Ref.: BIBRA Toxicity Profile, 1988. Acceptable daily intake (ADI) for human is intended for 0-10 mg/kg/day (The Joint FAO/WHO Expert Committee on Food Additives.)

SECTION 12: Ecological information

12.1. Toxicity

<table>
<thead>
<tr>
<th>Organism</th>
<th>Species</th>
<th>Exposure time</th>
<th>Test Type</th>
<th>Value</th>
<th>Conclusion</th>
<th>Test method</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>Pimephales promelas</td>
<td>96hEC50</td>
<td>~ 87.6mg/l</td>
<td>OECD 203</td>
<td>REACH dossier</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Organism</th>
<th>Species</th>
<th>Exposure time</th>
<th>Test Type</th>
<th>Value</th>
<th>Conclusion</th>
<th>Test method</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>Pimephales promelas</td>
<td>96hEC50</td>
<td>~ 87.6mg/l</td>
<td>OECD 203</td>
<td>REACH dossier</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Readily biodegradable.

12.3. Bioaccumulative potential

No bioaccumulation expected.

12.4. Mobility in soil

Test data are not available.

12.5. Results of PBT and vPvB assessment

The product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

None known.

Other Information

Based on existing data, the classification criteria are deemed not to have been met.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Do not discharge large quantities of concentrated spills and residue into drains. Collect concentrated spills and major waste in closed, leak-proof containers for disposal at the applicable hazardous waste site with the below specifications.

SECTION 14: Transport information

14.1. UN-No.: Not applicable.

14.2. UN proper shipping name: Not applicable.

14.3. Transport hazard class(es): Not applicable.

14.4. Packing group: Not applicable.

14.5. Environmental hazards:

14.6. Special precautions for user

None.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

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


15.2. Chemical Safety Assessment

<table>
<thead>
<tr>
<th>REACH Reg. No.</th>
<th>Substance name</th>
</tr>
</thead>
<tbody>
<tr>
<td>01-2119958961-24</td>
<td>Ethylvanillin</td>
</tr>
</tbody>
</table>

Other Information: Chemical safety assessments have been performed for the following substances: Ethylvanillin.

SECTION 16: Other information

Version history and indication of changes

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision date</th>
<th>Responsible</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5.0</td>
<td>11/04/2017</td>
<td>Borregaard AS</td>
<td>Section 1, 11</td>
</tr>
</tbody>
</table>

Vendor notes: Information given in this safety data sheet is in accordance with our information, and to the best of our knowledge, was correct on the last revision date. Information given is intended to present guidelines for safe handling, use, processing, storage, transport, disposal and discharge; it is not intended to be a guarantee or quality specification. It is the responsibility of the recipient of this safety data sheet to ensure that information given here is read and understood by all who use, handle, dispose of or in any way come in contact with the product.

List of relevant H-statements

H319 Causes serious eye irritation.

Document language: GB