Material Safety Data Sheet
Vanillin

Section 1: Chemical Product and Company Identification

Product Name: Vanillin
Chemical Formula: C₈H₈O₃
Company Identification: Tradeasia International Pte Ltd
Address: 133 Cecil Street # 12-03 Keck Seng Tower, Singapore
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Section 2: Composition and Information on Ingredients

Composition:

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS#</th>
<th>% by Weight</th>
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</thead>
<tbody>
<tr>
<td>Vanillin</td>
<td>5793-94-2</td>
<td>100</td>
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</tbody>
</table>

Toxicological Data on Ingredients: Vanillin: ORAL (LD50): Acute: 1580 mg/kg [Rat]. 3925 mg/kg [Mouse]. 1400 mg/kg [Guinea pig]. DERMAL (LD50): Acute: >5010 mg/kg [Rabbit].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant, Perimeter).

Potential Chronic Health Effects:
Slightly hazardous in case of skin contact (sensitizer).

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.
Skin Contact:
Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:
Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention. Numb tongue. May cause vomiting if ingested large amount.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances:
Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: When heated to decomposition it emits acrid smoke and irritating fumes.

Section 6: Accidental Release Measures

Small Spill:
Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label.

Storage:

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:
Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.

Section 9: Physical and Chemical Properties

Physical state: Solid
Color: White to yellowish
Odour: Pleasant aromatic Vanilla
Taste: Pleasant Vanilla taste
Molecular Weight: 152.15 g/mole
Melting Point: 80 °C
Boiling Point: 285 °C
Specific gravity: 1.056
Vapor Density: 5.6
Solubility: Soluble in cold water, diethyl ether, acetone. Very soluble in hot benzene, and petroleum ether. Freely soluble in chloroform, carbon disulfide, glacial acetic acid, pyridine. Soluble in oils, and in aqueous solutions of alkali hydroxides. Solubility in water: 1 gram dissolves in 100 ml of water and 16 ml of water at 80 °C.; 11 grams dissolves in 1 liter of water at 25 °C.

Section 10: Stability and Reactivity Data

Stability: The product is stable in ambient conditions.
Corrosivity: Non-corrosive in presence of glass
Conditions of Instability: Excessive heat, incompatible materials, light, moisture
Incompatibility with various substances: Reactive with oxidizing agents, reducing agents, alkalis.
Corrosivity: Non-corrosive in presence of glass.
Special Remarks on Reactivity: Can react violently with Br2; HClO4; potassium-tert-butoxide; tert-chlorobenzene + NaOH; formic acid + thallium nitrate. Also incompatible with perchloric acid. Moisture sensitive. Sensitive to light.
Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Inhalation, Ingestion.
Toxicity to Animals:
Acute oral toxicity (LD50): 1400 mg/kg [Guinea pig]. Acute dermal toxicity (LD50): >5010 mg/kg [Rabbit].
Other Toxic Effects on Humans:
Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant, permeator).

Special Remarks on Chronic Effects on Humans:
May affect genetic material (mutagenic). May cause adverse reproductive effects based on animal test data.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects:
It may cause eye, skin, respiratory tract, and mucous membrane irritation. It may be absorbed by the skin. Ingestion may cause gastrointestinal tract irritation and affect the cardiovascular system, respiration, liver (jaundice), urinary system, behavior/nervous system (muscle weakness, somnolence, coma).

Chronic Potential Health Effects:
Inhalation: Prolonged or repeated inhalation may affect the brain and blood (changes in white and red blood cell count).
Ingestion: Prolonged or repeated ingestion may affect the urinary system, liver, heart, and metabolism (weight loss).

Section 12: Ecological Information

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation:
The products of degradation are less toxic.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information
The materials transportation by vehicles, the sender serves deliverers with instructions for safe handling. In transportation confirm leakless of the container, and load the materials not to upset, fall and damage. Secure preventing the load from falling.

Section 15: Other Regulatory Information

Federal and State Regulations:
TSCA 8(b) inventory: Vanillin TSCA 8(a) PAIR: Vanillin TSCA 8(d) H and S data reporting: Vanillin: effective date: 9/30/91; sunste date: 6/30/98

Other Regulations:
Canadian DSL: This product on the Canadian Domestic Substances List. EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:
WHMIS (Canada): Not controlled under WHMIS (Canada).
DSCL (EEC): R22- Harmful if swallowed. R36- Irritating to eyes. S2- Keep out of the reach of children. S24/25- Avoid contact with skin and Eyes. S46- If swallowed, seek medical advice immediately and show this container or label.

HMIS (U.S.A.):
Health Hazard: 2
Fire Hazard: 1
Reactivity: 0
Personal Protection: E

National Fire Protection Association (U.S.A.):
Health: 2
Flammability: 1
Reactivity: 0
Specific hazard:

Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.
Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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