Material Safety Data Sheet
Vanillin

MSDS# 01680

Section 1 - Chemical Product and Company Identification

MSDS Name: Vanillin
Catalog Numbers: AC140820000, AC140825000, 14082-0010, 14082-0020, 14082-1000, 14082-2500, V10-100
Synonyms: Vanillaldehyde; 4-Hydroxy-m-anisaldehyde; 4-Hydroxy-3-methoxybenzaldehyde; Lioxin; Methylprotopocatechualdehyde; Vanillic aldehyde.

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaan 3a
2440 Geel, Belgium
Company Identification: (USA)
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410
For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>121-33-5</th>
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<tbody>
<tr>
<td>Chemical Name:</td>
<td>Vanillin</td>
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<tr>
<td>%:</td>
<td>&gt;97</td>
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<tr>
<td>EINECS#:</td>
<td>204-465-2</td>
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<table>
<thead>
<tr>
<th>Hazard Symbols:</th>
<th>None listed</th>
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<tbody>
<tr>
<td>Risk Phrases:</td>
<td>None listed</td>
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</tbody>
</table>

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Caution! Light sensitive. Moisture sensitive. May be harmful if swallowed. May cause eye, skin, and respiratory tract irritation. Target Organs: None.

Potential Health Effects
Eye: Dust may cause mechanical irritation. Low hazard for normal industrial handling.
Skin: Dust may cause mechanical irritation. Low hazard for usual industrial handling.
Ingestion: May cause irritation of the digestive tract.
Inhalation: No hazard expected in normal industrial use. Dust is irritating to the respiratory tract.
Chronic: None.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid if irritation develops or persists. Wash clothing before reuse. Flush skin with plenty of soap and water.
If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an
Ingestion: unconscious person. Treat symptomatically and supportively. Get medical aid if irritation or symptoms occur.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dust from this material can form explosive organic dust cloud.

Extinguishing Media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

Autoignition Temperature: > 400 deg C (> 752.00 deg F)
Flash Point: 147 deg C (296.60 deg F)

Explosion Limits: Not available

NFPA Rating: health: 1; flammability: 1; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid breathing dust.

Storage: Store in a cool, dry place. Store protected from moisture. Store protected from light.

Section 8 - Exposure Controls, Personal Protection

OSHA Vacated PELs: Vanillin: None listed

Engineering Controls:

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Powder

Color: white to light yellow

Odor: vanilla-like
pH: 4.3 (10 g/l)
Vapor Pressure: 0.000118 mm Hg @ 25 deg C
Vapor Density: Not available
Evaporation Rate: Not applicable.
Viscosity: Not applicable.
Boiling Point: 285 deg C (545.00°F)
Freezing/Melting Point: 80 - 83 deg C

Decomposition Temperature:

Solubility in water: 11 g/L @ 25°C
Specific Gravity/Density: 1.06
Molecular Formula: C8H8O3
Molecular Weight: 152.15

Section 10 - Stability and Reactivity
Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Light, dust generation, moisture, excess heat, temperatures above 160°C.
Incompatibilities with Other Materials Strong oxidizing agents.
Hazardous Decomposition Products Carbon monoxide, carbon monoxide, carbon dioxide.
Hazardous Polymerization Will not occur.

Section 11 - Toxicological Information
RTECS#: CAS# 121-33-5: YW5775000
RTECS: CAS# 121-33-5: Oral, mouse: LD50 = 3925 mg/kg;
Oral, mouse: LD50 = 1480 mg/kg;
LD50/LC50: Oral, rat: LD50 = 1580 mg/kg;
Skin, rabbit: LD50 = >5010 mg/kg;
Other: Oral rat LD50 3978 mg/kg (Merck MSDS).
Carcinogenicity: Vanillin - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information
Not available

Section 13 - Disposal Considerations
Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information
US DOT
Shipping Name: Not regulated as a hazardous material
Hazard Class:
UN Number:
Packing Group:
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information
European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: Not available
Risk Phrases:
Safety Phrases:
   S 22 Do not breathe dust.
   S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)
   CAS# 121-33-5: Not available

Canada
   CAS# 121-33-5 is listed on Canada's DSL List
   Canadian WHMIS Classifications: Not available
   This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
   CAS# 121-33-5 is not listed on Canada's Ingredient Disclosure List.

US Federal
   TSCA
   CAS# 121-33-5 is listed on the TSCA
   Inventory.

Section 16 - Other Information
   MSDS Creation Date: 2/10/1998
   Revision #6 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility 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 the company 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 the company has been advised of the possibility of such damages.

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