

MATERIAL SAFETY DATA SHEET

2-Aminofluorene (PPC-AF10)

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Processing date December 2016

1. NOTE

Positive Controls contain mutagenic chemicals in small quantities. Handle in accordance with NIH guidelines for the safe handling of chemical carcinogens. Wear approved gloves. Do not mouth pipette. Dispose of waste in accordance with your institutional requirements.

The following pages contain the MSDS provided by the producer of the positive control chemicals.

2. ORDER NUMBER AND CONTENTS

| Order Number | Chemical | CAS# | Amount per vial |
|--------------|-----------------|----------|-----------------|
| PPC-AF10 | 2-Aminofluorene | 153-78-6 | 10 mg |

The same positive control chemical can also be part of a complete AMES MPF™ mutagenicity assay kit which is sold under a different Order Number.



2-AMINOFLUORENE

1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND THE COMPANY UNDERTAKING

| | |
|----------------------------|---|
| Chemical Name: | 2-Aminofluorene |
| Product Code: | FA33811 |
| Synonyms: | - |
| Recommended uses: | For R&D purposes |
| Supplier: | Carbosynth Ltd, 8&9 Old Station Business Park, Compton, Berkshire, RG20 6NE, UK. |
| Emergency contact numbers: | Telephone: +44 (0)1635 578 444 Fax: +44 (0)1635 579 444 Mobile: +44 (0)7887 998 634 |

2. HAZARDS IDENTIFICATION

Harmful if swallowed. Limited evidence of a carcinogenic effect. Possible risk of irreversible effects.

Classification:

According to Regulation (EC) No1272/2008.

Acute toxicity, oral (Category 4)
Germ cell mutagenicity (Category 2)
Carcinogenicity (Category 2)

Labelling and precautionary statements:

Pictogram:



Signal word: Warning.

| | | |
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| Hazard statement(s): | H302 | Harmful if swallowed. |
| | H341 | Suspected of causing genetic defects. |
| | H351 | Suspected of causing cancer. |

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| Precautionary statement(s): | P202 | Do not handle until all safety precautions have been read and understood. |
| | P264 | Wash hands thoroughly after handling. |
| | P270 | Do not eat, drink or smoke when using this product. |
| | P281 | Use personal protective equipment as required. |
| | P301 + P312 | IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. |
| | P308 + P313 | IF exposed or concerned: Get medical advice/attention. |
| | P405 | Store locked up. |



2-AMINOFLUORENE

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| | P501 | Dispose of contents/container in accordance with local/regional/national/international regulation. |
| Hazard symbol(s): | Xn | Harmful. |
| R-phrases(s): | R22 R40 R68 | Harmful if swallowed. Limited evidence of a carcinogenic effect. Possible risk of irreversible effects. |
| S-phrases(s): | S36/37/39 S53 | Wear suitable protective clothing, gloves and eye/face protection. Avoid exposure - obtain special instructions before use. |

3. COMPOSITION/INFORMATION ON INGREDIENTS

| | | | |
|---|-----------------------------|-------------------------|-----------------------------|
| Molecular Formula: C ₁₃ H ₁₁ N | Molecular weight: 181.23 | CAS Number: 153-78-6 | EINECS Number: 205-817-8 |
|---|-----------------------------|-------------------------|-----------------------------|

4. FIRST AID MEASURES

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| Eye contact: | Immediately flush eye with copious amounts of water for at least 15 minutes. Get medical aid immediately. |
| Skin contact: | In case of contact remove contaminated clothing and immediately wash affected areas with copious quantities of water and soap for at least 15 minutes. Get medical aid immediately. Wash contaminated clothing before reuse. |
| Inhalation: | Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen. Get medical aid. |
| Ingestion: | Never give anything by mouth to an unconscious person. Wash out mouth with water provided person is conscious. Call a physician. |
| Notes to Physician: | Treat symptomatically and supportively. |

5. FIRE-FIGHTING MEASURES

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| Personal precautions: | As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. |
| Extinguishing media: | In case of fire use water spray, dry chemical powder, carbon dioxide, or alcohol-resistant foam. |
| Special hazards arising from the substance or mixture: | Carbon oxides, nitrogen oxides (NO _x). Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume. |



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6. ACCIDENTAL RELEASE MEASURES

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| General Information: | Use proper personal protective equipment as indicated in Section 8. |
| Personal precautions: | Wear self-contained breathing apparatus, eye protection and gloves. Keep personal hygiene. Avoid contact with skin and eyes. Avoid dust formation. Avoid breathing dust, vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. |
| Environmental precautions: | Do not let product enter the drains. |
| Spills/Leaks: | Sweep up and place the material in appropriate container for disposal and dispose of as hazardous waste. Ventilate area, clean up spills and wash spill site after material pickup is complete, observing precautions in the Protective Equipment section. |

