1: Identification of substance / mixture

1. Product Identifier

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Hydroxy-3-methoxy-benzaldehyde</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product Code</th>
<th>CAS Number</th>
<th>Other Names</th>
<th>IUPAC</th>
<th>MFCD Number</th>
<th>EC/EINECS</th>
<th>REACH Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>032468</td>
<td>121-33-5</td>
<td></td>
<td></td>
<td>MFCD00006942</td>
<td>204-465-2</td>
<td></td>
</tr>
</tbody>
</table>

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

Research and Development

3. Details of the supplier of the safety data sheet

Fluorochem Ltd
Unit 14, Graphite Way
Hadfield
Derbyshire
SK13 1QH
UK

Telephone: +44(0)1457 860111
Fax: +44(0)1457 892799
Email: sds@fluorochem.co.uk

4. Emergency telephone number

+44(0)7855 268577

2. Hazards Identification

1. Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Hazard Statements</th>
<th>Precautionary Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>H315 Skin Irrit. 2</td>
<td>P264 Wash hands thoroughly after handling.</td>
</tr>
<tr>
<td>H319 Eye Irrit. 2</td>
<td>P302 + P352 IF ON SKIN: Wash with plenty of soap and water.</td>
</tr>
<tr>
<td>H335 STOT SE 3a</td>
<td>P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</td>
</tr>
<tr>
<td></td>
<td>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</td>
</tr>
<tr>
<td></td>
<td>P332 + P313 If skin irritation occurs: Get medical advice/attention.</td>
</tr>
<tr>
<td></td>
<td>P337 + P313 If eye irritation persists: Get medical advice/attention.</td>
</tr>
</tbody>
</table>

2. Label elements

Signal Word Warning

3. Other Hazards

Additional precautionary phrases are located throughout the safety data sheet

3. Composition / Information on Ingredients

1. Substances

<table>
<thead>
<tr>
<th>Assay</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>121-33-5</td>
</tr>
</tbody>
</table>

4-Hydroxy-3-methoxy-benzaldehyde
2. Mixtures
Not Relevant

4. First Aid Measures

1. Description of first aid measures

Skin Contact
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P332 + P313: If skin irritation occurs: Get medical advice/attention.

Eye Contact
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313: If eye irritation persists: Get medical advice/attention.

Ingestion
Wash out mouth with water.

Inhalation
P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

2. Most important symptoms and effects

No symptoms.

3. Indication of any immediate medical attention

P312: Call a POISON CENTER or doctor/physician if you feel unwell.
No additional measures required

5. Firefighting measures

1. Extinguishing Media

Suitable
Carbon dioxide.
Dry chemical powder.
Water.

Unsuitable
Do not use water with a full water jet

2. Special Hazards arising from the substance or mixture

In combustion toxic fumes may form.

3. Advice for Fire Fighters

Wear protective clothing to prevent contact with skin and eyes.
Wear self-contained breathing apparatus.

6. Accidental Release Measures

1. Personal Precautions

Refer to section 8 of SDS for personal protection details.

2. Environmental Precautions

Do not discharge into drains or rivers.

3. Methods & Materials

Mix with sand or vermiculite.
Transfer to a suitable container.

4. Preventing the occurence of secondary hazards

No Special Measures Required
7. Handling and Storage

1. Personnal Precautions

   **Safe Handling**
   - Handle in fume hood.
   - Wash hands immediately after contamination.
   - P264: Wash hands thoroughly after handling.

   **Protection against explosions and fires**
   - P362: Take off contaminated clothing and wash before reuse.
   - normal measures for preventive fire protection

2. Conditions for safe storage, including any incompatibilities

   **Managing Storage Risks**
   - Keep container tightly closed.
   - Store in cool, well ventilated area.

   **Storage Controls**
   - No special requirements

   **Maintaining Integrity**
   - Keep in tightly closed container in cool area away from direct sunlight or heat sources.

   **Other advice**
   - P403 + P233: Store in a well-ventilated place. Keep container tightly closed.

3. Specific End Uses

   The end use(s) have not been fully determined. The substance is supplied for Research and Development purposes by professionals only.

8. Exposure Controls/Personal Protection

1. Control Parameters

   No Data Available

2. Exposure Controls

   **General protective and hygiene measures**
   - P280: Wear protective gloves/protective clothing/eye protection/face protection.
   - The standard precautionary measures should be adhered to when handling
   - Wash hands during breaks and at the end of handling the material
   - Immediately remove any contaminated clothing

   **Engineering measures**
   - P271: Use only outdoors or in a well-ventilated area.
   - Ensure there is sufficient ventilation of the area.

   **Eye / Face Protection**
   - Safety Glasses.

   **Hand protection**
   - Protective gloves.

   **Respiratory protection**
   - P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
   - Respiratory protection not required.

