MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT CODE                        H0192  
PRODUCT NAME                        ISOVANILLIN  
SUPPLIER                            Shanghai M & U International Trade Co., Ltd.  
                                      Rm 1717, No 598 North NuJiang Road  
                                      200333 Shanghai, China  
                                      +86-21-32515501 32515502  
                                      sales@mu-intel.com

FOR EMERGENCIES CALL CHEMTREC:     800-424-9300 (24-HOURS)

2. HAZARD IDENTIFICATION:

Emergency Overview  
OSHA Hazards  
Irritant.

GHS Classification  
Skin irritation (Category 2)  
Eye irritation (Category 2A)  
Specific target organ toxicity - single exposure (Category 3)

GHS Label elements, including precautionary statements

Pictogram  
Signal word  Warning  
Hazard statement(s)  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  

Precautionary statement(s)  
P261 Avoid breathing dust /fume/gas/mist/vapors/spray.  
P305 P351 P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification  
Health hazard 1  
Flammability 1  
Physical hazards 1  

NFPA Rating  
Health hazard 1  
Fire 1  
Reactivity Hazard 0  

Potential Health Effects
Inhalation  May be harmful if inhaled. Causes respiratory tract irritation.
Skin      May be harmful if absorbed through skin. Causes skin irritation.
Eyes      Causes eye irritation.
Ingestion May be harmful if swallowed

3. COMPOSITION AND INFORMATION ON INGREDIENTS:

<table>
<thead>
<tr>
<th>Synonym</th>
<th>3-Hydroxy-4-Methoxybenzaldehyde</th>
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<tbody>
<tr>
<td></td>
<td>3-Hydroxyanisaldehyde</td>
</tr>
<tr>
<td>Formula</td>
<td>C8 H8 O3</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>152.15 g/mol</td>
</tr>
</tbody>
</table>

| CAS-No       | 621-59-0 | EC-No   | 210-694-9 | Index-No. | Concentration |

4. FIRST-AID GUIDE:

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING GUIDE:

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides

6. ACCIDENTAL RELEASE GUIDE:

Personal precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions
Do not let product enter drains.

Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE:

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place.
Keep in a dry place.

8. EXPOSURE AND PERSONAL PROTECTION:

Contains no substances with occupational exposure limit values.

Personal protective equipment:
Respiratory protection
For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>SOLID</td>
</tr>
<tr>
<td>Color</td>
<td>LIGHT BROWN</td>
</tr>
<tr>
<td>Safety data</td>
<td>Melting point</td>
</tr>
<tr>
<td></td>
<td>(°C)</td>
</tr>
<tr>
<td></td>
<td>113</td>
</tr>
</tbody>
</table>
Boiling point (°C) 179  
Flash point (°F) Closed cup >200  
Vapor pressure (mmHg@20°C) no data available  
Density @20 °C no data available  
Water solubility INSOLUBLE  
Relative vapor density no data available  
Odor CHARACTERISTIC

10. STABILITY AND REACTIVITY:

Chemical stability
Stable under recommended storage conditions.

Materials to avoid
Strong oxidizing agents, Strong bases

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION:

Acute toxicity
LD50 Intraperitoneal - rat - 1,276 mg/kg

Germ cell mutagenicity
Genotoxicity in vitro - Human - lymphocyte
Sister chromatid exchange

Carcinogenicity
IARC:
No component of this product present at levels greater than or equal to 0.1% is identified as probable. Possible or confirmed human carcinogen by IARC.

ACGIH:
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP:
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA:
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Specific target organ toxicity - single exposure (Globally Harmonized System)
Inhalation - May cause respiratory irritation.

Potential health effects
Inhalation May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion May be harmful if swallowed.
Skin May be harmful if absorbed through skin. Causes skin irritation.
Eyes Causes eye irritation.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information
RTECS: CU6540000

12. DISPOSAL RECOMMENDATIONS:

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

13. TRANSPORTATION INFORMATION:

DOT (US)
Not dangerous goods.

IMDG
Not dangerous goods.

IATA
Not dangerous goods.

14. REGULATORY INFORMATION:

OSHA Hazards
Irritant.

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components
3-Hydroxy-p-anisaldehyde CAS-No. Revision Date
621-59-0

New Jersey Right To Know Components
3-Hydroxy-p-anisaldehyde CAS-No. Revision Date
621-59-0

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.
15. OTHER INFORMATION:

The information in this MSDS was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond M&U’s control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability for loss, damage, or expense arising out of the product’s improper use. No warranty expressed or implied regarding the product described herein will be created by or inferred from any statement or omission in the MSDS. Various federal, state, or provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product which may not be reflected in the MSDS. The user should review these regulations to ensure full compliance.

Material Safety Data Sheet prepared by: M & U International LLC