

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: M203 (3001) Friction Pad

Use of the Substance/Preparation: Supplied as an article (finished or semi-finished)

Company: The Montalvo Corporation
50 Hutcherson Drive,
Gorham, Me. 04038
Telephone: (800) 226-87101.4.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature of the substance: Polytetrafluoroethylene (PTFE)
CAS Number: 9002-84-0
Glass Fibre
CAS Number: 65997-17-8

3. HAZARDS IDENTIFICATION

The major health hazard associated with this material is the inhalation of thermal decomposition products. At temperatures greater than 330°C decomposition will generate noxious fluorine compounds such as HF & COF₂. Contamination of tobacco products MUST be avoided. Glass fibres will be released when re-working the material and may cause irritation to eyes, skin and respiratory system.

NFPA Hazard codes: Health 2, Flammability 0, Instability 0
HMIS Hazard codes: Health 0, Flammability 0, Reactivity 0

4. FIRST AID MEASURES

Inhalation: Move to fresh air in case of accidental inhalation of fumes from overheating or combustion. Keep under medical review for possible development of "Polymer Fume Fever". Following severe exposure the patient should be kept under medical review for at least 48 hours as delayed pulmonary oedema may develop.

Skin contact: No effects requiring first aid are expected during normal use.

Eye contact: No effects requiring first aid are expected during normal use.

5. FIRE-FIGHTING MEASURES

Low fire hazard. However, combustion or thermal decomposition will evolve toxic and corrosive vapours.

Suitable extinguishing media: Water, carbon dioxide (CO₂), foam dry powder.

Protective equipment for fire-fighters: In the event of fire, wear a self-contained breathing apparatus and a complete suit protecting against chemicals. Wear neoprene gloves when handling refuse from a fire.

6. ACCIDENTAL RELEASE MEASURES

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| Personal precautions: | May cause slipping hazard. |
| Environmental precautions: | No special precautions required. |
| Methods for cleaning up: | Collect into suitable container for recovery or disposal according to local regulations. |

7. HANDLING AND STORAGE

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| Handling | |
| Technical measures/Precautions: | Prevent material coming into contact with hot surfaces. Avoid any contact with free fibres. |
| Precautions: | Provide appropriate exhaust ventilation at processing equipment. |
| Safe handling advice: | |
| Technical measures/Storage conditions: | None |
| Storage conditions: | None |
| Incompatible products: | None |
| Packaging material: | None |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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| Personal protection equipment | |
| Eye and respiratory protection: | Wear approved dust mask and safety goggles when dust exposure is possible. |
| Skin protection: | Not required under normal conditions. |
| Hygiene measures: | Do not contaminate tobacco products. Do not smoke. Wash hands before breaks and at the end of workday. General precaution for all plastics and elastomers: Do not breathe fumes evolved from hot polymer. |
| Control parameters | |
| National occupational exposure limits | |
| Respirable dust: | TVL-TWA = 3 mg/m ³ ; ACGIH (1999) |
| Hydrogen fluoride: | OES: (as F; 15m-STEL) = 3 ppm = 2.5 mg/m ³ ; (EH40/99) |
| Carbonyl fluoride: | TLV-TWA = 2 ppm; TLV-STEL = 5 ppm; ACGIH (1999) LC50/inhalation/1h/rat = 360 ml/m ³ ; RTECS, 25044 |

9. PHYSICAL AND CHEMICAL PROPERTIES

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| Appearance | |
| Form: | Solid |
| Colour: | White |
| Odour: | None |
| pH (23°C): | Not applicable |
| Melting point/range | 327-342 °C |
| Decomposition temperature | >330 °C |
| Flash point: | Not applicable |
| Auto-ignition temperature: | > 500 °C |
| Explosive properties | Not applicable |
| Relative density (23°C): | 2.20 g/cm ³ to 2.25 g/cm ³ |
| Solubility | |
| Water solubility (100°C): | Insoluble |

10. STABILITY AND REACTIVITY

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| Conditions to avoid: | Temperatures above 300 °C |
| Materials to avoid: | Aluminium powder, magnesium powder, halogenated compounds, oxidising agents (strong), alkali metals |
| Hazardous decomposition products: | Fluorinated olefins, carbonyl fluoride, Hydrogen fluoride |
| Further information: | Product resists ignition and does not promote flame spread. O2 Index - ASTM D2863: > 95 % ... |

11. TOXICOLOGICAL INFORMATION

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| Inhalation: | The thermal decomposition vapours of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans. Symptoms usually appear after 2 hours and decline within the next 36 to 48 hours. No persistent or cumulative effects were observed. |
| Skin and eye contact: | Possible physical abrasion and irritation when in contact with skin and eyes. |
| Ingestion: | Low oral toxicity. |

12. ECOLOGICAL INFORMATION

Adverse effects would not be expected.
Not considered biodegradable.

13. DISPOSAL CONSIDERATIONS

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| Waste from residues/unused products: | Can be land filled, when in compliance with the Environmental Protection (Duty of Care) Regulations 1991. Can be incinerated using a scrubber to remove hydrogen fluoride, when authorised as per Process Guidance Note IPR 5/1 of the Environmental Protection Act 1990. |
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14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

In accordance with SI 1994 No. 3247 (CHIP 2), the product is not classified as dangerous for supply.

16. OTHER INFORMATION

This data sheet was prepared in accordance with EC directive 2001/58/EC.
For further technical information, please contact the address given in Section 1.

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.