   **Skin protection**
   - Protective clothing.

   **Other personal protection advice**
   - no data

9. Physical and Chemical Properties

1. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Light yellow solid</td>
</tr>
<tr>
<td>Odour</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No Data Available</td>
</tr>
<tr>
<td>PH</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Melting point / Freezing point</td>
<td>81 - 83 °C - lit.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>170 °C at 20 hPa - lit.</td>
</tr>
<tr>
<td>Flash point</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Flammability(solid, gas)</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No Data Available</td>
</tr>
</tbody>
</table>
2. Other Information
No additional information available

10. Stability and Reactivity

1. Reactivity
no unusual reactivity

2. Stability
Stable under normal conditions.

3. Possibility of Hazardous Reactions
no hazardous reactions known

4. Conditions to Avoid
no specific conditions to avoid

5. Incompatible Materials
Strong oxidizing agents.

6. Hazardous Decomposition Products
In combustion emits toxic fumes.

11. Toxicology information

1. Information

Acute Toxicity
LD50 Oral - rat - 3,300 mg/kg (OECD Test Guideline 401)
LD50 Dermal - rabbit - > 5,010 mg/kg

Skin corrosion/irritation
irritant for skin and mucous membranes

Serious eye damage/irritation
irritant effect

Respiratory or skin sensitisation
Maximisation Test - guinea pig
Does not cause skin sensitisation.

Germ Cell mutagenicity
not known

Carcinogenicity
not known

Reproductive toxicity
not known

STOT-single exposure
not known

STOT-repeated exposure
not known

Aspiration hazard
not known

Vapour pressure
1 hPa at 107 °C
Vapour density
No Data Available
Relative density
1.056 g/cm3 at 20 °C
Solubility(ies):
No Data Available
Partition coefficient: n-octanol/water
No Data Available
Auto-ignition temperature
No Data Available
Decomposition temperature
No Data Available
Viscosity
No Data Available
Explosive properties
No Data Available
Oxidising properties
No Data Available
12. Ecological Information

1. Toxicity
   not known

2. Persistence and degradability
   not known

3. Bio-Accumulative Potential
   Toxicity to fish
   semi-static test LC50 - Pimephales promelas (fathead minnow) - 57 mg/l - 96 h
   static test LC50 - Pimephales promelas (fathead minnow) - 88 mg/l - 96 h
   flow-through test LC50 - Pimephales promelas (fathead minnow) - 53 - 61.3 mg/l - 96 h

4. Mobility and Soil
   not known

5. Results of PBT & vPvB assessment
   not known

6. Other adverse effects
   Harmful to aquatic life.

13. Disposal Considerations

1. Waste Treatment Methods
   Consult state, local or national regulations for proper disposal.
   Hand over to authorised disposal company as hazardous waste.
   Disposal of Packaging
   Disposal must be made according to official regulations.

14. Transport Information

Air (ICAO)
1. UN Number:
2. Shipping Name: Non Hazardous
3. Transport hazard class(es): Sub Class :
4. Packing group:
5. Environmental hazards:
6. Special Precautions for user:
7. Transport in bulk:

Road (ADR)
1. UN Number:
2. Shipping Name: None Hazardous
3. Transport hazard class(es): Sub Class :
4. Packing group:
15. Safety, health, environmental and national regulations

1. Safety, health, environmental and national regulations:
   product is not subject to any additional regulations or provisions

2. Safety Assessment
   No Chemical Safety Assessment

16. Other Information

1. Other Information:
   ADR: Accord Europeen sur le transport des marchandises Dangereuses par Route (European Agreement concerning the
   International Carriage of Dangerous Goods by road)
   RID: Reglement International concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the
   International transport of Dangerous Goods by Rail)
   IMDG: International Maritime Code for Dangerous Goods
   IATA: International Air Transport Association
   IATA-DGR: Dangerous Goods Regulations by the International Air Transport Association
   ICAO: International Civil Aviation Organization
   ICAO-TI: Technical Instructions by the ICAO
   GHS: Globally Harmonized System of Classification and Labelling of Chemicals
   CAS: Chemical Abstracts Service

2. Associated risk phrases according to European directive 67/548/EEC

<table>
<thead>
<tr>
<th>Risk Phrase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R36</td>
<td>Irritating to eyes.</td>
</tr>
<tr>
<td>R36/37</td>
<td>Irritating to eyes and respiratory system.</td>
</tr>
<tr>
<td>R36/37/38</td>
<td>Irritating to eyes, respiratory system and skin.</td>
</tr>
<tr>
<td>R36/38</td>
<td>Irritating to eyes and skin.</td>
</tr>
<tr>
<td>R37</td>
<td>Irritating to respiratory system.</td>
</tr>
<tr>
<td>R37/38</td>
<td>Irritating to respiratory system and skin.</td>
</tr>
<tr>
<td>R38</td>
<td>Irritating to skin.</td>
</tr>
</tbody>
</table>

3. Disclaimer
   The product listed is for research and development purposes only and not for human or animal use. As such, in most cases, the
   toxicological, ecological and physicochemical properties have not been fully determined and the product should be treated with
   respect and always handled under suitable conditions by appropriately qualified personnel. The responsible party shall use this
datasheet only in conjunction with other sources of information gathered by them, and should make an independent judgement of
suitability, to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and
any use of the product not in conformance with this material safety data sheet, or in combination with any other product or process,
is the responsibility of the user.