7. HANDLING AND STORAGE

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| Handling: | Wear appropriate protective clothing - see Section 8. Wash hands and face thoroughly after handling. Use only under a chemical fume hood. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. |
| Storage: | Store in a cool, dry, well-ventilated area. Keep container tightly closed. Store away from incompatible materials such as oxidizing agents. Light sensitive. Air-sensitive. Store under inert gas. Protect from light. |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protection equipment:

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| Eye protection: | Wear appropriate protective safety glasses with side-shields conforming to EN166, chemical safety goggles or face-shield (min. 8-inch) as described by OSHA's eye and face protection regulations. Use equipment for eye protection tested and approved under appropriate |
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| Skin protection: | government standards such as NIOSH (US) or EN 166 (EU). Wear appropriate protective gloves to prevent skin exposure, as defined in EU Directive 89/686/EEC and the standard EN 374 derived from it. |
| Body protection: | Appropriate protective clothing, overalls. |
| Respiratory protection: | Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N95 (US) or type P1 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). |
| Hygiene measures: | Use good working practices. Wash hands and face thoroughly after handling. |

9. PHYSICAL AND CHEMICAL PROPERTIES

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|--|------------------------------------|
| Appearance: | White to brown solid. |
| Odour: | Data not available/does not apply. |
| Odour threshold: | Data not available/does not apply. |
| pH: | Data not available/does not apply. |
| Melting point: | 124 - 130 °C. |
| Boiling point: | Data not available/does not apply. |
| Flash point: | Data not available/does not apply. |
| Evaporation rate: | Data not available/does not apply. |
| Flammability: | Data not available/does not apply. |
| Flammability or explosive limits: | Data not available/does not apply. |
| Vapor pressure: | Data not available/does not apply. |
| Vapor density: | Data not available/does not apply. |
| Relative density: | Data not available/does not apply. |
| Solubility: | Soluble (ether, alcohols). |
| Partition coefficient: n-octanol/water | 3.00. |
| Auto-ignition temperature: | Data not available/does not apply. |
| Decomposition temperature: | Data not available/does not apply. |
| Viscosity: | Data not available/does not apply. |

10. STABILITY AND REACTIVITY

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| Chemical stability: | Stable under recommended storage conditions. |
| Conditions to avoid: | Data not available. |
| Incompatibilities with other materials: | Strong oxidizing agents. |
| Hazardous decomposition products: | Carbon oxides, nitrogen oxides (NO _x). |
| Hazardous polymerization: | Data not available. |



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11. TOXICOLOGICAL INFORMATION

RTCS #: LL5075000.

Acute toxicity: LD50 Intraperitoneal: mouse: 132 mg/kg.

Skin corrosion/irritation: Data not available.

Serious eye damage/eye irritation: Data not available.

Respiratory or skin sensitization: Data not available.

Germ cell mutagenicity: Data not available.

Carcinogenicity:

Carcinogenicity: rat: Oral

Tumorigenic: Neoplastic by RTECS criteria. Liver: Tumors. Skin and appendages: Other: Tumors.

Carcinogenicity: rat: Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver: Tumors. Kidney, Ureter, Bladder: Tumors.

Carcinogenicity: rat: Skin

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria.

Carcinogenicity: mouse: Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver: Tumors. Kidney, Ureter, Bladder: Tumors.

Carcinogenicity: mouse: Skin

Tumorigenic: Neoplastic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors. Gastrointestinal: Tumors.

Carcinogenicity: mouse: Implant

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Kidney, Ureter, Bladder: Tumors. Tumorigenic: Tumors at site or application.

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.

Reproductive toxicity: Data not available.

Specific target organ toxicity - single exposure: Data not available.

Specific target organ toxicity - repeated exposure: Data not available.

Aspiration hazard: Data not available.



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Signs and symptoms of exposure: To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

Target organs: Data not available.

Potential health effects:

Eye: May cause serious eye irritation.
Skin: May be harmful by skin absorption.
May cause skin irritation.
Ingestion: Harmful if swallowed.
Inhalation: May be harmful if inhaled.
May cause respiratory tract irritation.
Chronic: No information found.

12. ECOLOGICAL INFORMATION

Data not available.

13. DISPOSAL CONSIDERATIONS

Observe all federal, state and local environmental regulations. Mix or dissolve the material in a combustible solvent and burn in chemical incinerator equipped with an afterburner and scrubber. Contact a licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION

ADR/RID

Not classified as hazardous for transport.

IMDG

Not classified as hazardous for transport.

IATA

Not classified as hazardous for transport.

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.



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16. ADDITIONAL INFORMATION

Further information on PPE:

European Standard & performance category markings:

| | |
|---------|--|
| EN143 - | Particulates filter. |
| EN166 - | Standard applicable to all types of personal eye protectors. |
| EN374 - | Protects hands against chemicals and/or microorganisms. |

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.

