Material Safety Data Sheet
acc. to OSHA and ANSI

Printing date 07/14/2003
Reviewed on 03/24/2003

1 Identification of substance:
   • Product details:

   • Product name: **Anisole**

   • Stock number: A12997

   • Manufacturer/Supplier:

     **Alfa Aesar, A Johnson Matthey Company**
     Johnson Matthey Catalog Company, Inc.
     30 Bond Street
     Ward Hill, MA 01835-8099
     Emergency Phone: (978) 521-6300
     CHEMTREC: (800) 424-9300
     Web Site: www.alfa.com

   • Information Department: Health, Safety and Environmental Department

   • Emergency information:

     During normal hours the Health, Safety and Environmental Department.
     After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:
   • Chemical characterization:

       Description: (CAS#)
Anisole (CAS# 100-66-3), 100%

Identification number(s): 

EINECS Number: 202-876-1

3 Hazards identification

Hazard description: Xi Irritant

Information pertaining to particular dangers for man and environment

R 10 Flammable.
R 36/37/38 Irritating to eyes, respiratory system and skin.

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)
Health (acute effects) = 2
Flammability = 2
Reactivity = 1

4 First aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek immediate medical advice.
5 Fire fighting measures

- Suitable extinguishing agents

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:
Carbon monoxide and carbon dioxide

- Protective equipment:

Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures

- Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources

- Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

- Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Keep away from ignition sources.

- Additional information:

See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage
Handling

Information for safe handling:

Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away.
Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.

Storage

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

Do not store together with acids.
Store away from oxidizing agents.

Further information about storage conditions:

Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.

• 8 Exposure controls and personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:
Not required.

Additional information: No data
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- **Personal protective equipment**

- **General protective and hygienic measures**

  The usual precautionary measures for handling chemicals should be followed.
  Keep away from foodstuffs, beverages and feed.
  Remove all soiled and contaminated clothing immediately.
  Wash hands before breaks and at the end of work.
  Avoid contact with the eyes and skin.
- **Breathing equipment:**

  Use suitable respirator when high concentrations are present.
- **Protection of hands:** Impervious gloves

- **Eye protection:**

  Safety glasses
  Tightly sealed goggles
  Full face protection
- **Body protection:** Protective work clothing.

- **9 Physical and chemical properties:**

  - **General Information**

    - **Form:** Liquid
    - **Color:** Colorless
    - **Odor:** Not determined

    - **Value/Range Unit**

    | Method | Value/Range Unit |
    |--------|------------------|
    |        | -37 ° C         |

  - **Change in condition**

  - **Melting point/Melting range:**

    -37 ° C
A12997 - Anisole

♦ Boiling point/Boiling range: 153-154 °C

♦ Sublimation temperature / start: Not determined

♦ Flash point: 52 °C

♦ Ignition temperature: 474 °C

♦ Decomposition temperature: Not determined

♦ Danger of explosion:

Product is not explosive. However, formation of explosive air/vapor mixtures is possible.

♦ Explosion limits:

♦ Lower: Not determined

♦ Upper: Not determined

♦ Vapor pressure: at 42 °C 133 hPa

♦ Density: at 20 °C 0.995 g/cm³

♦ Solubility in / Miscibility with

♦ Water: Not miscible or difficult to mix
10 Stability and reactivity

- Thermal decomposition / conditions to be avoided:

  Decomposition will not occur if used and stored according to specifications.
- Materials to be avoided:

  Acids
  Oxidizing agents
  Dangerous reactions No dangerous reactions known

- Dangerous products of decomposition: Carbon monoxide and carbon dioxide

11 Toxicological information

- Acute toxicity:

  LD/LC50 values that are relevant for classification:

  Oral: LD50: 2800 mg/kg (mus)
  LD50: 3700 mg/kg (rat)
  Inhalative: LC50: >5000 mg/m3 (rat)
  LC50/2H: 3021 mg/m3/2H (mus)
  Irritation of skin: moderate: 500 mg/24H (rbt)

- Primary irritant effect:

- on the skin: Irritant to skin and mucous membranes.

- on the eye: Irritating effect.

- Sensitization: No sensitizing effects known.

- Other information (about experimental toxicology):

  Mutagenic effects have been observed on tests with laboratory animals.

- Subacute to chronic toxicity:
Subacute to chronic toxicity:

Anisole has been shown to cause excitability, tremors and convulsions when administered orally to laboratory animals.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

- 12 Ecological information:

- General notes:

Do not allow material to be released to the environment without proper governmental permits.

- 13 Disposal considerations

- Product:

- Recommendation

Consult state, local or national regulations to ensure proper disposal.

- Uncleaned packagings:

- Recommendation:

Disposal must be made according to official regulations.

- 14 Transport information

- DOT regulations:

- Hazard class: 3
A12997 - Anisole

† Identification number: UN2222

† Packing group: III

† Proper shipping name (technical name):

Anisole

† Land transport ADR/RID (cross-border)

† ADR/RID class: 3 Flammable liquids

† Item: 31c

† Danger code (Kemler): 30

† UN-Number: 2222

† Description of goods: Anisole

† Maritime transport IMDG:

† IMDG Class: 3

† UN Number: 2222

† Packaging group: III

† Proper shipping name: Anisole

† Air transport ICAO-TI and IATA-DGR:

† ICAO/IATA Class: 3
A12997 – Anisole

• UN/ID Number: 2222

• Packaging group: III

• Proper shipping name: Anisole

• 15 Regulations

• Product related hazard informations:

• Hazard symbols: Xi Irritant

• Risk phrases:

  10 Flammable.
  36/37/38 Irritating to eyes, respiratory system and skin.

• Safety phrases:

  26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  37 Wear suitable gloves.
  60 This material and its container must be disposed of as hazardous waste.

• National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance inventory.

• Information about limitation of use:

For use only by technically qualified individuals.

• 16 Other information:

Employers should use this information only as a supplement to
other information gathered by them, and should make
independent judgement of suitability of this information 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.

*Department issuing MSDS:* Health, Safety and Environmental
Department.

*Contact:* Darrell R. Sanders
Section 01 - Product Information

Identification of the company:
AZ Electronic Materials USA Corp.
70 Meister Avenue
Somerville, NJ 08876
Telephone No.: 800-515-4164

Information on the substance/preparation
Product Safety: 908-429-3562
Emergency Tel. number: 800-424-9300 CHEMTREC

Trade name: AZ® 300 MIF Developer
Material No.: 000000018441123163

Section 02 - Composition Information

Hazardous ingredients:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-no. (Trade secret no.)</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetramethylammonium hydroxide</td>
<td>75-59-2</td>
<td>1.00 - 3.00</td>
</tr>
</tbody>
</table>

Non-hazardous ingredients:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-no. (Trade secret no.)</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>&gt; 95.00</td>
</tr>
</tbody>
</table>

Section 03 - Hazardous Identification


Expected route of entry

Skin contact: yes
Ingestion: no
Inhalation: yes
Eye contact: Contact with liquid and mist.